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THE POOR OF BOGOTA:

WHO THEY ARE, WHAT THEY DO, AND WHERE THEY LIVE\*

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## PREFACE

A rather large amount of data handling, documentation and preparation has gone into the work leading to this paper. We would like to thank Alan Carroll for the original cleaning and documentation of the 1975 and 1977 household surveys; Bob Marshall for help in preparing some of the tables; Mattie McCarter for the laborious typing involved in the many tables and finally, Manfred Wilhelm Wagner-Luna for most of the tabulations from both the surveys that went into this paper. His has been work much beyond the call of normal duty. A special word of appreciation goes to the staff of DANE for having painstakingly conducted the surveys and for making them available in almost raw form so readily.

This paper is part of a program of research currently being conducted by the World Bank on Bogota and Cali, Colombia. The goal of the program, entitled The City Study, is to increase our understanding of the workings of five major urban sectors - housing, transport, employment location, labor markets and the public sector - in order that the impact of policies and projects can be assessed more accurately. This paper is part of the labor market and income distribution portion of the study which is coordinated by Rakesh Mohan. Other Project Papers in this series are:

Rakesh Mohan "Population Income and Employment in a  
Developing Metropolis: A Spatial Analysis of Bogota."  
City Study Project Paper No. 6.

Gary S. Fields "How Segmented is the Bogota Labor Market?"  
City Study Project Paper No. 9.

## ABSTRACT

This paper seeks to identify the correlates of poverty by examining in detail the composition and characteristics of the poor in Bogota. This is done by analyzing two household surveys for Bogota in detail. The poor are defined as those who fall on the bottom 30% of household income per capita. This cut off point is based on other information which indicates that this is also the proportion of malnourished in Bogota. Although it is found that larger households are more likely to be poor, small households who are poor are likely to be poorer still. Clearly, people with lower education are more likely to be poor but there are significant proportions of those with secondary and higher education who are also poor. Some life cycle effects are reflected in the fact that poverty is over-represented among children and middle-aged (35-44). Poverty is not concentrated anywhere spatially. There is considerably higher unemployment among the bottom deciles with about half of all the unemployed being in the bottom 30%. Furthermore, participation rates are extremely low for the poor giving support to the discouraged worker hypothesis. Among workers the poor are predominantly blue collar workers and they tend to work long hours. They are not in that sense underemployed. Smaller firms do appear to pay less than large firms. Spatially the poor are about equally represented in every ring but highly concentrated in the South of the city. The poor have higher rates of unemployment at all levels of education. In addition, the poor who do have higher education appear to have low participation rates as well as high unemployment. It would thus appear that the poor who attempt to "make it" have difficulty getting jobs.

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## I. INTRODUCTION

### 1.1 Context of This Study

This paper forms part of a large program of research grouped under the rubric of the "City Study" of Bogota, Colombia, being conducted at the World Bank. The goal of the city study is to increase our understanding of the workings and interactions of five major urban sectors - housing, transport, employment location, labor markets and the public sector - so that the impacts of policies and projects in urban areas can be assessed more accurately. The study emphasizes the conditions of low income households in terms of employment opportunities, housing consumption and the level of public services available to them. The program of research has three distinct phases: description, hypothesis testing and estimation of behavioral parameters and the development of policy impact models. This paper is the second in the series under the general head of labor markets and will be followed by studies somewhat more analytical in nature.

### 1.2 Objectives

This paper seeks to identify the correlates of poverty by examining in detail the composition and characteristics of the poor in Bogota. One approach towards the identification of the poor would be the estimation of income equations (or earnings functions). Subsequently, the factors leading to low incomes can be identified and the causes of poverty delineated. Here, however, the aim is more to identify and describe and less to explain. Furthermore, the variety of experience that is found among the poor tends to get lost in a more analytical summary approach. We attempt, in this paper, to lay out some of the more

interesting of the myriad ways by which the poor can be described through the use of cross tabulations. The poor are identified largely by comparing their distribution with the overall distribution.

A large amount of attention has been paid in many works 1/ to the "urban informal sector". Much energy has gone into the appropriate definition of this elusive concept. It has been variously taken to include all those earning less than a minimum wage; or all those working in small (or unenumerated) establishments; or all those working in service occupations, and so on. It seems to us that the correct objective of policy should be the identification of and removal of poverty regardless of whether people work in small or large establishments, whether they are enumerated in economic censuses or not or whether they work in manufacturing or service occupations. Such criteria should only be important if it is found that poverty is related with the characteristics of certain employment conditions.

The questions being addressed here are simply "Who are the poor? What do they do and where do they live?" Are they unemployed, underemployed or overworked? Are they young or old? Are they predominantly males or females? Are they concentrated in certain occupations or industries of activity? Are they migrants or non-migrants? These are fairly standard traditional questions to ask in such an enquiry. The additional

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1/ See Mazumdar (1977), Webb (1976), Sethuraman (1974) Schaefer (1976), Joshi and others (1976), Lubell (1974), Sethuraman (1976) among others for studies of the informal sector.

dimension investigated here is that of space. Are the poor concentrated in certain parts of the city? Is there some indication that people are poor because they are spatially disadvantaged? Such are the questions and concerns addressed in this paper. In addition, data sources are examined in some detail to comment on problems associated with (i) the use of sample surveys of households for the purpose of drawing strong conclusions, and (ii) the use of a series of surveys for examining time trends. To this end, all tabulations are reported for both the years 1975 and 1977 from which data are examined. This serves a dual purpose: on the one hand the differences between the result of the two surveys point to the hazards of using one to reach strong conclusions; and on the other hand, the similarities between the two surveys suggest robustness of the results giving confidence in our conclusions.

### 1.3 The Data

The City Study has assembled a data bank of existing sources of data in Bogota and Cali, Colombia in the form of copies of the original computer tapes prepared by the respective originators of the data. All have been documented in Nelson Valverde (1978). This study utilizes two of these data sets; both originally collected by DANE. 1/

DANE has conducted a regular program of household surveys from 1970 with the main objective of collecting information on the labor force. Since 1975 these surveys have been quarterly and are conducted alternately in the four largest cities and the seven largest cities along with an

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1/ DANE: Departamento Administrativo Nacional de Estadística (National Statistical Agency of Colombia).

occasional national survey. This paper utilizes the Special Bogota Household Survey (EH8E) for 1975 and one from 1977 (EH15). The 1975 survey sampled 3,953 households and contains information on demographic and labor force characteristics. The 1977 survey was conducted in the four largest cities and sampled 6,082 households of whom 3,161 households were in Bogota. Both these surveys contain the location of residence of the respondents. The 1975 survey also has firm size information on the number of employees working in each respondents' work place. This question was not included in the 1977 sample.

In carrying out these samples, DANE classifies neighborhoods into six socioeconomic strata: 1 low-low, 2 low, 3 medium low, 4 medium, 5 medium high and 6 high. At the conclusion of a survey weights are assigned to each of these strata which are then applied to the members of these strata for all expansions of the sample. These expansion factors are supposed to account for over and under sampling that might occur over the course of the survey. These expansion factors are used to expand the 1977 sample, but none were available for the 1975 sample so that has been expanded uniformly for all households. In comparing these samples with the 1973 census it appears that the poor areas of the city were somewhat undersampled and the rich oversampled (Mohan, 1978). It also appears that the very highest incomes were either underreported or undersampled. If the incomes reported in these samples are converted to 1973 pesos, there is little real growth in incomes, while those in the very highest categories

actually decline. We have therefore not deflated incomes from either sample to make them directly comparable because such a comparison may not be consistent across all income groups in the samples. All incomes are reported in current pesos and all incomes are monthly incomes.

The 1977 sample had the additional problem that about 20% of working respondents did not report their incomes - a proportion that is atypical for these surveys. Thus a method was derived to impute their incomes and this is described in Appendix 1.

## II. WHO THEY ARE

Throughout this paper we have chosen to use the concept of household income per capita as the relevant income measure. <sup>1/</sup> A better measure would be that of household income per adult equivalent where individuals of different ages receive different weights in conformity with their shares in consumption. It is difficult, however, to arrive at a satisfactory set of weights and there is no general agreement in the literature on the appropriate weights to be used. Furthermore, weights would be different for different income groups since consumption in low income groups is dominated by food consumption while it is not for higher income groups. We have therefore chosen to weigh individuals equally and have used the bottom 30% to comprise the poor. This cut-off is arbitrary but has some basis in relation to the cost of minimum nutritional requirements in Bogota. For 1977 Garcia (1978) calculated 475 pesos per month as the minimum cost of subsistence for a person in Bogota and that low income households spend close to 80% of their expenditures on food. Hence, 594 pesos a month per person emerges as a logical cut-off for the poor: we have used 580 pesos per month household income per capita as the cut-off and this then includes 30% of the population, that is the bottom three deciles.

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<sup>1/</sup> See Sudhir Anand (1978) and Bourguignon (1978) for elaborate justification of this.

2.1 Income and Family Size: Table 2.1 shows the mean household income per capita (HINCAP) by family size for the bottom 30% as well as for the top 70%. It is striking that larger households have lower HINCAP than smaller households for the top 70% but the situation is opposite for the poor. Among the poor HINCAP increases as family size increases. Columns 7 and 8 give the proportion of households in each size group who fall in the bottom 30%. For both the years it is the larger households, those with over seven people, who are more likely to fall among the poor.

It is somewhat surprising that among the poor themselves the larger households are somewhat better off. We suspected that this result may be caused by the inclusion of zero incomes 1/ among the poor. Thus smaller households would be more affected by this group where household income is more likely to decline to zero when one member is unemployed. We therefore repeated the Table 2.1 tabulation after excluding zero incomes from the counts. The mean incomes for the small households (1, 2, 3-4 members) increased substantially but incomes still increased with household size. Thus we must conclude that while larger households are more likely to be poor, the smaller households who are poor are likely to be poorer still.

Table 2.2 is a rather revealing table showing higher dependency ratios characterizing the poor as compared with the rich. For the bottom

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1/ People unemployed, for example, in the reference week, report zero incomes and these would be transitory.

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Table 2.1: INCOME AND FAMILY SIZE

MEAN HOUSEHOLD INCOME PER CAPITA  
(Current Pesos)

<u>Household Size</u>	<u>All Households</u>		<u>Bottom 30%</u>		<u>Top 70%</u>		<u>Percent Households in Bottom 30%</u>		<u>Percent Households in Category</u>	
	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>
1	4299	3258	31	4	5981	4453	28	27	3.5	5.0
2	1770	2253	33	72	2358	2956	25	24	7.0	8.0
3 - 4	1184	1841	170	286	1489	2391	23	26	27.9	30.8
5 - 6	1008	1937	194	320	1403	2514	33	26	30.0	31.5
7 - 9	806	1263	193	326	1132	1811	35	37	23.8	20.2
10 +	639	1129	222	387	889	1438	37	29	7.7	4.5
<b>All Households</b>	<b>1149</b>	<b>1827</b>	<b>177</b>	<b>283</b>	<b>1570</b>	<b>2438</b>	<b>30.2</b>	<b>28.4</b>	<b>100</b>	<b>100</b>

Source: 1975 DANE Special Household Survey for Bogota (EH8E).

1977 DANE Household Survey (EH15).



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Table 2.2: FAMILY SIZE AND DEPENDENCY RATIO: THE POOR AND RICH OF BOGOTA

(Number of People in Household/Number of Workers)

<u>Household Size</u>	<u>Dependency Ratio</u>					
	<u>Bottom 30%</u>		<u>Top 70%</u>		<u>All</u>	
	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>
1	5.6	22.5	1.0	1.0	1.3	1.3
2	6.4	6.1	1.6	1.5	2.0	1.9
3 - 4	3.9	4.2	2.4	2.4	2.6	2.7
5 - 6	5.0	4.8	2.8	2.7	3.3	3.0
7,8,9	5.7	5.3	3.1	2.9	3.7	3.5
10 +	5.9	4.5	3.2	2.9	3.8	3.2
<b>Total</b>	<b>5.2</b>	<b>4.9</b>	<b>2.7</b>	<b>2.5</b>	<b>3.2</b>	<b>3.0</b>

Source: 1975 DANE Special Bogota Household Survey (EH8E)  
1977 DANE Household Survey (EH15)

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Table 2.3: SEX DISTRIBUTION OF THE POOR AND RICH  
(ALL INDIVIDUALS > 12 YRS.)

	<u>Bottom 30%</u>		<u>Top 70%</u>		<u>Total</u>	
	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>
Male	46.40	44.75	45.79	46.57	45.97	46.08
Female	53.60	55.25	54.21	53.43	54.03	53.92
	100.00	100.00	100.00	100.00	100.00	100.00
	572,432	693,944	1,454,754	1,882,676	2,027,186	2,576,620

Source: 1975 DANE Special Bogota Household Survey (EH8E)

1977 DANE Household Survey (EH15)

... in a household ... only about ... the number of ... factor of five.

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60 to 65% of the poor are those with primary or less education only about 40 to 45% of the total population (over 12 years of age) falls in that category.

Table 2.4 gives more summary measures of poverty in each age/education group. The table gives the proportion in each group falling among the bottom 30%. Thus, if poverty was evenly distributed across all age and education groups we would expect 30% in each group to fall among the bottom 30. The poor are therefore over-represented in all those groups with numbers higher than 30. Several interesting results stand out from this table. People with no education are highly likely to be poor at all ages. Overall, people with primary education are also likely to be poor but with different likelihoods at different ages. The effect of different stages in the life cycle is very evident here. It appears that children under 14, people in their middle ages (35-44) and the old (65+) are more likely to be poor. We expect the old to be poor but it is surprising to see the poor over-represented among the prime earning ages of 35-44. While this effect is particularly evident for people with low education it is also evident for people with secondary education. Several factors are at work here. First, people complete their household formation in this age group so the household is at its peak size during this period, thus reducing HINCAP. This should be mitigated by higher incomes during this peak earning period. However, as shown in Mohan (1978), people with primary and no education have rather flat earnings profiles: thus the same income has to feed more mouths as family size increases until the

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Table 2.4: PROPORTION OF BOTTOM 30 PERCENT AMONG ALL INDIVIDUALS

BY AGE AND EDUCATION GROUPS

Males

Age/Education	None		Primary		Secondary		Higher		All		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
	%	%	%	%	%	%	%	%	%	%	(in thousands)	(in thousands)
12 - 14	73	66	46	44	30	30	-	-	40	39	116	132
15 - 24	54	53	33	34	24	23	18	14	26	24	301	406
25 - 34	66	46	35	33	14	15	5.6	11	22	22	182	241
35 - 44	77	72	46	44	20	15	3.5	5	33	29	148	173
45 - 54	52	48	31	31	23	11	8.3	7	27	21	104	119
55 - 64	43	40	31	26	22	17	4.5	12	27	22	52	69
65 and over	69	61	35	37	14	27	28	23	35	37	29	46
All	61	54	37	36	23	20	10	11	29	26		
Total (in thousands)	24	35	401	461	397	516	109	175	932	1187		

Females

Age/Education	None		Primary		Secondary		Higher		All		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
	%	%	%	%	%	%	%	%	%	%	(in thousands)	(in thousands)
12 - 14	28	52	46	43	30	29	-	-	39	38	128	150
15 - 24	32	39	26	27	24	22	13	11	24	23	384	493
25 - 34	43	54	38	37	16	16	8.4	9	27	25	221	283
35 - 44	54	47	40	39	22	17	6.5	12	33	29	169	190
45 - 54	40	46	25	33	18	16	13	-	24	37	100	140
55 - 64	31	32	26	32	16	26	17	29	24	31	55	78
65 and over	51	53	25	41	26	25	-	53	32	41	40	55
All	42	45	34	35	22	21	11	11	28	28		
Total (in thousands)	60	80	513	596	453	616	70	97	1095	1389		

Source: 1975 DANE Special Bogota Household Survey (EHB5)

1977 DANE Household Survey (EHL5)

children grow up enough to work (usually when parents are in their 40s) and we see that older age groups are better off except the very old who are presumably largely retired.

It is worth noting from Table 2.4 that while the poor are heavily over-represented among those with low education, as many as 20% of those with secondary education have incomes below what is probably necessary for minimum nutrition. Furthermore, 11% of even those with some higher education are afflicted with poverty. Some of these are those people who are transitorily unemployed but the majority basically do not earn enough.

2.3 Migrant Status: Convention wisdom has it that recent migrants are disproportionately poor, that they work in the "murky sector" while waiting for the prize jobs in the organized or formal sector: Table 2.5 presents tabulations of the poor according to their length of residence in Bogota. It shows that only 15% of the poor are those who have been in Bogota for less than five years. The group with largest representation of the poor seems to comprise those who have been in Bogota for 11 to 20 years. The problem of poverty is clearly therefore not of migrants. It is much more true to say that poverty is widespread among all groups. If anything, recent migrants appear to be somewhat better at supporting themselves and only 20-25% happen to fall in the bottom 30%. The two surveys are not in full agreement though the broad patterns are clear. The 1975 survey shows that 31.3% of all migrants with less than one year of residence in Bogota were poor while the 1977 survey shows only 24.6%. The pattern is reversed for females. Similarly, the 1977 survey shows a higher

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Table 2.5: DISTRIBUTION OF THE POOR BY LENGTH OF RESIDENCE<sup>1/</sup>

<u>Years in Bogota</u>	<u>Males</u>				<u>Females</u>			
	<u>1975</u>		<u>1977</u>		<u>1975</u>		<u>1977</u>	
	<u>Percent of Category in Bottom 30%</u>	<u>Percent of Bottom 30%</u>	<u>Percent of Category in Bottom 30%</u>	<u>Percent of Bottom 30%</u>	<u>Percent of Category in Bottom 30%</u>	<u>Percent of Bottom 30%</u>	<u>Percent of Category in Bottom 30%</u>	<u>Percent of Bottom 30%</u>
0	31.3	4.9	24.6	4.3	21.8	4.5	25.1	5.5
1 - 2	21.9	3.9	28.2	4.3	20.2	4.5	21.6	4.7
3 - 5	23.0	6.5	28.3	6.5	24.5	7.8	26.5	7.0
6 - 10	26.4	10.6	26.7	12.1	27.4	11.0	28.9	12.9
11 - 20	32.0	47.4	28.4	45.6	33.2	48.3	29.5	40.6
20 +	26.5	26.8	22.5	27.2	24.8	24.0	26.7	29.2
<b>Total</b>	<b>28.5</b>	<b>100</b>	<b>26.2</b>	<b>100</b>	<b>28.0</b>	<b>100</b>	<b>27.6</b>	<b>100</b>
<b>No. of People (in thousands)</b>		<b>266</b>		<b>311</b>		<b>307</b>		<b>383</b>

<sup>1/</sup> Only people over 12 years of age are included in these tabulations.

Source: 1975 DANE Special Bogota Household Survey (EII8E)

1977 DANE Household Survey (EII15)

proportion of the poor with 1 to 5 years of residence. Are these sampling artifacts or reflections of reality? We cannot be sure and these data indicate the unreliability of drawing strong conclusions from sample surveys without corroboration from other sources.

These results are in agreement with Helena Jaramilla's (1978) careful study of the characteristics of migrants drawn from a 1973 census sample for the whole country. She concluded that migrants earn more than non-migrants at all education and age levels; that migrants of long standing earn more than non-migrants; that migrants born in large cities earn more than natives. Mohan (1978) also showed that migrants are also spatially distributed around the city fairly uniformly, as are recent migrants. We can thus not attribute the existence of poverty in the city to the arrival of masses of unskilled migrants in the city who cannot find jobs or are underemployed while waiting for better paying jobs to appear. Overall, migrants, recent or of long standing, are not very different from natives and, if anything, are better off. This is worth emphasizing since poverty is often laid to the arrival of poor migrants much like cheap imports are often blamed for the existence of unemployment rather than low productivity.

#### 2.4 Unemployment and Participation Rates Among the Poor

Unemployment and participation rates will be examined in greater detail in a later section of the paper. Here we merely look at the broad picture of unemployment and participation rates by income groups. Unemployment is defined as open unemployment and includes only those who said that they were seeking work in the reference week of each survey.



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Table 2.6a: DISTRIBUTION OF UNEMPLOYMENT RATES BY

INCOME GROUPS AND SEX

<u>Sex</u> /	<u>Decile</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>Overall</u>	<u>Labor Force (in thousands)</u>
Male	1975	30.8	11.4	7.3	8.7	8.0	5.2	3.8	2.5	2.6	0.4	6.9	624
	1977	30.2	12.2	6.2	6.5	6.6	5.5	3.9	4.4	2.7	0.5	6.2	782
Female	1975	29.2	12.1	12.7	9.6	7.9	7.8	6.1	3.7	1.9	1.1	6.4	337
	1977	16.3	11.1	9.4	9.5	7.7	6.4	5.8	4.2	1.7	2.1	5.8	469
Total	1975	30.4	11.6	8.6	9.0	8.0	6.1	4.6	3.0	2.3	0.8	6.7	960
	1977	24.8	11.9	7.2	7.4	7.0	5.8	4.6	4.3	2.3	1.2	6.1	1251

Source: 1975 DANE Special Bogota Household Survey (EH8E).

1977 DANE Household Survey (EH15).

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Table 2.6b: DISTRIBUTION OF THE UNEMPLOYED

BY INCOME GROUP AND SEX

<u>Sex</u> /	<u>Decile</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>Overall</u>	<u>Total Unemployed</u>
Male	1975	23.8	15.5	11.2	14.2	12.4	8.1	6.6	3.7	4.0	0.6	100	42826
	1977	23.2	15.0	9.0	10.7	10.3	10.2	7.1	8.1	5.0	1.5	100	49353
Female	1975	13.0	11.8	13.0	12.4	11.2	12.4	10.6	8.1	4.3	3.1	100	21412
	1977	15.1	10.0	11.0	10.7	11.1	10.5	11.0	9.7	5.1	6.0	100	27585
Total	1975	20.2	14.3	11.8	13.6	12.0	9.5	7.9	5.2	4.1	1.4		64371
	1977	20.2	13.2	9.7	10.7	10.6	10.3	8.5	8.7	5.0	3.1	100	76938

Source: 1975 DANE Special Bogota Household Survey (EH8E).

1977 DANE Household Survey (EH15).

Table 2.6a gives the decile specific unemployment rates for both males and females in 1975 and 1977. The deciles are ranked according to HINCAP. Not surprisingly, there are more unemployed among the bottom five declines. As many as 30% of all people in the bottom decile are unemployed and 11-12% in the second decile. Unemployment rates decline as income increases quite regularly for both males and females. The two surveys are largely in agreement except for the bottom decile for women. Table 2.6b gives the distribution of the unemployed by deciles. Almost 50% of all males unemployed fall in the bottom 30%. The women unemployed are somewhat more evenly distributed and only about 35 to 40% fall among the poor. We are left with the question: "Are people unemployed because they are poor or are they poor because they are unemployed?" It will be addressed partially in a later section by looking at a spatial and age-education disaggregation of unemployment rates but here we disaggregate the unemployed into primary and secondary workers in Table 2.7. If the large proportion of the unemployed who fall in the bottom 30% are poor because they are unemployed we would expect the majority of them to be primary workers (heads of households). Table 2.7 shows, however, that more than half of them are secondary workers. Indeed, the large majority of primary workers who are unemployed do fall in the bottom 30%. Even if we regard all of them as being transitorily unemployed and not "normally" belonging to the bottom 30% we are still left with rates of unemployment among the bottom 30% which would be substantially higher than in higher deciles. We may therefore conclude that at least some of the unemployment among the poor is because they are poor.

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Table 2.7: COMPOSITION OF THE UNEMPLOYED

		Male						Female					
		Bottom 30%		Top 70%		Total		Bottom 30%		Top 70%		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Primary Workers	1975	10108	47	2926	14	13034	31	665	8	399	3	1064	5
	1977	8264	36	2033	8	10297	21	1452	15	840	5	2292	8
Secondary Workers	1975	11571	53	18221	86	29792	69	7448	92	12901	97	20349	95
	1977	15009	64	24047	92	39056	79	8487	85	16806	95	25293	92
Total	1975	21679	100	21147	100	42826	100	8113	100	13300	100	21413	100
	1977	23273	100	26080	100	49353	100	9939	100	17,645	100	27585	100

If we now look at participation rates in Table 2.8 the picture becomes clearer. Not only do the poor have higher unemployment rates they also have substantially lower participation rates. Thus the bottom deciles have a substantial proportion of people who are not working in one way or another. The rates of participation rise for the men until the sixth decile and then flatten out. Female participation rates rise regularly until the last decile. Female participation is therefore directly related to income. The very low participation rates in the bottom decile indicate a certain number of discouraged workers and, perhaps, a certain number old, infirm or incapacitated who cannot work and are therefore poor.

We thus emerge with a composite picture. In the bottom decile, that is among the very poorest, only about 40 to 50% of males over 12 years participate in the labor force and only 15% of the women as compared with the overall participation rate of about 70% of the men and about 30% of the women. Of those who do participate almost 30% are out of work in the bottom decile. Consequently, only about 35% of all men over 12 years in the bottom decile have jobs and only about 8 to 10% of the women. Of the remainder some must be discouraged workers and others incapacitated by age, sickness or injury. Employment generation is therefore only partly the answer. Many of the poor are probably unemployable and their poverty must be attacked directly.

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Table 2.8: DISTRIBUTION OF PARTICIPATION RATES<sup>1/</sup>  
BY INCOME GROUPS AND SEX

<u>Sex</u> / <u>Decile</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>Overall</u>	
Male	1975	49	59	66	66	66	70	73	68	72	77	67
	1977	37	60	64	69	66	71	71	72	70	71	66
Female	1975	13	19	20	24	27	31	33	41	43	54	31
	1977	17	21	25	24	29	34	37	42	50	50	34
Total	1975	26	39	43	45	47	52	53	55	59	60	49
	1977	26	39	43	45	47	52	53	55	59	60	49

Source: 1975 DANE Special Bogota Household Survey (EH8E).

1977 DANE Household Survey (EH15).

<sup>1/</sup> These participation rates are in relation to all individuals over 12 years in age.

### III. WHAT THEY DO

This section attempts to identify the labor force characteristics of the poor, that is, of those who work among the poor. Workers here are defined as all those who say their primary activity is work and all others (students, for example) who work more than 15 hours a week. Once again, the poor are those whose household income per capita (HINCAP) falls among the bottom 30% regardless of their own wages.

#### 3.1 The Age and Education Levels of Poor Workers

Appendix Table A.3 gives the distribution of poor workers by age and education groups, and Table A.4 gives a similar distribution for all workers. To find out which groups are atypically poor we need to compare the two distributions. This is done in Table 3.1. This table gives an index of concentration of poverty by age and education groups. If poverty was evenly distributed among all age groups within education levels all the indices would be 100. The index of concentration reported is:

$$w_{ij} = \frac{\text{Proportion of Education Groups } i \text{ in Age Group } j \text{ in bottom 30\%}}{\text{Proportion of Education Group } i \text{ in Age Group } j \text{ among all workers}}$$

Thus, for example, if among the bottom 30%, of those male workers who have primary education 16.7% fall in the age group 15-24 and the comparable proportion for all workers is 20.0%, the index of concentration is 84%. The index gives an idea of how likely it is to find the poor in an age group within a given education level.

THE POOR IN BOGOTA

Table 3.1: THE INCIDENCE OF POVERTY AMONG WORKERS BY AGE AND EDUCATION GROUPS:

THE INDEX OF CONCENTRATION

	Males										Females									
	None		Primary		Secondary		Higher		All		None		Primary		Secondary		Higher		All	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
12 - 14	-	(211)	75	78	150	-	-	-	100	150	-	0	102	53	(300)	(275)	-	-	120	70
15 - 24	82	136	84	82	102	119	(118)	(140)	87	90	54	46	70	75	97	88	(174)	(156)	80	79
25 - 34	106	91	104	107	73	95	89	104	88	95	(108)	(117)	(129)	(111)	71	99	56	42	99	95
35 - 44	(133)	(140)	132	139	117	(109)	81	98	(131)	(138)	(150)	(140)	150	145	(133)	(110)	(134)	(118)	(148)	(139)
45 - 54	96	94	82	85	125	83	145	72	99	93	80	122	55	115	(177)	(145)	-	-	84	140
55 - 64	55	61	78	49	113	38	113	73	89	58	153	53	100	121	80	88	-	-	120	110
65 +	(124)	(102)	71	45	85	54	-	-	105	76	144	67	56	0	(240)	(233)	-	-	113	66

Source: Tables A.3 and A.4

Note: Index of concentration  $w_j = \frac{\text{Proportion of Education Group } j \text{ in Age Group } j \text{ in Bottom } 30\%}{\text{Proportion of Education Group } j \text{ in Age Group } j \text{ in all workers}} \times 100$

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Table 3.2: THE INCIDENCE OF POVERTY AMONG WORKERS BY AGE AND EDUCATION GROUPS:

THE PROPORTION IN EACH GROUP IN THE BOTTOM 30 PERCENT

	Males										Females									
	None		Primary		Secondary		Higher		Total		None		Primary		Secondary		Higher		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
12 - 14	0	100	23	23	23	-	-	-	23	29	-	-	18	11	33	30	-	-	17	11
15 - 24	46	68	28	25	16	14	5.3	5.0	20	18	10	13	13	15	10	10	5.8	11	11	13
25 - 34	60	46	(34)	(32)	11	11	4.0	3.7	21	19	(19)	(34)	(23)	(22)	7.6	11	1.9	3.0	14	15
35 - 44	75	70	(44)	(42)	18	13	3.7	3.5	(31)	(27)	(27)	(41)	(27)	(29)	14	12	4.4	8.5	(21)	(23)
45 - 54	54	47	27	26	19	10	6.6	2.6	23	18	(14)	(35)	10	23	19	16	-	-	12	23
55 - 64	31	31	26	15	17	5	5.1	1.9	21	11	(27)	(15)	18	24	8.3	10	-	-	17	18
65 +	70	51	24	14	13	7	-	-	24	5.5	(25)	(19)	10	-	25	26	-	-	15	11
	56	50	33	(30)	15	12	4.5	3.6	23	20	(18)	(29)	18	20	11	11	3.3	7.2	14	10

Source: Tabulation from 1975 DANE Special Bogota Household Survey (EIBB)

1977 DANE Household Survey (EHI5)

We have circled the atypically high indices of concentration in Table 3.1. Only those groups have been circled where the two surveys are in agreement. Among males it is interesting to note that the distribution of poor workers is not strikingly different from that of all workers except that they are over-represented in the 35-44 age group. Note that workers over 65 are only over-represented among those with no education. There are very few among males 12 to 14 years old who are workers and the poor are not over-represented in this group - although owing to the small sample at this level of aggregation the two samples are not in agreement. It is surprising that the poor are not clearly over-represented in this group since one would have expected only the very poor to go out to work at much earlier ages. It indicates that those who work clearly contribute to household income and thus, perhaps, help in lifting the household out of poverty. Indeed, the age group 35-44 is atypically poor probably because their children are foregoing current income in order to go to school. It may be recalled from Section 2.2 that of all children aged 12 to 14 almost 40% were poor. These data point to the real economic hardship undergone by the poor in educating their children even if the education were free.

Among females, the story is similar and the age group 35-44 is again atypically poor. In addition, the poor among those with primary or less education also predominate in the lower age group of 25-34; old women (over 65) with secondary education who have to work are also poor.



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Table 3.3: DISTRIBUTION OF POOR WORKERS BY OCCUPATION

Occupation (110 Code)	Bottom 30%				Overall				Poverty Index	
	Male		Female		Male		Female		Male	Female
	1975	1977	1975	1977	1975	1977	1975	1977	1977	1977
<b>White Collar</b>	<b>28.2</b>	<b>26.1</b>	<b>34.3</b>	<b>28.8</b>	<b>42.8</b>	<b>44.5</b>	<b>43.5</b>	<b>42.5</b>	<b>59</b>	<b>68</b>
Professional and Technical (1-19)	3.3	1.7	5.1	2.1	11.5	11.8	11.8	9.0	14	23
Administrative/Manager (20-29)	1.9	0.6	0.3	-	3.6	4.2	0.6	0.7	14	71
Clerks and Typists (30-39)	5.7	6.8	7.5	9.0	11.3	11.9	18.1	18.6	57	48
Sales Manager and Proprietor (40-41)	11.8	7.3	14.2	7.8	9.3	7.6	6.6	5.2	96	150
Other Sales (42-49)	5.5	9.7	7.2	9.9	7.1	9.0	6.4	9.0	98	110
<b>Blue Collar</b>	<b>71.8</b>	<b>74.0</b>	<b>66.1</b>	<b>71.2</b>	<b>57.3</b>	<b>55.5</b>	<b>56.4</b>	<b>57.5</b>	<b>133</b>	<b>124</b>
Service Worker (not maid) (50-53; 55-59)	9.2	10.9	25.3	28.0	7.6	8.0	12.8	17.2	136	162
Maids (54)	0.7	-	17.5	22.8	0.5	0.1	27.6	24.4	-	93
Agricultural Workers (60-69)	2.7	1.6	0.6	0.6	2.3	1.6	0.3	0.5	100	120
Production Supervisors (70)	0.6	0.6	0.9	-	0.6	0.9	0.2	0.3	67	-
Production Workers (71-94, 96-97)	27.5	34.8	20.0	19.2	27.0	28.4	15.3	15.1	122	127
Construction Workers (95)	18.0	13.2	1.2	0.3	10.0	8.3	0.2	0.04	157	-
Transport Workers (98)	10.7	11.4	-	-	8.0	7.6	-	-	150	-
Other (99)	2.4	1.5	0.6	0.3	1.4	0.6	-	-	250	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>		
Total Number of Workers (thousands)	133	143	43	72	572	726	311	442		
Proportion of all Workers in Bottom 30%	23.2	19.7	13.8	16.3						

Source: 1975 DAHE Special Bogota Household Survey (EHBE)

1977 DAHE Household Survey (EH15)

Note: Poverty Index =  $\frac{\text{Proportion of Workers in Bottom 30% in Occupation 1}}{\text{Proportion of all Workers in Occupation 1}} \times 100$

and about 65 to 70% of all female workers. In the overall distribution only about 55 to 57% of both male and female workers fall in that category. Table 3.3 also gives a poverty index for occupations (as defined in the table and similar to other poverty indices in this paper). We have circled the occupations which have an over-representation of poor workers. These are service workers and production workers of both sexes (not including maids), male construction and transport workers and female sales workers. These categories cover about 65% of the poor male workers and 70% of the poor female workers. Note that maids who comprise about 20% of the poor female workers are not particularly poor. They are relatively better off than their counterparts who work in service and manufacturing jobs. The two surveys are in broad agreement in these distributions except that there seems to be a problem between the classification of sales manager and other sales categories. Many more sales people seem to have been classified as sales managers or proprietors in 1975.

Do poor workers work long hours or are they short of work? To answer this question we tabulate the distribution of hours worked in each occupation by the poor and by all workers and compare the two distributions. Table 3.4a reports the distribution of hours worked by occupation for poor male workers while Table 3.4b gives the same distribution for all male workers. In Table 3.4a we have circled the cells where a larger proportion of the poor are found in the hours worked category as compared with the distribution for all workers. It is striking that

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Table 3.4a: DISTRIBUTION OF JOBS WORKED BY THE POOR (BOTTOM 30%) BY OCCUPATION

(RATES ONLY)

Occupation/Hours Worked	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 - 79		All		Percentage in Category	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
<b>White Collar</b>																		
Professional and Technical	2.9	0	11.8	7.3	2.9	17.2	61.8	68.4	8.8	7.1	5.9	0	5.9	0	100	100	3.4	2.0
Administrative/Manager	0	0	0	0	5.7	0	29.0	75.9	5.7	24.1	5.7	0	5.3	0	100	100	1.9	.6
Clocks and Typists	0	0	3.5	2.2	1.7	4.6	79.3	76.1	8.6	8.7	5.2	6.3	1.7	2.1	100	100	5.8	6.7
Sales Manager and Proprietor	0	2.0	4.4	0	4.4	7.8	41.6	30.6	11.5	9.7	14.2	17.7	23.9	32.3	100	100	11.3	7.4
Other Sales	0	0	3.6	6.0	3.8	10.3	55.4	33.5	8.9	19.2	14.3	16.4	14.3	14.7	100	100	5.6	9.7
<b>Blue Collar</b>																		
Service Worker (not maid)	0	0	3.1	2.9	2.2	0	47.3	45.1	14.3	17.5	11.0	2.7	24.2	31.8	100	100	9.1	10.8
Maids	0	0	0	0	57.1	0	28.6	0	0	0	0	0	14.3	0	100	100	.7	0
Agricultural Workers	0	0	0	0	12.0	25.3	60.0	58.0	12.0	0	8.0	16.8	3.6	0	100	100	2.5	1.7
Production Supervisors	0	0	0	0	0	0	50.0	75.0	0	0	33.3	25.0	16.7	0	100	100	.6	.6
Production Workers	.7	0	4.0	3.4	4.7	3.8	65.9	63.4	10.1	12.5	8.7	10.6	5.8	6.3	100	100	27.7	36.5
Construction Workers	0	0	2.2	5.4	4.9	2.2	65.0	57.4	15.9	13.5	7.1	17.0	4.9	4.5	100	100	18.4	13.1
Transport Workers	2.9	0	1.9	4.2	2.9	6.3	49.5	38.5	12.4	15.3	15.2	14.0	15.2	21.8	100	100	10.5	11.3
Other	0	0	4.2	0	8.3	0	66.7	89.9	8.3	10.2	12.5	0	0	0	100	100	2.4	1.5
<b>Total</b>	<b>.6</b>	<b>.2</b>	<b>3.2</b>	<b>3.5</b>	<b>4.6</b>	<b>5.0</b>	<b>59.4</b>	<b>53.9</b>	<b>11.5</b>	<b>13.3</b>	<b>10.0</b>	<b>11.5</b>	<b>10.6</b>	<b>12.6</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Number of Workers	798	213	4256	5103	6118	7166	78736	77709	15295	19226	13300	16621	14998	18239	132601	144277		

Source: 1975 DANE Special Bogota Household Survey (EHBE).

1977 DANE Household Survey (EH15).

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Table 3.4b: DISTRIBUTION OF HOURS WORKED BY ALL MALE WORKERS BY OCCUPATION

Occupation/Hours of Work	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 - 98		All		Percentage in Category	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
<b>White Collar</b>																		
Professional and Technical	1.0	.2	7.1	6.4	6.3	7.8	64.3	65.9	9.9	9.6	8.1	5.5	3.4	4.6	100	100	11.5	12.0
Administrative/Manager	0	0	0	2.8	1.3	.8	73.6	64.0	14.8	16.2	6.5	11.3	3.9	4.9	100	100	3.6	4.6
Clocks and Typists	0	0	3.5	1.8	2.0	2.8	80.0	81.9	8.3	8.0	4.9	3.2	1.4	2.3	100	100	11.5	11.8
Sales Manager and Proprietor	.3	.4	3.6	2.3	5.4	6.0	47.7	39.1	15.5	18.5	10.6	17.7	16.8	16.0	100	100	9.0	7.7
Other Sales	1.3	0	3.3	4.7	4.3	6.5	61.1	53.9	11.1	16.7	10.1	12.4	8.8	5.9	100	100	7.1	8.8
<b>Blue Collar</b>																		
Service Worker (not maid)	.3	0	1.5	3.1	2.5	2.9	51.7	40.5	16.9	16.4	8.6	6.6	18.5	30.4	100	100	7.6	7.9
Mails	0	0	5.0	0	20.0	25.7	30.0	74.3	20.6	0	15.0	0	10.0	0	100	100	.5	.1
Agricultural Workers	0	0	5.6	5.7	9.0	16.1	48.3	49.1	20.2	11.2	9.8	10.7	7.9	7.2	100	100	2.1	1.7
Production Supervisors	0	0	0	0	0	3.0	51.9	78.5	18.5	9.0	22.2	9.4	7.4	0	100	100	.6	1.0
Production Workers	.7	.2	2.7	3.1	3.5	3.9	71.0	69.1	10.5	10.3	7.0	8.5	4.7	5.1	100	100	27.1	28.1
Construction Workers	0	1.1	1.8	3.1	3.4	4.2	67.5	58.1	15.1	17.1	7.8	12.6	4.4	3.8	100	100	10.2	8.1
Transport Workers	.9	0	1.5	3.1	3.8	6.0	53.4	40.7	14.1	15.5	11.4	14.9	15.0	19.8	100	100	7.9	7.6
Other	0	0	1.7	0	8.5	0	72.9	84.3	11.9	5.4	5.1	10.4	0	0	100	100	1.4	.5
<b>Total</b>	<b>.5</b>	<b>.2</b>	<b>3.1</b>	<b>3.4</b>	<b>4.0</b>	<b>4.8</b>	<b>64.6</b>	<b>60.9</b>	<b>12.4</b>	<b>12.8</b>	<b>8.1</b>	<b>9.4</b>	<b>7.4</b>	<b>8.6</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Numbers of Workers</b>	<b>2926</b>	<b>1473</b>	<b>17556</b>	<b>25077</b>	<b>22763</b>	<b>35085</b>	<b>369341</b>	<b>447033</b>	<b>70756</b>	<b>93988</b>	<b>46417</b>	<b>60990</b>	<b>42294</b>	<b>62849</b>			<b>572033</b>	<b>736205</b>

Source: 1975 BANE Special Bogota Household Survey (EIBR)

1977 BANE Household Survey (EHS)

the poor are over-represented among workers who work long hours. About 20% of poor male workers work over 60 hours a week while only 15% of all male workers work such hours. Sales workers, construction workers and transport workers who are poor appear to work particularly long hours. Among the poor, it is only professional and technical workers who work relatively short hours. Only about 8% of the poor work less than 40 hours and about 55 to 60% work the "normal" 40 to 48-hour week. Note also that sales and transport workers work the longest hours in general.

The story is somewhat different for female workers. They appear to be over-represented among those working shorter hours. Table 3.5a gives the distribution for the female poor and Table 3.5b for all females. Once again it is the sales workers who work very long hours along with the maids. It would seem therefore that, perhaps, there are many poor women working part-time who would like more work but cannot get any or cannot work longer hours because of responsibilities at home.

The picture we emerge with is therefore a composite one. It appears that the poor men are largely not lacking for work: there is little overt or open underemployment. Indeed, if anything, the poor are overworked in low productivity occupations. The sales workers are perhaps actually underemployed, that is, idle for a substantial part of their working hours. But they comprise only about 25% of all poor workers. 1/

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1/ See Appendix Tables A.5 and A.6 for Distribution of Hours Worked by Occupation (where columns seem to be a hundred) for poor male and female workers.

THE POOR IN BOGOTA

Table 3.5a: DISTRIBUTION OF HOURS WORKED BY THE POOR (BOTTOM 30%) BY OCCUPATION

(FEMALES ONLY)

Occupation/Hours Worked	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 - 98		All		Percentage In Category	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
<b>White Collar</b>																		
Professional and Technical	0	0	5.9	29.8	17.7	42.1	76.5	28.1	0	0	0	0	0	0	100	100	5.2	2.1
Administrative/Manager	0	0	0	0	0	0	100.0	0	0	0	0	0	0	0	100	100	.3	-
Clerks and Typists	0	3.3	4.0	0	4.0	0	80.0	89.8	0	6.9	0	0	12.0	0	100	100	7.7	9.8
Sales Manager and Proprietor	0	0	9.1	11.2	11.4	7.0	27.3	33.1	11.4	11.1	18.2	3.7	22.7	34.0	100	100	13.5	7.8
Other Sales	0	0	0	8.9	8.3	20.5	50.0	29.7	20.8	23.5	8.3	2.8	12.5	14.7	100	100	7.3	9.9
<b>Blue Collar</b>																		
Service Worker (not maid)	1.2	3.1	16.9	19.4	10.8	17.4	48.2	31.9	8.4	14.4	6.0	7.6	8.4	6.2	100	100	25.4	28.0
Maids	0	0	8.8	1.3	15.8	0	31.6	18.3	17.5	8.9	14.0	48.7	12.3	22.9	100	100	17.4	22.8
Agricultural Workers	0	0	0	0	0	0	100.0	0	0	0	0	50.7	0	49.3	100	100	.6	.6
Production Supervisors	0	0	0	0	0	0	66.7	0	33.3	0	0	0	0	0	100	100	.9	0
Production Workers	1.5	0	15.4	13.4	9.2	9.4	55.4	63.4	9.2	4.7	3.1	7.6	6.2	1.4	100	100	19.9	19.2
Construction Workers	0	0	75.0	0	25.0	0	0	100.0	0	0	0	0	0	0	100	100	1.2	.3
Other	0	0	0	0	0	0	50.0	100.0	50.0	0	0	0	0	0	100	100	.6	.3
<b>Total</b>	<b>.61</b>	<b>1.2</b>	<b>11.6</b>	<b>10.7</b>	<b>11.0</b>	<b>10.1</b>	<b>48.0</b>	<b>40.1</b>	<b>10.7</b>	<b>10.8</b>	<b>7.7</b>	<b>15.53</b>	<b>10.4</b>	<b>11.6</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Number of Workers</b>	<b>266</b>	<b>840</b>	<b>5054</b>	<b>7691</b>	<b>4788</b>	<b>7304</b>	<b>20881</b>	<b>28904</b>	<b>4655</b>	<b>7780</b>	<b>3325</b>	<b>11203</b>	<b>4522</b>	<b>8395</b>			<b>43491</b>	<b>72,117</b>

Source: 1975 DANE Special Bogota Household Survey (EHBE)

1977 DANE Bogota Household Survey (EH15)

THE POOR IN BOTSWANA

Table 3.2b. DISTRIBUTION OF HOURS WORKED BY FEMALE

Occupation/Hours of Work	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 67		70 - 98		1975	1977	All	1975	1977
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977					
<b>White Collar</b>																			
Professional and Technical	1.8	.5	17.6	18.8	20.5	37.8	54.0	56.4	3.2	3.0	2.5	2.4	.4	1.1	100	100	11.9	9.1	
Administrative/Managers	-	-	-	7.9	15.4	7.9	61.5	71.0	23.1	6.6	-	-	-	6.6	100	100	.6	.7	
Clerks and Typists	.5	.5	1.9	.8	4.5	1.8	86.7	87.6	6.9	5.9	2.1	2.6	1.4	.8	100	100	18.2	18.7	
Sales Managers and Proprietors	1.4	-	4.8	5.7	11.6	7.7	33.6	30.6	13.7	16.5	14.4	18.2	20.6	21.4	100	100	6.1	5.2	
Other Sales	-	.5	5.3	9.9	4.6	7.8	80.9	50.8	14.4	15.0	6.6	6.0	8.0	10.0	100	100	6.5	9.0	
<b>Blue Collar</b>																			
Service Worker (not maid)	.7	1.1	11.3	11.2	8.3	9.7	47.3	45.6	13.7	13.2	8.3	9.8	10.3	9.4	100	100	12.8	17.2	
Maids	.8	-	2.1	.4	4.1	2.4	23.9	18.4	22.9	15.5	20.9	14.4	23.2	29.0	100	100	27.5	26.3	
Agricultural Workers	-	-	-	11.7	-	-	71.4	19.8	28.6	38.3	-	20.4	-	9.9	100	100	.1	.5	
Production Supervisors	-	-	-	-	-	-	75.0	80.5	25.0	19.5	-	-	-	-	100	100	.2	.1	
Production Workers	.8	-	12.2	8.5	10.5	9.0	61.5	60.8	8.3	7.1	2.9	4.1	3.9	2.5	100	100	15.5	15.1	
Construction Workers	-	-	60.0	-	20.0	-	-	100.0	-	-	20.0	-	-	-	100	100	.2	-	
Transport Workers	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100	100	-	-	
Other	-	-	-	-	-	-	50.0	100.0	50.0	-	-	-	-	-	100	100	.1	-	
<b>Total</b>	.8	.4	7.2	6.5	8.2	6.7	51.3	51.2	12.76	10.9	9.3	12.9	10.4	11.36	100	100	100	100	
<b>Total Number of Workers</b>	2527	1668	22366	28719	25536	29808	159567	227151	39634	48508	24661	57312	12119	50609			310488	457567	

Source: 1975 IAHU Special Botswana Household Survey (SIBSE)  
1977 IAHU Household Survey (IHIS)



Almost half of the poor overworked men are transport or construction workers. It is unlikely that they are idle during much of their working day. On the other hand, a substantial portion of the women are either genuinely underemployed (i.e., willing and able to work more hours) or unable to work longer hours. Poverty will therefore not be alleviated by more expansion of employment opportunities. For men what is needed are higher productivity employment opportunities, and this may imply the provision of training programs for the least skilled and overworked. For women, perhaps, more employment opportunities are needed along with day care programs so that they can participate in income producing activities. Note that the provision of day care is itself an employment generating activity.

The last tabulation of poor workers according to their occupational distribution is Table 3.6 which gives the proportion of workers earning less than the minimum wage in each occupation. The proportion in the two surveys are somewhat different: in 1975 17.6% of male workers and 21.8% of female workers earned less than the minimum wage while in 1977 only 6.8% and 15.3% respectively earned less. The 1975 survey was conducted shortly before the next increase in minimum wage and the 1977 one was conducted soon after a minimum wage increase to adjust for inflation. The comparative position of the occupations is, however, not affected by these discrepancies. Recall that 20 to 23% of male workers fall among the bottom 30% and about 15% of female workers.

THE POOR IN BOGOTA

Table 3.6: DISTRIBUTION OF WORKERS EARNING LESS THAN MINIMUM WAGE BY OCCUPATION

Activity	Males				Females			
	1975		1977		1975		1977	
	Percent < Min. Wage <sup>1/</sup>	Total Percent In Category	Percent < Min. Wage <sup>2/</sup>	Total Percent In Category	Percent < Min. Wage <sup>1/</sup>	Total Percent In Category	Percent < Min. Wage <sup>2/</sup>	Total Percent Category
Professional and Technical	7.6	11.5	3.0	12.0	10.4	11.8	3.7	9.1
Administrative/Manager	17.1	3.6	0.6	4.6	23.1	0.6	6.4	0.7
Clerks and Typists	6.3	11.3	2.4	11.8	5.9	18.1	3.1	18.7
Sales Manager and Proprietor	(36.0)	9.3	(11.4)	7.8	(60.5)	6.6	(33.0)	5.2
Other Sales	18.5	7.1	(11.1)	8.9	26.3	6.4	(33.9)	9.0
Service Worker (not maid)	12.3	7.6	4.7	7.9	(36.8)	12.8	(29.9)	17.0
Maids	28.6	9.5	-	0.1	15.2	27.6	4.4	24.3
Agricultural Workers	(31.9)	2.1	(12.6)	1.7	0.4	0.3	20.0	0.5
Production Supervisors	7.4	0.6	-	1.0	-	0.2	-	0.3
Production Workers	17.6	27.0	8.4	28.1	(29.0)	15.3	(23.7)	15.1
Construction Workers	(20.6)	10.0	(11.8)	8.1	1.0	0.2	-	-
Transport Workers	12.6	8.0	4.8	7.6	-	-	-	-
Other	22.0	1.4	4.7	0.6	50.0	0.1	-	-
Total Percent	17.6	100	6.8	100	21.8	100	15.3	100
Number of Workers in Category (In thousands)	102	580	50	736	69	314	67	444

1/ Minimum Wage in 1975 was Col. \$38.50 per day i.e., Col \$886 per month.

2/ Minimum Wage in 1977 was Col. \$50 per day i.e., Col \$1150 per month.

Source: 1975 DANE Special Bogota Household Survey (EH8E)

1977 DANE Household Survey (EH15)

If the bottom 30% indeed fall below the minimum adequate nutrition requirement this would indicate that the minimum wage should be raised somewhat to make it possible for workers to achieve at least the minimum nutritional standards for themselves and their families. Clearly, if the minimum wage is raised the demand for labor would decline resulting in higher unemployment. But workers can scarcely be expected to work at adequate productivity levels without the barest of minimum nutrition. Indeed, if productivity is raised by raising the minimum wage it can have an employment generating effect in the long run, through the normal multiplier of increased incomes.

Among males it is large proportions of sales workers and construction workers who are paid less than the minimum wage. Recall that they were also over-represented among those who work long hours. Once again we can speculate that the sales workers fall among the disguised underemployed but the construction workers do not. Among women it is noteworthy that a very small percentage of maids are paid below minimum wages. It is mainly female sales service and production workers who are paid below the minimum wage rates. Note that on the whole for more women work for below minimum wage levels but recall that many of them also work part-time.

### 3.3 The Industry of Activity of Poor Workers and the Hours They Work

This section examines the distribution of poor workers by industry of activity that they work in and the hours they work in these industries. The results corroborate those on occupations in the previous section.

THE POOR IN BOGOTA

Table 3.1: DISTRIBUTION OF THE POOR BY INDUSTRY  
OF ACTIVITY

Activity (S.I.C. Code)	Bottom 10%				Overall				Poverty Index			
	Male		Female		Male		Female		Male		Female	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
PRIMARY	3.0	1.6	1.2	0.9	2.7	1.9	.6	0.8	111	86	(200)	(112)
Agriculture (10-19)	2.3	1.6	0.6	0.6	1.9	1.6	0.3	0.6	121	100	200	100
Mining (20-29)	0.7	-	0.6	0.3	0.8	0.3	0.3	0.2	88	-	(200)	(150)
SECONDARY	42.8	44.8	23.2	21.4	37.9	34.8	20.1	22.5	(113)	(113)	117	95
Food Products, Beverages and Tobacco (31)	2.8	5.6	2.1	1.7	3.0	3.8	1.7	2.2	93	147	124	77
Textiles and Footwear (32)	4.2	5.7	14.2	11.5	5.5	5.3	10.8	10.3	76	108	(131)	(112)
Lumber and Wood (33)	3.9	4.0	1.8	0.6	3.4	3.0	0.7	0.6	(115)	(133)	(257)	100
Paper, Printing, Publishing (34)	1.9	1.5	1.5	2.0	2.0	1.9	1.1	1.2	95	79	(136)	(161)
Mineral Products (36)	2.1	2.0	0.3	0.3	1.5	1.9	0.4	1.3	(140)	(105)	75	23
Industrial Chemicals, Petroleum (35)	2.3	2.0	1.5	2.9	3.0	2.6	2.3	3.6	77	77	65	81
Metal Industry (37, 38)	4.9	5.7	1.5	1.8	6.0	7.7	1.5	2.1	82	74	100	86
Other Industry (30 - 39)	0.2	0.6	0.3	0.6	0.3	0.6	0.5	0.3	67	100	60	200
Utilities (40 - 49)	0.8	0.6	-	-	0.8	0.7	0.2	0.2	100	86	-	-
Construction (50 - 59)	19.7	17.1	0.3	-	12.4	12.3	0.9	0.7	(159)	(139)	33	-
TERTIARY	56.6	53.8	75.3	77.8	59.5	58.4	79.2	76.9	92	92	95	101
Wholesale Trade (61)	2.2	0.6	0.6	0.9	2.9	1.1	1.7	0.7	76	55	35	129
Retail Trade (62)	16.8	18.5	21.2	19.8	15.3	16.4	15.4	15.6	(110)	(113)	(138)	(127)
Other Commerce (60, 63)	2.1	2.3	7.0	4.6	2.3	2.2	4.5	4.3	91	105	(156)	(107)
Transportation, Communication (70-79)	9.1	10.5	1.2	0.9	8.1	8.9	1.6	1.4	(112)	(118)	75	65
Financial Establishments (80 - 89)	4.7	4.3	4.5	2.8	7.3	8.9	4.9	6.5	64	48	92	43
Public Administration, Social Services (96 - 99)	6.8	6.6	2.7	2.9	8.3	8.3	4.8	5.1	82	80	56	57
Public Instruction (91)	3.1	1.7	9.1	6.2	6.8	5.5	14.4	11.4	46	31	63	56
Personal and Domestic Services (95)	9.8	9.3	29.0	39.7	8.5	7.1	31.9	31.9	(115)	(131)	91	126
Total	100	100	100	100	100	100	100	100				
No. of Workers (in thousands)	114	143	37	72	492	726	267	442				
Proportion of Workers in Bottom 10%	23.2	19.7	19.9	16.3								

Note: The Poverty Index is similar to that used in Table 3.3

Source: 1975 DANE Special Bogota Household Survey (EHBE)  
1977 DANE Household Survey (EH15)

Table 3.7 gives the distribution of the poor and of all workers by industry of activity. Once again poverty indices have been calculated to show which activities have an over-representation of poor workers. In correspondence with the fact that blue collar workers are more likely to be poor, this table shows that secondary activities, that is manufacturing and construction, are more likely to have poor male workers employed in them. Within manufacturing, lumber and wood products and mineral production appear to be the industries employing an atypical proportion of poor workers. The 1977 survey also points to food products, beverages and tobacco as employing poor workers but this is not borne out by the 1975 sample. Among tertiary activities, retail trade, transport and communication and personal and domestic services stand out as activities employing a large proportion of poor people. About 40% of the bottom 30% men are employed in these activities.

For females the picture is similar but with some differences. Within secondary activities, poor women are disproportionately employed in textiles and shoes, lumber and wood industries and in printing and publishing. About 16 to 18% of poor women are employed in these industries as opposed to about 12% in the overall distribution. Within tertiary activities the poor women are overly represented in retail trade and in other commerce. Once again, personal and domestic services do not employ a disproportionate number of poor women.

Table 3.8a and 3.8b give the distribution of hours worked by industry. 1/ of activity for poor men and all men respectively. We

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1/ The column distributions for poor men and women is given in Tables A.7 and A.8 respectively.

THE POOR IN BOGOTA

Table 3.0a: DISTRIBUTION OF HOURS WORKED BY THE POOR (BOTTOM 30 PERCENT) BY

INDUSTRY OF ACTIVITY (MALES ONLY)

Activity/Hours Worked Year	0-14		15-29		30-39		40-49		50-59		60-69		70+		Total		Total	
	75	77	75	77	75	77	75	77	75	77	75	77	75	77	75	77	75	77
<b>PRIMARY</b>																		
Agriculture	0	0	0	0	14.3	16.7	61.9	68.2	9.52	0	9.5	25.1	4.8	0	100	100	2.1	1.8
Mining	14.3	0	0	0	14.3	0	14.3	0	57.1	0	0	0	0	0	100	100	.7	0
<b>SECONDARY</b>																		
Food Products, Beverages, and Tobacco	3.6	0	3.6	2.6	0	3.1	57.1	41.5	7.1	15.7	21.4	10.5	7.1	26.7	100	100	2.8	5.6
Textiles and Footwear	0	0	2.4	0	2.4	7.6	59.5	61.6	11.9	10.1	16.7	17.0	7.1	7.7	100	100	4.2	5.6
Timber and Wood	0	0	5.1	7.5	2.6	0	61.5	58.3	15.4	14.5	2.6	12.3	12.9	7.4	100	100	3.9	3.9
Paper, Printing, Publishing	0	0	5.6	0	5.6	0	61.1	70.6	16.7	9.8	5.6	9.8	5.6	9.8	100	100	1.8	1.5
Mineral Products	0	0	4.8	0	4.8	0	81.0	85.5	9.5	14.5	0	0	0	0	100	100	2.1	2.0
Industrial Chemicals, Petroleum	0	0	0	0	0	0	73.9	71.2	13.0	14.4	8.7	7.1	4.4	7.1	100	100	2.3	2.0
Metal Industry	0	0	2.0	2.6	4.0	0	72.0	82.0	10.0	5.1	8.0	7.7	4.0	2.6	100	100	5.0	5.6
Other Industry	0	0	0	0	0	0	50.0	74.8	50.0	25.2	0	0	0	0	100	100	.2	.6
Utilities	0	0	0	0	0	0	100.0	100.0	0	0	0	0	0	0	100	100	.8	.6
Construction	0	0	3.0	5.9	6.5	6.0	63.0	55.3	15.0	14.7	7.0	13.9	5.5	4.3	100	100	20.1	17.0
<b>TERTIARY</b>																		
Wholesale Trade	0	0	0	0	0	0	68.2	75.4	9.1	24.4	10.2	0	4.6	0	100	100	2.2	.6
Retail Trade	.8	.8	3.7	2.4	4.3	7.7	45.1	37.5	10.5	15.4	14.2	16.4	22.2	19.8	100	100	16.3	18.5
Other Commerce	0	0	5.3	13.9	0	0	52.6	59.5	10.5	7.5	15.8	0	15.8	19.1	100	100	1.9	2.3
Transportation, Communication	0	0	1.1	4.5	3.4	6.8	56.8	35.8	10.2	11.2	14.8	16.5	13.6	25.7	100	100	8.9	10.4
Financial Establishments	2.1	0	0	3.4	4.2	7.0	70.8	50.3	4.2	13.4	6.3	0	12.5	25.9	100	100	4.8	4.4
Public Administration, Social Services	0	0	5.9	0	4.4	0	60.3	68.6	8.8	15.6	11.0	6.8	8.8	9.0	100	100	6.8	6.5
Public Instruction	6.7	0	3.3	7.4	3.3	0	56.0	63.4	13.3	21.7	3.3	7.4	20.0	0	100	100	3.0	2.0
Personal and Domestic Services	1.0	0	6.1	4.7	6.1	6.6	58.2	56.2	10.2	14.0	8.2	9.2	10.2	9.3	100	100	9.9	9.3
Percent in Category	.6	.2	3.2	1.5	4.5	5.0	59.4	51.9	11.6	13.3	10.1	11.5	10.7	12.6	100	100	100	100
Number of Makers	798	213	4256	5103	5985	7166	78470	77709	15295	19226	13300	16621	14098	18239	-	-	-	-

Source: 1975 DGB Special Bogota Household Survey (EHB8)

1977 DGB Household Survey (EHB5)

表 10-10 1982 年 12 月 31 日  
 各 类 企 业 的 人 员 分 布 情 况  
 (按 人 数 计)

企 业 类 别	人 数	1982 年 12 月 31 日		1981 年 12 月 31 日		1980 年 12 月 31 日		1979 年 12 月 31 日		1978 年 12 月 31 日		1977 年 12 月 31 日		1982 年 12 月 31 日	1981 年 12 月 31 日	1980 年 12 月 31 日	1979 年 12 月 31 日	1978 年 12 月 31 日	1977 年 12 月 31 日
		人 数	占 总 人 数 的 百 分 比	人 数	占 总 人 数 的 百 分 比	人 数	占 总 人 数 的 百 分 比	人 数	占 总 人 数 的 百 分 比	人 数	占 总 人 数 的 百 分 比	人 数	占 总 人 数 的 百 分 比						
全 国 总 计	2926	1471	17556	25077	22677	35095	76889	67011	70756	93988	66417	68990	42296	42849	100	100	100	100	100
工 业 企 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
商 业 企 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
建 筑 企 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
交 通 运 输 企 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
信 息 传 播 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
公 用 事 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
财 政 金 融 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
教 育 科 研 文 化 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
医 疗 卫 生 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
体 育 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
餐 饮 服 务 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
居 民 服 务 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
其 他 企 业	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
人 数 占 总 人 数 的 百 分 比	5	12	31	34	39	48	64	60	12	12	8	9	7	8	100	100	100	100	100
总 人 数	2926	1471	17556	25077	22677	35095	76889	67011	70756	93988	66417	68990	42296	42849					

follow a similar procedure as for occupations and compare the distributions in Table 3.8a with those in Table 3.8b. More poor men work longer hours than shorter hours. Twentyfive to thirty percent of poor men who work in food products and in textiles and footwear work over 60 hours a week. Within tertiary activities, 35% of poor men work over 60 hours in retail trade and in transport and communication.

Tables 3.9a and 3.9b report similar distributions for poor women and all women respectively. In corroboration of the results for occupations, poor women are over-represented in part-time work in trading activities and in personal and domestic activities where they are likely to be underemployed. About 40% of poor women who work in the manufacture of food products and beverages, however, work atypically long hours.

These tables merely corroborate the information given for occupation and provide no surprises. They are included mainly for completeness.

The last tabulations of poor workers by activity of industry are the proportions of workers earning less than minimum wage and are reported in Table 3.10. Once again there are no surprises - mere corroboration. Among males employed in secondary activities a disproportionate number in lumber and wood and in construction earn less than the minimum wage. Others among the poor earning low wages are in trade and commerce and personal and domestic services. Between them these activities account



THE POOR IN BOGOTA

Table 3.9a: DISTRIBUTION OF HOURS WORKED BY THE POOR (BOTTOM 30 PERCENT) BY

INDUSTRY OF ACTIVITY (FEMALES ONLY)

Activity/Hours Worked Year	0-14		15-29		30-39		40-49		50-59		60-69		70+		Total		Total		
	75	77	75	77	75	77	75	77	75	77	75	77	75	77	75	77	75	77	
<b>PRIMARY</b>																			
Agriculture	0	0	0	0	0	0	100.0	0	0	0	50.7	0	49.3	100	100	.6	.6		
Mining	0	0	50.0	0	0	0	50.0	100.0	0	0	0	0	0	0	0	100	100	.6	.3
<b>SECONDARY</b>																			
Food Products, Beverages, and Tobacco	0	0	28.6	17.0	0	0	28.6	48.9	28.6	17.0	14.3	17.0	0	0	100	100	2.2	1.7	
Textiles and Footwear	2.1	0	14.9	17.4	10.6	13.1	53.2	56.3	8.5	2.9	2.1	7.8	8.5	2.4	100	100	14.4	11.5	
Lumber and Wood	0	0	50.0	0	33.3	0	16.7	100.0	0	0	0	0	0	0	100	100	1.8	.6	
Paper, Printing, Publishing	0	0	0	0	0	0	100.0	85.3	0	14.7	0	0	0	0	100	100	1.5	2.0	
Mineral Products	0	0	0	0	0	0	100.0	100.0	0	0	0	0	0	0	100	100	.3	.3	
Industrial Chemicals, Petroleum	0	0	0	0	0	0	80.0	100.0	20.0	0	0	0	0	0	100	100	1.5	2.9	
Metal Industry	0	0	0	0	0	0	60.0	81.1	40.0	18.9	0	0	0	0	100	100	1.5	1.8	
Other Industry	0	0	0	49.3	0	50.7	100.0	0	0	0	0	0	0	0	100	100	.3	.6	
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Construction	0	0	100.0	0	3	0	0	0	0	0	0	0	0	0	100	0	.3	0	
<b>TERTIARY</b>																			
Wholesale Trade	0	0	0	0	0	0	100.0	100.0	0	0	0	0	0	0	100	100	.6	.9	
Retail Trade	0	1.5	4.5	8.9	10.5	11.5	43.3	35.3	10.5	16.1	11.9	6.0	19.4	20.8	100	100	20.6	19.8	
Other Commerce	0	0	9.1	0	4.6	6.4	36.4	31.3	13.6	43.6	13.6	6.2	22.7	12.5	100	100	6.8	4.6	
Transportation, Communication	0	0	0	0	25.0	0	75.0	100.0	0	0	0	0	0	0	100	100	1.2	.9	
Financial Establishments	0	0	0	10.4	13.3	0	73.3	79.1	13.3	10.4	0	0	0	0	100	100	4.6	2.8	
Public Administration, Social Services	0	0	0	0	0	10.1	88.9	60.6	0	0	11.1	9.8	0	19.5	100	100	2.8	2.9	
Public Instruction	3.3	4.7	6.7	10.1	16.7	23.7	60.0	52.1	3.3	4.6	3.3	4.7	6.7	0	100	100	9.2	6.2	
Personal and Domestic Services	0	1.5	17.9	13.6	13.7	10.0	35.8	20.6	11.6	9.4	10.5	30.2	10.5	14.7	100	100	29.1	39.7	
Percent in Category	.6	1.2	11.7	10.7	11.0	10.1	47.9	40.1	10.7	10.8	7.7	15.5	10.4	11.6	100	100	100	100	
Number of Workers	200	840	5054	7691	4788	7304	20748	28904	4655	7780	3325	11203	4522	8395	0	0	0	0	

THE FIRM IN MINOTA

Table 3.2b: DISTRIBUTION OF HOURS WORKED BY FEMALE WORKERS BY

Activity/Hours of Work Year	INDUSTRY OF ACTIVITY																	
	0 - 14		12 - 17		10 - 19		40 - 49		50 - 59		60 - 69		Total		1972	1977		
	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977				
<b>PRIMARY</b>																		
Agriculture	-	-	-	9.6	-	-	75.0	34.0	35.0	31.5	-	10.8	-	8.1	100	100	.2	.6
Mining	-	-	28.6	-	-	-	57.1	100.0	14.3	-	-	-	-	-	100	100	.5	.7
<b>SECONDARY</b>																		
Food Products, Beverages, and Tobacco	-	-	12.5	9.1	7.5	-	52.5	64.2	20.0	4.4	5.0	13.5	2.5	6.6	100	100	1.7	2.2
Fur and Footwear	1.2	-	13.8	10.1	10.7	-	59.7	65.8	6.7	6.3	2.4	3.8	5.5	3.2	100	100	10.9	10.1
Leather and Wood	-	-	29.4	-	23.5	-	35.3	67.0	11.8	17.1	-	8.0	-	4.0	100	100	.7	.6
Paper, Printing and Publishing	-	-	7.4	8.6	3.7	-	81.5	75.3	7.4	12.2	-	-	-	-	100	100	1.2	1.2
Textile Products	-	-	-	-	-	-	80.0	87.7	20.0	-	-	4.4	-	3.8	100	100	.4	1.3
Industrial Chemicals, Petroleum	-	-	-	-	3.6	-	85.5	87.2	9.1	7.2	1.8	1.4	-	1.4	100	100	2.4	2.5
Metal Industry	-	-	-	2.7	5.7	-	74.3	85.1	17.1	12.2	2.9	-	-	-	100	100	1.5	2.1
Other Industry	-	-	8.3	13.9	16.7	-	50.0	43.0	16.7	14.3	-	-	8.3	-	100	100	.5	.3
Utilities	-	-	-	-	-	-	100.0	100.0	-	-	-	-	-	-	100	100	.2	.2
Construction	-	-	4.6	-	4.4	-	81.8	77.9	4.6	7.4	4.6	14.5	-	-	100	100	.9	.7
<b>TERTIARY</b>																		
Wholesale Trade	-	-	-	8.0	7.5	-	77.5	92.0	10.0	-	5.0	-	-	-	100	100	1.7	.7
Retail Trade	1.6	.6	4.4	4.9	8.2	-	55.7	48.8	10.8	13.5	8.8	11.2	11.4	12.4	100	100	17.1	15.6
Other Commerce	1.0	-	1.9	2.1	2.9	-	44.3	37.1	16.4	22.8	9.6	15.4	24.0	19.2	100	100	4.5	4.3
Transportation and Communication	-	-	2.7	3.9	8.1	-	35.7	46.3	10.8	3.3	-	-	2.7	3.2	100	100	1.4	1.5
Financial Establishments	.9	.7	2.6	1.2	4.4	-	87.6	81.7	4.1	5.2	1.5	2.3	-	1.9	100	100	4.9	5.5
Public Administration, Social Services	1.8	-	1.0	2.8	7.1	-	80.4	80.9	3.4	7.8	4.5	4.0	7.9	1.8	100	100	4.8	5.2
Public Instruction	1.5	.8	15.1	15.7	18.6	-	56.9	58.6	4.7	5.6	3.0	2.1	2.1	1.3	100	100	14.5	11.6
Personal and Domestic Services	.7	4	5.5	4.9	4.9	-	27.4	22.9	11.6	14.6	19.1	20.0	20.7	21.2	100	100	11.8	11.8
Percentage in Category	.8	4	7.4	4.5	8.2	-	51.3	51.2	12.8	10.9	9.3	12.9	10.4	11.4	100	100	100	100
No. of Workers	2527	1608	22164	28119	25536	-	158915	227151	19634	40508	28726	57312	32119	50409	-	-	-	-

THE POOR IN BOGOTÁ

Table 3.10: DISTRIBUTION OF WORKERS EARNING LESS THAN MINIMUM WAGE

Activity	BY INDUSTRY OF ACTIVITY							
	Males				Females			
	1975		1977		1975		1977	
	Percent < Min. Wage <sup>1/</sup>	Total Percent in Category	Percent < Min. Wage <sup>2/</sup>	Total Percent in Category	Percent < Min. Wage <sup>1/</sup>	Total Percent in Category	Percent < Min. Wage <sup>2/</sup>	Total Percent in Category
<b>PRIMARY</b>								
Agriculture	29.7	1.9	12.9	1.6	25.0	0.3	16.5	0.6
Mining	38.2	0.8	-	0.3	42.9	0.3	-	0.2
<b>SECONDARY</b>								
<b>Manufacturing</b>								
Food Products, beverages, and Tobacco	10.9	3.0	5.2	3.8	17.5	1.7	19.9	2.2
Textiles and Footwear	16.2	5.5	7.4	5.3	33.3	10.8	25.0	10.3
Lumber and Wood	21.1	3.4	12.7	3.0	41.2	0.7	8.3	0.6
Paper, Printing, Publishing	13.6	2.0	4.8	1.9	14.8	1.1	12.2	1.2
Mineral Products	13.6	1.5	4.3	1.9	20.0	0.4	18.3	1.3
Industrial Chemicals, Petroleum	4.7	3.0	1.1	2.7	5.5	2.3	2.7	3.6
Metal Industry	10.0	6.0	3.0	7.7	8.6	1.5	2.3	2.1
Other Industry	13.3	6.3	18.0	0.6	8.3	0.5	28.3	0.3
Utilities	8.6	0.8	-	0.7	-	0.2	-	0.2
Construction	25.6	12.4	8.4	12.2	22.7	0.9	-	0.7
<b>TERTIARY</b>								
Wholesale Trade	17.6	2.9	2.3	1.2	2.5	1.7	-	0.7
Retail Trade	26.6	15.3	11.0	16.3	36.4	15.4	27.7	15.6
Other Commerce	21.2	2.3	9.4	2.2	40.2	4.5	19.7	4.3
Transportation, Communication	15.3	8.1	5.1	8.9	8.1	1.6	6.5	1.5
Financial Establishments	11.6	7.3	3.0	8.9	6.1	4.9	6.7	6.5
Public Administration, Social Services	6.4	8.3	2.5	8.3	5.4	4.8	3.6	5.2
Public Instruction	7.1	6.8	4.6	5.6	12.1	14.4	5.9	11.4
Personal and Domestic Services	24.5	8.5	12.7	7.0	21.0	31.9	15.6	31.8
<b>Total</b>	<b>17.5</b>	<b>100</b>	<b>6.8</b>	<b>100</b>	<b>21.75</b>	<b>100</b>	<b>15.3</b>	<b>100</b>
<b>Number of Workers in Category</b>	<b>102</b>	<b>579</b>	<b>50</b>	<b>736</b>	<b>68</b>	<b>314</b>	<b>68</b>	<b>444</b>

<sup>1/</sup> Minimum Wage in 1975 was Col\$38.50 per day i.e., Col\$886 per month.

<sup>2/</sup> Minimum Wage in 1977 was Col\$50 per day i.e., Col\$1150 per month.

for over 40% of those earning less than the minimum wage. Among women, those with low wages are disproportionately employed in the textile industry and in trade commerce.

3.4. Migrant Status: It is often alleged that recent migrants earn less than others and have to take up very low paying jobs while waiting for better paid opportunities to appear. The evidence to support this claim is mixed. Table 3.11 reports for 1975 the proportion of workers earning less than the minimum wage according to years of residence in Bogota. 22 percent of the most recent arrivals among men seem to earn less than the minimum wage as compared with 17.6 percent over all. However, among those who have been in Bogota for 11-20 years, as many as 20 percent earn less than the minimum wage. These data really indicate that those earning low wages are fairly evenly spread among workers of all vintages and any experience in the city does not appear to count for much.

For women the evidence is strong that a smaller proportion of recent migrants earn less than the minimum wage as compared with others who have lived in Bogota longer. It is difficult to explain why this should be so and the answer perhaps lies in the large number of maids who are recent migrants. While maids are not particularly well off it has been shown consistently in this paper that a large proportion of them are not among the poorest. The income in kind that they receive probably accounts for this result. Table 3.12 shows that in 1975 only about 9 percent of the maids fell among the poor. What is remarkable, however, is that of the poor 5-7 percent had some secondary education.

On the whole, it is clear that recent migrants have no monopoly on poverty: indeed, 60-70 percent of all earning below minimum wages have been in Bogota for over 10 years.

THE POOR IN BOGOTA

Table 3.11: DISTRIBUTION OF WORKERS EARNING LESS THAN MINIMUM WAGE  
BY LENGTH OF RESIDENCE (1975)

<u>Years in Bogota</u>	<u>Males</u>		<u>Females</u>	
	<u>% Earning Less Than Minimum Wage <sup>1/</sup></u>	<u>% in Category</u>	<u>% Earning &lt; Minimum Wage <sup>1/</sup></u>	<u>% in Category</u>
< 1	22.1	4.6	16.8	8.5
1 - 2	15.1	5.3	17.4	9.3
3 - 5	19.0	8.9	20.1	10.3
6 - 10	15.2	12.8	20.9	11.9
11 - 20	20.4	31.2	24.6	30.6
20 +	15.6	37.2	23.1	30.5
Total	17.6	100	22.0	100
Workers in Category (in thousands)	102	581	69	315

<sup>1/</sup> Minimum Wage in 1975 was Col.\$38.50 per day, i.e., Col.\$886 per month.

THE POOR IN BOGOTA

Table 3.12: DISTRIBUTION OF POOR MAIDS BY EDUCATION

<u>Education</u>	<u>Bottom 30%</u>		<u>Total</u>		<u>No. of Group in Bottom 30%</u>	
	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>
None	13.8	12.6	11.6	12.7	10.5	16.0
Primary	81.0	77.6	83.0	76.5	8.7	14.0
Secondary	5.1	7.0	5.5	7.2	8.3	15.2
Higher	-	2.2	-	3.6	-	31.4
Total	100	100	100	100	8.9	15.2
Total No. of Maids	7714	16434	86849	107967		

Source: 1975 DANE Special Bogota Household Survey (EH8E)

1977 DANE Household Survey (EH15)

3.5. Size of Firm: It is widely believed that workers in small firms earn less than those in larger firms but there is often not adequate data to support this claim. Size of firm is also often used as one of the key criteria for defining the informal sector. Table 3.13 reports the mean income of male and female workers by size class of firm where the respondent was employed. This table supports the view that smaller firms employ poorer workers. The mean income of workers in firms employing over 25 people is just about double those with just one employee. The ascent for women is, however, not as great, with the highest income class being only one and a half times as much as the mean income for female employees in small firms. The question in size of firm was asked in the 1975 survey but not, unfortunately, in the 1977 survey. The quality of these data is somewhat questionable since about 40 percent of all workers did not respond to this question (Table 3.14). Furthermore, the non responses had a much lower mean income than the respondees. If a substantial proportion of these belonged to large firms, the results without them would be biased. The rate of non response was greater for the bottom 30 percent where only about half of the people gave information on their size of firm. Table 3.14 shows that the poor are well distributed over size classes of firms also, although as many as 30 percent of the bottom 30 percent who responded worked in single employee, presumably as self-employed, establishments.

THE POOR IN BOGOTA

Table 3.13: REAL MONTHLY INCOME OF WORKERS BY SIZE OF FIRM

(1975)

Industry of Activity/Firm Size	Number of Workers in Firm									
	None		1 - 5		6 - 10		11 - 25		25 +	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<b>PRIMARY</b>										
Agriculture	1369	-	2964	1950	2196	-	2325	-	6904	1186
Mining	-	-	663	443	2165	3150	1060	-	7190	4142
<b>SECONDARY</b>										
Food Products, Beverages, and Tobacco	-	-	3351	2350	3258	1294	5520	2488	3751	2010
Textiles and Footwear	1762	-	2247	1391	2141	1981	2733	1280	3653	1685
Lumber and Wood	-	-	2135	1699	1403	2800	2094	1843	3020	1618
Paper, Printing, Publishing	-	-	2578	1843	3178	1387	3363	2333	3163	1814
Mineral Products	-	-	1575	-	1992	1855	1854	-	2484	2125
Industrial Chemicals, Petroleum	-	-	2279	-	15864	1300	4804	1571	5323	2351
Metal Industry	-	-	1549	-	2050	1408	3363	2719	3638	2085
Other Industry	-	-	1592	1300	-	1300	1791	3150	1325	1246
Utilities	-	-	-	-	-	-	1400	-	3606	2721
Construction	-	-	2191	1625	1442	1591	1550	1777	2793	3257
<b>TERTIARY</b>										
Wholesale Trade	6250	-	1798	1250	7077	4084	5536	2616	7767	3121
Retail Trade	1500	1300	2187	2079	1929	1404	5167	2050	4165	2059
Other Commerce	-	-	2229	1582	2259	1617	4291	1115	2609	1729
Transportation and Communication	1568	-	2052	1185	4503	-	3762	3662	3468	2856
Financial Establishments	-	3500	6581	1816	4532	3096	5129	2817	5594	3253
Public Administration, Social Services	-	-	3423	2386	7465	4233	2795	3721	3744	3815
Public Instruction	-	4500	2175	1727	1818	2816	4582	2331	5653	3023
Personal and Domestic Services	2033	626	1597	1509	2037	2613	1851	1250	3221	1615
<b>Total</b>	<b>2114</b>	<b>2110</b>	<b>2305</b>	<b>1759</b>	<b>2690</b>	<b>2108</b>	<b>3442</b>	<b>2209</b>	<b>4230</b>	<b>2685</b>

Source: DANE Special Bogota Household Survey (EMBE)



THE POOR IN BOGOTA

Table 3.14: DISTRIBUTION OF POOR WORKERS IN BOGOTA

BY SIZE OF FIRM

<u>Size of Firm</u>	<u>Percent in Size Group in Bottom 30%</u>		<u>Percent Workers in Size Group</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
None	31.6	-	0.6	0.4
1 - 5	23.0	11.9	17.2	18.4
6 - 10	18.2	14.9	10.9	12.0
11 - 25	22.3	13.2	12.3	13.6
Over 25	17.8	9.5	59.0	55.6
Total	19.4	11.1	100	100
Number of Workers (in thousands)	76	18	395	164
Mean Income (Col. Pesos)	1212	954	3620	2377
<u>No Information</u>				
Number of Workers (in thousands)	59	26	186	151
Mean Income	780	640	2669	1409

#### IV. WHERE THEY LIVE

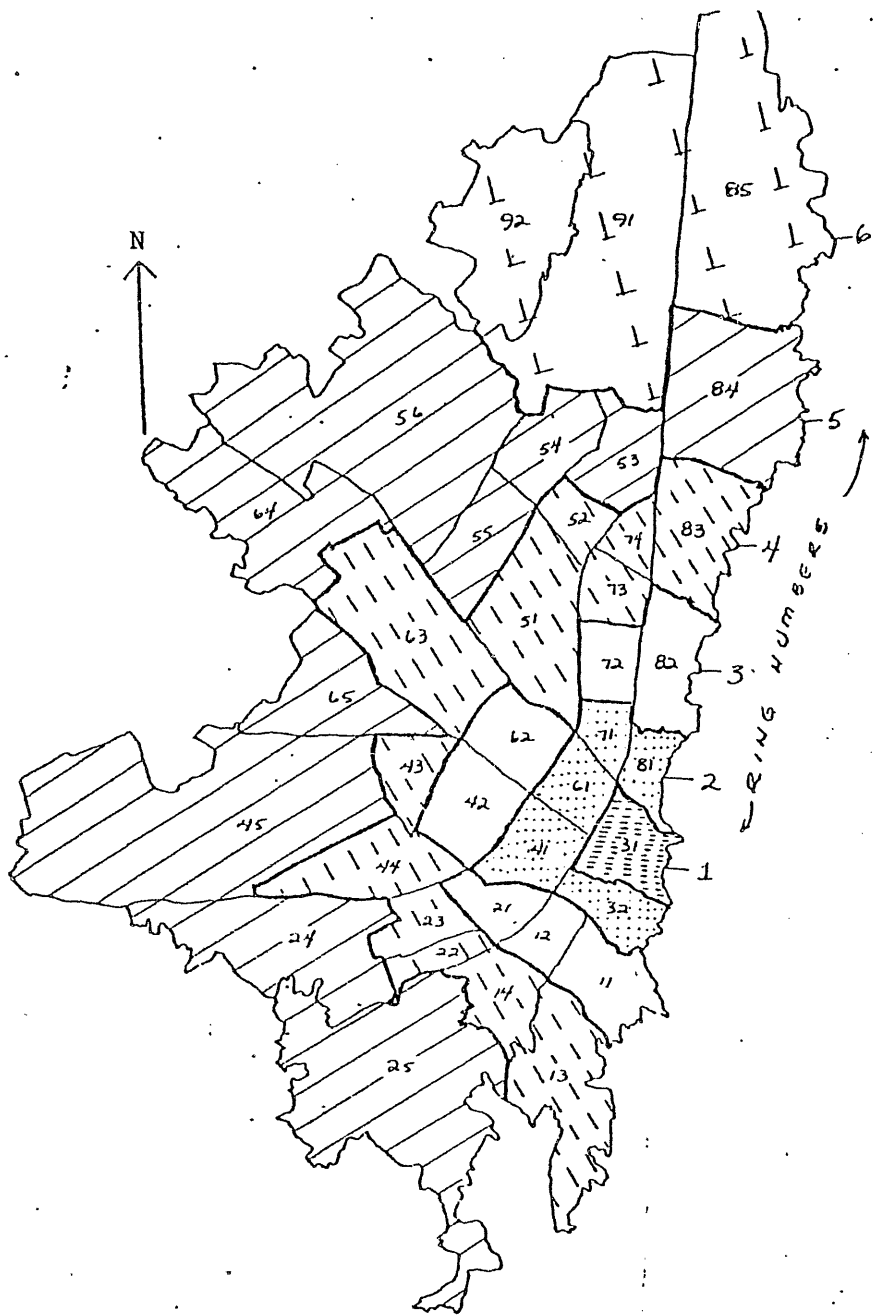
##### 4.1. The Spatial Disaggregation of Bogota

Maps 1 and 2 show a ring and radial sector representation of the map of Bogota. The basic socio-economic spatial unit in Bogota is a "barrio" or neighborhood of which there were about 500 in 1973 and about 700 now as a result of the rapid growth of the city. DANE geo-codes this unit in a 4-digit number of which the first 2 digits identify a comuna--a collection of barrios. The last 2 digits then identify barrios within a comuna. The basic unit that we have used for analysis is a comuna of which there were 38 in 1973.<sup>1/</sup> For convenience of exposition we have aggregated these comunas into "rings" and "sectors" as shown in the maps. The boundaries of the comunas shown in the maps are principal streets in Bogota. The city is bounded in the East by mountains and, therefore, has an approximately semi-circular shape, although it is longer going from North to South, as is evident from the maps. We have numbered the rings from 1 to 6 going outwards from the centre of the city and sectors 1 to 8 going clockwise also starting from the centre of the city. Ring 1 and Sector 1 are identical and comprise the Central Business District (C.B.D.)

4.2. The Spatial Distribution of the Poor: Mohan (1978) documented the distribution of people in Bogota by incomes and showed largely that the poor are concentrated in the South and rich in the North with various gradations in between. Here we take another look at the spatial distribution of the poor--first by rings and then by sectors.

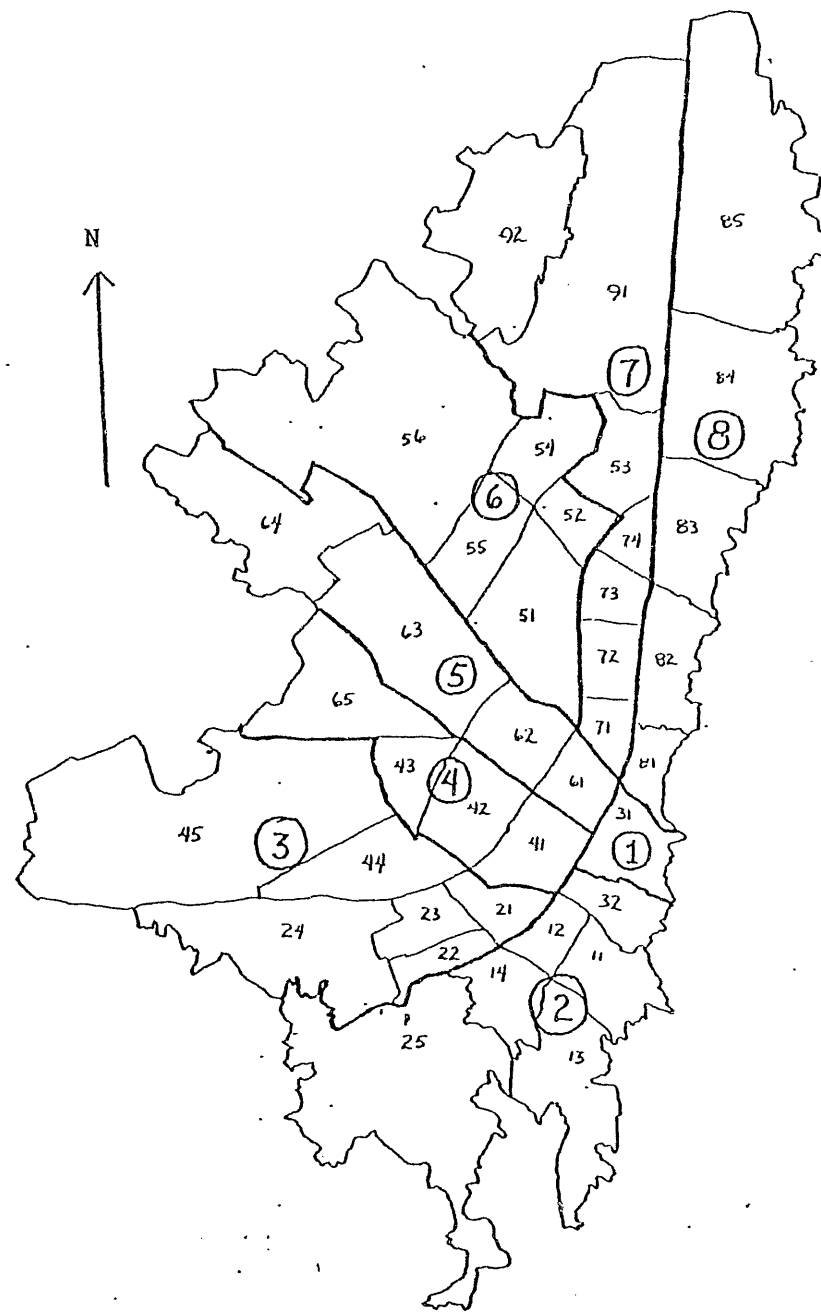
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<sup>1/</sup> See Mohan (1978) for some comuna level distributions for the city.



Map 1

BOGOTA: Ring System Based on 1973 Comunas



Map 2

BOGOTA: Radial Sector System Based on 1973 Comunas

Table 4.1 shows the distribution of the poor by rings. Unfortunately, the two samples are not in close agreement in the distribution of the poor. What is unmistakable, however, is that as we proceed outwards from the centre, first the incomes of people increase on the average and then decrease. The 1975 sample shows a relatively heavy concentration of the poor in the two centre rings. The trend is similar in the 1977 sample, but not as pronounced. Relatively fewer people seem to have been sampled from the C.B.D. in 1975. We have calculated the familiar indices of concentration: the 1977 sample indicates the two inner rings as poor and the 1975 sample the two outer rings. Rings 4 and 5 contain the majority of the population as well as of the poor. The C.B.D. is interesting since it has a high mean income in both samples as well as a high proportion of people (about 35 percent) in the bottom 30 percent. We may conclude that as far as rings are concerned, the poor are everywhere and each ring has around 30 percent of its population in the bottom 30 percent.

The pattern is somewhat more pronounced when looked at over radial sectors, as shown in Table 4.2. Roughly, mean income increase as we go clockwise from sector 2 to sector 8 (except for sector 6 which has a low income as well). The sectoral distributions are also not in complete agreement between the two samples but sectors 2 and 3 are clearly the poorest. They both have low mean incomes as well as a relatively large proportion of the poor. Between them they account for 52 to 55 percent of the poor and about 40 to 45 percent of the total population. The greatest discrepancy between the two samples is in sector 8. In the 1975 sample, almost 30 percent of the people in this, the richest sector fall among the bottom 30 percent while in the 1977 sample the proportion is only 16.4 percent. The latter is nearer

THE POOR IN BOGOTA

Table 4.1: DISTRIBUTION OF THE POOR BY RINGS

	1975						1977					
	Bottom 30%		Overall		Index of Concentration	% of Ring in Bottom 30%	Bottom 30%		Overall		Index of Concentration	% of Ring in Bottom 30%
% People in Ring	Mean Household Income	% People in Ring	Mean Household Income	% People in Ring			Mean Household Income	% People in Ring	Mean Household Income			
Ring 1	1.3	799	1.3	8310	100	34.2	2.3	1498	2.0	8210	115	35.8
Ring 2	7.2	922	8.0	5597	90	29.2	9.1	1492	8.3	8621	110	33.3
Ring 3	8.5	946	12.2	6665	70	22.5	10.6	1459	13.1	9852	81	24.3
Ring 4	26.4	1103	29.6	5282	90	29.0	30.0	1604	30.8	7541	97	29.3
Ring 5	47.7	1230	42.2	4451	113	36.6	42.1	1928	40.2	6489	105	31.6
Ring 6	8.7	1304	6.8	5995	112	41.7	5.8	1749	5.8	9975	100	30.4
Total	100	1140	100	5259		32.3	100	1709	100	9994		30.1

Source: 1975 DANE Special Bogota Household Survey (EIBB).

1977 DANE Household Survey (EII5).

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Table 4.2: DISTRIBUTION OF THE POOR BY SECTORS

	1975						1977					
	Bottom 30%		Overall		Index of Concentration	% of Sector in Bottom 30%	Bottom 30%		Overall		Index of Concentration	% of Sector in Bottom 30%
% People in Sector	Mean Household Income	% People in Sector	Mean Household Income	% People in Sector			Mean Household Income	% People in Sector	Mean Household Income			
Sector 1	1.3	799	1.3	8310	100	34.2	2.3	1498	2.0	8210	115	35.8
Sector 2	22.3	1086	16.8	3338	133	42.9	27.3	1826	18.4	4410	148	44.7
Sector 3	30.8	1164	28.5	3718	108	34.9	26.1	1897	25.4	6026	103	31.0
Sector 4	6.6	1194	9.0	5014	73	23.7	6.6	1872	8.0	8458	83	24.9
Sector 5	4.5	1006	6.4	6828	70	22.7	5.9	1430	6.5	7959	91	27.2
Sector 6	18.6	1272	19.7	5391	94	30.6	17.6	1837	18.4	6678	94	28.2
Sector 7	8.3	1172	10.1	6861	82	26.6	10.0	1450	13.6	10630	74	22.2
Sector 8	7.6	994	8.3	9881	91	29.7	4.0	584	7.3	14012	55	16.4
Total	100	1140	100	5258		32.4	100	1709	100	7640		30.1

Source: 1975 DANE Special Bogota Household Survey (EIBB).

1977 DANE Household Survey (EII5).

the census proportion and therefore somewhat more accurate. However, this is yet another pointer to the problem of using sample surveys for drawing strong conclusions about spatial distributions and about time trends.

#### 4.3. The Spatial Distribution of Poor Workers:

Tables 4.3a and b give the distribution of poor workers by rings. There appears to be greater agreement between the two samples on the residence characteristics of poor workers, as distinct from poor people. The C.B.D. has an atypically high proportion of poor women living there and the outer two rings have an atypically high proportion of poor men. Not only does the C.B.D. have a higher proportion of poor women but the poor women there seem to have the lowest average income by far among the poorest. Tables 5.4a and 5.4b give the distribution of workers by radial sector and the pattern corroborates that found for poor people. Sectors 2 and 3 account for 50-55 percent of all poor workers. Once again, sector 8 has a large discrepancy between the two samples. The index of concentration for the 1975 sample is 101 and for the 1977 sample 35. Clearly, the 1975 sample seems to have over-sampled poor workers within sector 8 and undersampled the rich workers since the 1977 sample was shown to be in broad agreement with the 1977 census in Mohan (1978).

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Table 4.3a: SPATIAL DISTRIBUTION OF POOR WORKERS BY RINGS

	1975								1977							
	Percent of Bottom 30% in Ring		Percent of All in Ring		Index of Concentration		Percent of Ring in Bottom 30%		Percent of Bottom 30% in Ring		Percent of All in Ring		Index of Concentration		Percent of Ring in Bottom 30%	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ring 1	1.4	2.1	1.6	1.8	88	117	19.7	16.3	2.3	3.6	1.9	2.8	121	129	24.7	20.7
Ring 2	6.4	12.7	8.2	10.1	78	126	18.4	17.7	9.7	11.4	9.0	9.3	108	123	21.2	19.8
Ring 3	8.0	10.2	12.2	14.7	65	70	15.2	9.8	9.9	11.9	13.7	15.7	72	76	14.1	12.3
Ring 4	27.5	26.8	30.3	30.8	91	87	21.2	12.2	27.2	30.9	28.8	31.2	94	99	18.6	16.0
Ring 5	47.0	38.3	40.6	36.1	116	106	27.1	14.9	43.3	38.7	40.6	34.9	107	111	21.0	17.9
Ring 6	9.8	9.9	7.0	6.5	140	152	32.7	21.4	7.5	3.5	6.0	6.1	125	57	24.8	9.3
Total	100	100	100	100			23.4	14.1	100	100	100	100			19.6	16.2

Table 4.3b: MEAN INCOME OF POOR WORKERS IN BOGOTA BY RINGS  
(Current Pesos)

	1975				1977			
	Bottom 30%		All		Bottom 30%		All	
	M	F	M	F	M	F	M	F
Ring 1	1062	243	5470	2914	1638	882	5873	3236
Ring 2	880	827	3634	2146	1598	1389	6893	2786
Ring 3	923	647	4086	2091	1792	1696	6818	3541
Ring 4	955	816	3278	1897	1886	1524	5140	2925
Ring 5	1109	759	2883	1759	1810	1452	4583	2358
Ring 6	958	821	3911	1807	1591	674	6598	3061
Total	1021	767	3326	1914	1788	1448	5402	2828

Source: 1975 DANE Special Household Survey (EHBE)

1977 DANE Household Survey (EH13)

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Table 4.4a: SPATIAL DISTRIBUTION OF POOR WORKERS BY RADIAL SECTOR

	1975								1977							
	Percent of Bottom 30% in Sector		Percent of All in Sector		Index of Concentration		Percent of Sector in Bottom 30%		Percent of Bottom 30% in Sector		Percent of All in Sector		Index of Concentration		Percent of Sector in Bottom 30%	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Sector 1 (CBD)	1.4	2.1	1.6	1.8	88	117	19.7	16.3	2.3	3.6	1.9	2.8	121	129	25.0	20.7
Sector 2	23.3	23.8	16.8	13.6	139	175	32.5	24.7	29.5	23.4	18.7	14.2	158	165	31.0	26.7
Sector 3	29.9	19.6	28.3	23.6	106	83	24.7	11.7	26.2	23.1	24.8	22.2	106	104	20.8	16.8
Sector 4	6.0	8.4	9.3	10.1	65	83	15.1	11.7	7.1	6.6	9.0	7.5	80	89	15.5	14.4
Sector 5	13.7	7.2	6.5	7.5	57	96	13.5	13.6	6.3	5.4	6.7	6.6	94	82	18.5	13.3
Sector 6	19.1	16.3	18.9	19.1	101	85	23.7	12.0	16.2	18.4	18.5	16.3	88	113	17.2	18.3
Sector 7	8.4	11.1	10.7	11.7	82	95	19.1	13.4	9.8	13.0	13.4	18.0	73	72	14.4	11.7
Sector 8	8.3	11.5	8.2	12.6	101	91	23.5	12.8	2.5	6.6	7.1	13.0	35	51	7.0	8.4
Total	100	100	100	100			23.4	14.1	100		100				19.6	16.2

Table 4.4b: MEAN INCOME OF POOR WORKERS IN BOGOTA BY SECTOR (Current Pesos)

	1975				1977			
	Bottom 30%		All Workers		Bottom 30%		All Workers	
	M	F	M	F	M	F	M	F
Sector 1	1062	243	5410	2914	1638	882	5873	3236
Sector 2	929	710	2079	1419	1779	1154	3001	2068
Sector 3	1130	795	2313	1773	1890	1424	4025	2581
Sector 4	1029	840	2811	1825	1741	1685	6031	2436
Sector 5	969	724	4639	2279	1660	1028	6206	2796
Sector 6	1102	778	3462	1883	1862	1531	4874	2484
Sector 7	948	884	4675	2122	1719	1931	7609	3494
Sector 8	778	776	6467	2272	1201	1808	12102	3769
Total	1021	767	3326	1914	1788	1448	5402	2828

Source: 1975 DANE Special Bogota Household Survey (PHBE)

1977 DANE Household Survey (PH15)



V. THOSE WHO DO NOT WORK: UNEMPLOYMENT AND PARTICIPATION RATES OF THE POOR

In section 2 we showed that unemployment was particularly high among the poor and is therefore regarded as one of the key causes as well as results of poverty. In this section we attempt to disaggregate the unemployment and participation rates somewhat more by age and education groups and then spatially by sectors.

5.1 Rates of Unemployment and Participation by Age and Education Groups

Table 5.1 and 5.2 report the unemployment and participation rates, respectively, of the bottom 30 and top 70 percent of the people, disaggregated by levels of education. The rates of unemployment are much higher for the poor at all educational levels. For males, while for the overall population or for the top 70 percent, people with higher education have the lowest unemployment rates, among the poor they have the highest. Indeed, in general, for both poor males and females, the higher the level of education the larger the difference between the unemployment rates of the poor and rich. It would seem that those among the poor who "make it" and receive more education have greater trouble finding jobs as compared with those with less education. This story is corroborated by pattern of the rates of participation. It is striking that among the poor the rates of participation are the lowest among those who have higher education followed by secondary and primary levels. In the overall distribution those with secondary education have lower participation rates than others but this is mainly caused by the low rates for the 15-24 age group (see Table A.10). The causation here is difficult to follow but it is probably a combination of two kinds of phenomena. There is probably one set of people who are poor because they are going to school,

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Table 5.1: UNEMPLOYMENT RATES OF THE POOR BY EDUCATION GROUPS

	Males						Females					
	Bottom 30%		Top 70%		Total		Bottom 30%		Top 70%		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
None	15.9	3.8	6.3	3.5	12.0	3.7	4.3	5.0	0.0	0.0	0.8	1.5
Primary	11.6	11.6	4.4	3.9	7.0	6.4	11.1	7.8	3.9	3.1	3.7	4.1
Secondary	18.5	19.9	5.4	5.3	7.7	7.4	25.0	21.5	8.8	5.6	10.9	7.7
Higher	18.8	25.6	2.5	2.4	3.4	3.5	33.3	17.4	4.5	7.8	5.9	8.6
Total	13.8	13.8	4.5	4.2	6.9	6.3	15.4	12.0	4.7	8.6	6.4	5.8

Table 5.2: PARTICIPATION RATES OF THE POOR AND RICH BY EDUCATION GROUPS

	Males						Females					
	Bottom 30%		Top 70%		Total		Bottom 30%		Top 70%		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
None	62.2	57.6	67.6	69.8	64.3	63.2	12.2	22.5	39.0	43.5	27.8	34.0
Primary	68.9	62.9	77.8	76.9	74.5	71.8	18.8	21.7	39.0	44.1	32.2	36.2
Secondary	45.0	42.3	62.0	62.6	58.2	58.5	15.2	18.8	30.0	31.6	26.7	29.0
Higher	39.0	31.6	75.4	77.4	71.8	72.5	21.0	36.7	51.9	50.9	48.6	49.4
Total	59.2	53.8	70.0	70.2	66.9	65.9	17.1	21.2	36.0	38.6	30.7	33.8

Source: 1975 DANE Special Bogota Household Survey (EIBB)  
1977 DANE Household Survey (EII5)

not participating in the labor force and therefore existing on low incomes. The extremely low rates of participation suggest that there is probably another group consisting of discouraged workers who have withdrawn from the labor force after having been unemployed for a long period of time. There is evidence that, of all the unemployed, about half have been unemployed for over 3 months: that some graduate on to being discouraged workers is therefore not an unreasonable supposition.

Tables 5.3 and 5.4 report the unemployment and participation rates of the poor and rich disaggregated by age groups. While among the rich unemployment is high only for the young, for the poor it is high for both the young and the old. Among the poor over 12 percent of the age group 45-54 are unemployed. For females, there are discrepancies between the two surveys so the same pattern cannot be verified: these older unemployed are spread over all the education groups though relatively more concentrated among the lower education levels. In getting unemployed at that age, it is presumably difficult for these people to find jobs easily and some probably have to retire early and spend the rest of their lives in poverty. This conjecture is supported by the data reported in Table 5.4. The difference in participation rates between the poor and rich is more pronounced at older ages. People with low education withdraw from the labor force relatively early and, moreover, after having had rather flat age-earnings profiles. Policy measures to relieve poverty among this group have to be direct: either direct provision of employment for which they are qualified or direct welfare measures. It is quite likely that these early retirees have always been poor and consequently retire early for health reasons.

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Table 5.3: UNEMPLOYMENT RATES OF THE POOR AND RICH BY AGE GROUPS

	Males						Females					
	Bottom 30%		Top 70%		Total		Bottom 30%		Top 70%		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
12 - 14	30.8	19.4	13.9	25.9	18.4	24.3	9.1	19.4	0.0	3.0	1.7	5.3
15 - 24	25.8	27.2	11.2	10.5	14.6	14.0	29.3	18.3	8.3	6.2	11.3	8.0
25 - 34	10.0	12.6	2.8	3.7	4.4	5.5	11.3	14.5	2.7	4.7	4.0	6.3
35 - 44	9.0	5.0	1.7	0.5	4.0	17.8	2.2	6.9	1.8	1.4	1.9	2.7
45 - 54	13.7	12.0	1.5	0.5	4.6	2.8	8.0	0.0	0.6	3.3	1.5	2.6
55 - 64	4.8	7.6	1.7	0.0	2.4	0.9	0.0	0.0	2.0	0.0	1.7	0.0
65 +	4.3	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>13.8</b>	<b>13.8</b>	<b>4.6</b>	<b>4.2</b>	<b>6.9</b>	<b>6.3</b>	<b>15.4</b>	<b>12.0</b>	<b>4.7</b>	<b>4.5</b>	<b>6.4</b>	<b>5.8</b>

Table 5.4: PARTICIPATION RATES OF THE POOR AND RICH BY AGE GROUPS

	Males						Females					
	Bottom 30%		Top 70%		Total		Bottom 30%		Top 70%		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
12 - 14	3.8	2.0	6.8	3.9	5.6	3.1	3.0	1.9	8.2	7.5	6.1	5.4
15 - 24	46.2	43.5	54.3	52.9	52.2	50.6	21.6	24.7	41.6	43.0	36.8	38.8
25 - 34	94.0	87.6	94.4	96.1	94.3	94.3	24.1	30.5	48.8	51.5	42.2	46.1
35 - 44	94.5	93.1	97.0	97.5	96.2	96.2	21.2	32.4	40.2	44.9	33.9	41.2
45 - 54	86.7	89.0	93.8	96.6	91.9	94.9	13.7	24.5	30.3	33.4	26.3	31.0
55 - 64	58.5	38.5	79.4	81.9	73.8	72.0	10.0	10.0	16.1	21.0	14.9	17.5
65 +	30.7	12.3	48.2	46.6	42.1	33.7	3.1	2.0	8.5	10.9	6.7	7.2
<b>Total</b>	<b>59.2</b>	<b>53.7</b>	<b>70.0</b>	<b>70.1</b>	<b>66.9</b>	<b>65.9</b>	<b>17.1</b>	<b>21.2</b>	<b>36.0</b>	<b>38.6</b>	<b>30.7</b>	<b>33.8</b>

Source: 1975 DANE Special Bogota Household Survey (EBBE)

1977 DANE Household Survey (EH15)

## 5.2 Where Are the Unemployed?

The spatial disaggregation of unemployment rates helps in approaching the question "Are the unemployed poor because they are unemployed or unemployed because they are poor?" Table 5.5 and 5.6 disaggregate unemployment rates by sectors for education groups and age groups respectively. For males, the unemployment rates are somewhat evenly distributed except that the two poorest sectors 2 and 3 have higher rates and the two richest sectors, 7 and 8 have somewhat lower rates. In particular, sector 2 stands out with high rates and sector 8 with the lowest. Furthermore, it is striking that unemployment is particularly high for people with higher education in sector 2, indicating the difficulty that poor highly educated people have in getting jobs and, perhaps, suggesting some kind of labor market segmentation discriminating against the poor--sector 2 being the poorest sector. Sector 2 has higher unemployment levels at all age levels as well and sector 8 the lowest. Compared to the others, sector 2 has a particularly high rate of unemployed among older people reinforcing the conjectures made about discouraged workers and retired workers that were made in the last section.

Tables 5.7 and 5.8 report the spatial disaggregation of participation rates by education and age groups respectively. Participation rates appear to be evenly distributed among the sectors: though the richer sectors have somewhat lower participation rates because of larger numbers of years spent in education; and women in poorer sectors appear to have marginally lower participation rates. Similarly the participation rates by age groups appear to be evenly distributed. Poorer sectors have overall higher participation rates because people enter the labor force at lower ages. As suggested

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Table 5.5: SPATIAL DISTRIBUTION OF UNEMPLOYMENT RATES

BY EDUCATION GROUPS

		<u>Males</u>					<u>Females</u>				
		<u>None</u>	<u>Primary</u>	<u>Secondary</u>	<u>Higher</u>	<u>Total</u>	<u>None</u>	<u>Primary</u>	<u>Secondary</u>	<u>Higher</u>	<u>Total</u>
Sector 1	1975	0.0	13.6	7.4	0.0	6.6	0.0	4.0	0.0	0.0	0.0
	1977	0.0	6.4	17.6	0.0	7.4	0.0	7.2	8.5	0.0	6.4
Sector 2	1975	15.6	8.7	9.6	10.8	9.5	5.8	6.1	10.6	5.0	7.5
	1977	7.4	8.0	4.7	8.8	6.9	6.8	4.5	9.6	17.5	7.1
Sector 3	1975	5.0	6.8	7.6	2.7	6.8	0.0	4.7	15.5	7.9	9.3
	1977	0.0	5.9	9.5	3.4	7.0	0.0	6.1	8.5	14.6	7.5
Sector 4	1975	16.7	7.0	8.2	2.8	7.3	0.0	3.4	10.8	8.3	6.6
	1977	0.0	4.2	9.0	7.0	6.7	0.0	8.7	7.1	8.7	7.7
Sector 5	1975	0.0	5.7	8.0	4.4	6.3	0.0	5.2	12.9	8.7	7.8
	1977	0.0	9.9	6.1	2.3	6.7	0.0	0.0	4.5	2.3	4.7
Sector 6	1975	6.3	6.5	6.7	5.0	6.4	0.0	18.9	12.0	2.0	5.9
	1977	5.4	6.5	8.4	5.4	7.1	0.0	5.2	11.8	6.5	7.8
Sector 7	1975	2.7	3.9	9.0	2.1	6.1	0.0	3.5	3.3	6.1	3.5
	1977	0.0	4.9	5.8	4.2	4.9	0.0	1.8	4.0	3.8	2.8
Sector 8	1975	6.7	5.9	4.9	1.5	4.0	0.0	1.7	3.9	6.1	2.6
	1977	0.0	0.0	1.3	0.0	0.3	0.0	1.4	2.9	2.7	1.9
Total	1975	12.0	6.9	7.8	3.4	6.9	1.0	3.7	11.0	5.9	6.4
	1977	3.7	6.4	7.4	3.5	6.3	1.5	4.1	7.7	8.6	5.8

Source: 1975 DANE Special Bogotá Household Survey (EIBB)  
1977 DANE Household Survey (EIB5)

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Table 5.6: SPATIAL DISTRIBUTION OF UNEMPLOYMENT RATES BY AGE GROUP

		Males							Females								
		12-14	15-24	25-34	35-44	45-54	55-64	65 +	Total	12-14	15-24	25-34	35-44	45-54	55-64	65 +	Total
Sector 1	1975	-	22.2	0.0	6.7	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1977	-	7.5	9.1	0.0	12.6	0.0	0.0	7.4	0.0	7.4	22.0	0.0	0.0	0.0	0.0	6.4
Sector 2	1975	18.8	15.6	6.8	8.0	4.8	6.8	0.0	9.5	12.5	12.3	5.7	2.6	4.8	0.0	0.0	7.5
	1977	39.7	13.9	6.1	2.0	0.0	2.8	0.0	6.9	0.0	10.5	10.1	3.1	0.0	0.0	0.0	7.1
Sector 3	1975	30.7	13.6	4.7	4.6	2.8	1.4	0.0	6.8	0.0	16.6	6.4	2.9	2.0	0.0	0.0	9.3
	1977	0.0	14.4	5.2	3.3	5.4	0.0	0.0	7.0	10.9	11.1	4.9	6.1	4.3	0.0	0.0	7.5
Sector 4	1975	0.0	14.4	3.8	4.3	10.1	0.0	0.0	7.3	0.0	13.9	2.6	0.0	0.0	0.0	0.0	6.6
	1977	0.0	10.1	6.8	2.7	2.5	0.0	0.0	6.7	3.2	8.4	7.4	3.6	11.1	0.0	0.0	7.7
Sector 5	1975	0.0	16.9	3.4	2.6	6.1	0.0	0.0	6.3	0.0	11.7	5.1	3.8	6.3	12.5	0.0	7.8
	1977	0.0	13.9	8.8	0.0	2.7	9.7	0.0	6.7	0.0	8.3	2.3	0.0	9.4	0.0	0.0	4.7
Sector 6	1975	10.0	14.4	4.3	2.5	4.8	6.5	0.0	6.4	0.0	12.1	0.9	0.0	0.0	0.0	0.0	5.9
	1977	0.0	16.7	5.7	1.2	4.0	0.0	0.0	7.1	0.0	10.8	9.0	1.7	2.7	0.0	0.0	7.8
Sector 7	1975	100.0	19.8	2.3	1.0	3.9	0.0	5.2	6.1	0.0	5.6	2.5	2.8	0.0	0.0	0.0	3.5
	1977	100.0	14.1	3.6	0.8	1.1	0.0	0.0	4.9	0.9	3.5	5.2	0.0	0.0	0.0	0.0	2.8
Sector 8	1975	0.0	9.6	4.4	1.2	3.8	0.0	0.0	4.0	0.0	3.8	2.8	1.9	0.0	0.0	0.0	2.6
	1977	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.5	1.6	2.8	0.0	0.0	0.0	1.9
Total	1975	18.8	14.8	4.4	3.9	4.6	2.4	1.1	6.9	0.0	11.3	4.0	1.9	1.5	1.7	0.0	6.4
	1977	24.3	14.0	5.5	1.8	2.8	0.9	0.0	6.3	5.3	8.0	6.3	2.7	2.5	0.0	0.0	5.8

Source: 1975 DANE Special Bogota Household Survey (EBBE)

1977 DANE Household Survey (EH15)

earlier at higher ages the poorer sectors have lower rates of participation because of earlier withdrawal from the labor force.

Overall, there is some support for the idea that a component of the unemployment is reinforced because people are poor. Poverty leads to malnutrition, disability which makes people unemployable as well as disillusion which leads to withdrawal from the labor force.



THE POOR IN BOGOTA

Table 5.7: SPATIAL DISTRIBUTION OF PARTICIPATION RATES BY EDUCATION GROUPS

		Males					Females				
		None	Primary	Secondary	Higher	Total	None	Primary	Secondary	Higher	Total
Sector 1	1975	100.0	75.9	62.8	96.3	76.0	66.7	40.4	33.3	75.0	42.6
	1977	50.0	72.0	51.1	85.7	67.0	66.7	38.9	46.2	39.2	43.2
Sector 2	1975	62.5	76.8	58.2	69.8	69.3	15.3	27.3	27.3	55.6	27.0
	1977	73.0	73.5	65.8	70.8	70.6	29.9	29.4	29.0	56.5	30.1
Sector 3	1975	48.8	73.4	57.4	66.1	65.3	24.0	24.7	27.1	55.3	27.2
	1977	54.4	68.1	57.8	67.6	62.9	27.8	30.0	29.4	56.7	30.6
Sector 4	1975	54.6	76.6	66.9	73.5	71.4	29.3	34.8	28.7	55.8	32.9
	1977	50.0	79.5	67.3	73.1	72.4	13.4	31.4	34.0	52.5	32.7
Sector 5	1975	100.0	72.6	67.9	77.0	71.7	36.7	40.0	25.2	53.5	34.4
	1977	60.1	79.5	59.8	93.7	72.5	37.0	34.7	22.8	68.0	32.0
Sector 6	1975	76.2	72.9	56.3	75.0	65.9	27.1	30.1	29.9	52.6	31.2
	1977	59.7	70.5	57.7	78.3	65.1	23.1	31.5	29.3	54.2	31.5
Sector 7	1975	78.6	76.7	56.3	66.4	65.3	44.9	39.4	21.7	41.3	31.6
	1977	70.4	71.7	53.7	66.2	62.4	59.9	49.8	26.9	42.5	38.1
Sector 8	1975	79.0	73.0	49.5	71.6	64.4	48.3	57.8	23.6	32.4	39.7
	1977	66.4	64.6	45.8	72.4	60.6	48.2	74.3	27.4	44.4	46.5
Total	1975	64.2	74.6		72.0	67.1	27.9	32.3	26.7	48.6	30.8
	1977	63.2	71.8	58.5	72.5	65.9	34.0	36.2	29.0	49.4	33.8

Source: 1975 DANE Special Bogota Household Survey (EIBB)  
1977 DANE Household Survey (EH15)

THE POOR IN BOGOTÁ

Table 3.8: SPATIAL DISTRIBUTION OF PARTICIPATION RATES BY AGE GROUPS

		Males								Females							
		12-14	15-24	25-34	35-44	45-54	55-64	65 +	Total	12-14	15-24	25-34	35-44	45-54	55-64	65 +	Total
Sector 1	1975	0.0	60.0	96.6	100.0	81.8	83.3	33.3	76.0	9.1	41.0	60.0	50.0	16.7	50.0	50.0	42.6
	1977	0.0	56.4	100.0	90.2	100.0	27.4	49.3	66.9	11.7	46.3	42.9	62.9	35.8	36.9	55.2	43.2
Sector 2	1975	9.4	64.9	92.8	95.3	91.9	72.1	40.5	69.3	5.0	30.3	39.9	36.4	21.2	7.4	0.0	27.0
	1977	8.3	61.4	96.0	95.5	94.6	65.8	39.5	70.6	2.7	33.4	38.7	41.5	34.9	22.5	8.2	30.1
Sector 3	1975	4.9	51.0	93.6	97.1	90.4	68.9	27.9	65.2	2.9	31.7	42.8	29.7	22.7	8.8	9.2	27.2
	1977	1.9	51.5	93.5	93.7	94.2	65.1	32.0	62.9	4.7	33.7	45.2	38.8	28.8	13.6	3.9	30.6
Sector 4	1975	4.4	59.0	94.9	97.9	92.0	62.5	60.0	71.4	11.6	37.6	45.5	32.8	35.1	3.2	4.2	32.9
	1977	2.5	52.6	97.2	98.6	91.1	89.5	46.3	72.4	7.6	38.8	42.5	41.1	20.0	10.6	0.0	32.7
Sector 5	1975	2.1	56.5	97.8	96.3	90.7	73.9	41.7	71.7	9.0	42.8	45.7	33.3	30.2	3.6	0.0	34.3
	1977	7.0	54.0	97.5	100.0	97.4	61.7	38.0	72.5	8.6	37.1	43.0	33.6	30.3	26.4	4.7	32.0
Sector 6	1975	5.7	48.4	96.7	94.8	92.6	75.4	45.7	65.9	6.3	41.9	31.9	37.1	27.3	14.3	11.4	31.2
	1977	7.3	52.2	95.4	98.2	94.2	73.3	16.0	65.1	4.0	38.3	42.7	35.1	30.2	9.3	2.4	31.5
Sector 7	1975	1.4	41.6	95.0	97.0	92.8	77.4	65.5	65.3	8.8	39.4	45.3	29.5	28.4	15.1	3.9	31.6
	1977	1.6	40.5	92.2	96.2	96.2	72.3	32.6	62.3	9.1	41.5	57.6	47.7	33.5	18.0	7.5	38.1
Sector 8	1975	6.7	38.4	89.2	96.5	95.1	88.1	37.5	64.4	7.7	45.5	53.3	38.8	31.4	40.0	15.8	39.7
	1977	3.9	33.7	83.2	95.1	97.7	93.3	41.8	60.6	5.8	55.9	60.1	50.5	34.4	25.2	9.3	46.5
Total	1975	5.6	52.4	94.3	96.3	91.8	73.8	41.9	67.1	6.2	37.1	42.1	33.9	26.4	14.7	6.8	30.8
	1977	3.1	50.6	94.3	96.2	94.9	72.0	35.7	65.9	5.4	38.8	46.1	41.2	31.0	17.5	7.2	35.8

Source: 1975 DANE Special Bogotá Household Survey (EHBE)  
1977 DANE Household Survey (EH15)

VI. APPENDIX

1. A Technical Note on the Calculation of Incomes

2. Appendix Tables:

- A.1 Distribution of the Poor and Rich by Age Group and the Incidence of Poverty
- A.2 Distribution of the Poor and Rich by Education Group and the Incidence of Poverty
- A.3 Distribution of Poor Workers by Age and Education
- A.4 Distribution of All Workers by Age and Education
- A.5 Distribution of the Poor by Hours of Work and Occupation (Males only)
- A.6 Distribution of the Poor by Hours of Work and Occupation (Females only)
- A.7 Distribution of Poor Workers by Hours of Work and Industry by Activity (Males)
- A.8 Distribution of the Poor by Hours of Work and Industry of Activity (Females)
- A.9 Unemployment Rates by Age and Education Groups
- A.10 Participation Rates by Age and Education Groups

APPENDIX 1

A TECHNICAL NOTE ON THE CALCULATION OF INCOMES

DANE<sup>1/</sup> household surveys are now conducted quarterly in the four largest cities (Bogota, Medellin, Cali and Barranquilla) and in the seven largest alternatingly, mainly to study urban employment and unemployment and the characteristics of the labor force. Characteristically incomes are reported in the following manner:

1. For Employees (of all kinds): (a) Cash income from employment is reported according to periodicity of payment which has 5 categories: monthly, fortnightly, every 10 days, weekly and daily. The multiple used to convert these incomes into monthly equivalents were as follows:

monthly -	1
fortnightly (quincenal) -	2
ten days -	3.04 $\left(\frac{365}{10} \times \frac{1}{12}\right)$
weekly -	4.33 $(52/12)$
daily -	21.75

This method obviously overstates income for those workers who are paid at less than a month's periodicity and do not work the whole month. However, less than 5% of the workers report that they are paid daily (where error is most likely) so the overall effect of this computation is not likely to be unreasonable. (b) Value of income received in kind (food, shelter, clothing) is reported separately. Total labor income was then computed for employees as the sum of (a) and (b).

2. Employers and Self Employed: The question asked is "Net earnings last month from job." This was interpreted as labor income although that is not strictly correct for the self employed.

3. All: Income sources other than employment which are categorized as interest, rents, pensions, cash aid and other were assumed to comprise

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<sup>1/</sup> Departamento Administrativo Nacional de Estadística. (The Colombian Statistical Office).

each individual's non-labor income.

Consequently, each individual reporting any income had 2 types of income: labor income and non-labor income.

4. No Information: A large proportion of the sample - about 20% - did not report their incomes but did give all other characteristics. They could not be omitted from the sample because they were not uniformly distributed over the sample but were concentrated among sales workers and sales managers and proprietors - as might be expected. The method used for imputing income was similar to the method used by the U.S. Census Bureau. The objective is to impute incomes such that the new distribution retains the "true" mean and variance values.

As the file was read a 19 x 4 x 4 matrix was created with the following dimensions:

- Workers were classified - as employees and self employed by sex and 3 categories of place of residence which yields 12 groups.

- Male employers were classified by the 3 categories of place of residence which yields 3 additional groups.

- Female employers constituted one group and domestic servants from the three residence categories formed the remaining 3 groups to form a total of 19 groups.

- Four categories of years of education (0), (1-5), (6-11), (12+) were used and 4 categories of years of experience (0-1), (2-4), (5-9) and (10+) were used.

Each cell of the resulting 19 x 4 x 4 matrix then contained the income of the most recently read record with these characteristics. The records with missing income were then given the income of the most recently read record with the same characteristics.

The rationale behind this procedure may be seen as follows:

Consider the distribution  $f(y_t | x_t; \hat{\theta})$  which is the estimated distribution of incomes  $y_t$  of individuals given their vector of characteristics  $x_t$ , the estimated vector of parameters being  $\hat{\theta}$ . Such a distribution may be estimated from the set of individuals with known incomes and characteristics which will give  $\hat{\theta}$ .

The procedure described above approximates imputing income to the non-respondents by a random drawing from the above distribution estimated from the set of individuals with known incomes from the sample. If  $n$  drawings were made  $n = 1, 2, \dots$ , then the average  $\bar{y}_{t,n} = \frac{1}{n} \sum_{i=1}^n y_{ti}$ , could be used as the predictor. But  $\bar{y}_{tn} \rightarrow y_t$  as  $n \rightarrow \infty$  where  $y_t = E[y_t | x_t; \hat{\theta}]$ . Thus, the expected value of incomes generated by the method used (method 1) is the same as that that would be generated by method (2) where the non-respondents have imputed incomes given by  $y_t = E[y_t | x_t; \hat{\theta}]$ .

This would be the result if income equations were estimated and then used to impute incomes to the non-respondents. Method (1), results in greater variance than method (2). Method (2) gives the Best Linear Unbiased Estimator for the missing incomes but in giving the non-respondents with characteristics  $x_t$ , the mean income of respondents with characteristics  $x_t$ , the effect is a reduction in variance of the overall sample: an undesirable result where we are interested in retaining both the central value and dispersion characteristics of the parent sample.<sup>1/</sup>

Another way of interpreting this method is to view it as utilizing extra "non-economic" variables which would not normally be captured in a standard human capital type predictive equation.

The result is that all individuals who work now have incomes

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<sup>1/</sup> I am indebted to Michael Hartley for clarifying my thoughts on this issue though he should not be implicated with my interpretation of the U.S. census method used here to impute incomes.

except the non-remunerated family workers who have zero incomes.

5. Household Income: Household income was aggregated from its constituents' labor and non-labor incomes but care was taken to exclude live-in domestic servants' incomes from the aggregation.

APPENDIX 2

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Table A-1: DISTRIBUTION OF THE POOR (BOTTOM 30 PERCENT) AND RICH (TOP 70 PERCENT) BY AGE GROUP AND THE INCIDENCE OF POVERTY

Age Group	Bottom 30 Percent				Top 70 Percent				Total				Incidence of Poverty			
	Male Percent		Female Percent		Male Percent		Female Percent		Male Percent		Female Percent		Male Percent		Female Percent	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
< 12	39.4	35.3	37.8	32.9	25.9	22.9	24.8	23.0	30.4	26.6	29.0	26.0	130	133	130	127
12-14	10.5	10.8	10.0	10.1	7.8	7.1	7.5	7.1	8.7	8.2	8.3	8.0	121	131	121	123
15-24	18.1	20.5	18.7	19.6	24.7	27.1	27.8	29.2	22.5	25.1	24.9	26.3	80	81	75	75
25-34	9.1	10.9	11.9	12.6	15.8	16.6	15.4	16.1	13.6	14.9	14.3	15.1	66	73	83	84
35-44	11.1	10.5	11.4	9.8	11.0	10.8	10.7	10.2	11.0	10.7	11.0	10.1	101	98	104	97
45-54	6.4	5.3	4.9	6.7	8.4	8.3	7.2	7.8	7.8	7.4	6.5	7.5	83	72	76	90
55-64	3.2	3.3	2.7	4.3	4.2	4.7	3.9	4.1	3.9	4.3	3.5	4.1	82	77	76	104
65+	2.3	3.6	2.6	4.0	2.1	2.5	2.6	2.5	7.2	2.8	2.6	3.0	89	126	101	135
	100	100	100	100	100	100	100	100	100	100	100	100				

1975 DANF Special Bogota Household Survey (LIBE).  
1977 DANF Household Survey (EHS).

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Table A.2: DISTRIBUTION OF THE POOR (BOTTOM 30%) AND RICH (TOP 70%)  
BY EDUCATION GROUP AND THE INCIDENCE OF POVERTY

	Bottom 30 Percent				Top 70 Percent				Total				Incidence of Poverty <sup>1/</sup>			
	Male Percent		Female Percent		Male Percent		Female Percent		Male Percent		Female Percent		Male		Female	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
None	5.6	6.1	8.1	9.5	1.4	1.9	4.4	4.3	2.6	3.0	5.4	5.8	215	203	150	164
Primary	56.6	56.4	56.4	56.8	37.6	33.4	43.1	38.4	43.0	38.9	46.8	42.9	132	140	121	128
Secondary	33.8	33.5	33.0	33.0	46.2	47.0	44.6	48.7	42.0	43.5	41.4	44.4	79	77	80	75
Higher	4.1	6.1	2.5	2.7	14.8	17.8	7.9	8.6	11.8	14.7	6.4	7.0	35	41	39	39
	100	100	100	100	100	100	100	100	100	100	100	100				
No. of People (in thousands)	266	310	306	383	666	877	789	1006	932	1187	1095	1389				

1/ The incidence of poverty, or poor, is  $\frac{\text{Proportion of poor in education group}}{\text{Proportion of all in education group}}$

Source: 1975 DARE Special Uganda Household Survey (SIBSE)  
1977 DARE Household Survey (DHS)

THE POOR IN BODIA

Table A.3: DISTRIBUTION OF POOR WORKERS BY AGE AND EDUCATION

Age/Education (Years)	1975										1977									
	None		Primary		Secondary		Higher		Total		None		Primary		Secondary		Higher		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
12 - 14	-	-	0.9	4.2	1.2	1.2	-	-	0.9	3.0	1.9	0	0.7	1.6	0	1.1	6	0	0.6	1.2
15 - 24	10.3	13.6	16.7	27.7	32.0	44.8	15.4	50.0	20.0	31.7	8.0	7.7	16.6	31.4	38.8	35.5	24.8	65.9	21.6	31.4
25 - 34	15.5	18.2	20.6	31.8	21.1	21.8	34.6	25.0	24.8	28.1	9.7	13.1	29.1	26.4	28.3	32.9	35.7	14.5	27.7	26.1
35 - 44	31.0	36.4	33.7	28.1	26.3	15.5	19.2	25.0	30.8	26.4	25.5	36.0	36.1	24.6	18.9	18.2	24.7	19.6	30.8	24.0
45 - 54	22.4	13.6	14.8	5.1	15.0	10.3	23.1	-	15.5	6.9	33.3	34.9	12.7	12.0	11.6	9.6	10.2	0	13.9	13.4
55 - 64	8.6	13.6	5.7	2.8	5.3	1.2	7.7	-	5.8	3.0	11.8	5.7	3.7	4.1	1.8	1.4	4.7	0	3.9	3.4
65 +	12.1	4.6	1.7	0.5	1.2	1.2	-	-	2.2	0.9	9.9	2.7	1.1	0	0.7	1.4	0	0	1.6	0.6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Number of Workers (in thousands)	7.7	3.0	91.6	2.9	32.9	11.6	3.5	1.0	125.7	4.4	10.5	8.0	94.2	42.4	34.9	18.6	4.4	3.2	144.1	7.2

THE POOR IN BOGOTA

Table A.4: DISTRIBUTION OF ALL WORKERS BY AGE AND EDUCATION

Age/Education (Years)	1975										1977									
	None		Primary		Secondary		Higher		All		None		Primary		Secondary		Higher		All	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
12 - 14	1.0	4.8	1.2	4.1	0.8	0.4	-	-	0.9	2.5	0.9	3.3	0.9	3.0	-	0.4	-	-	0.4	1.7
15 - 24	12.6	25.0	20.0	39.3	36.4	46.2	13.1	28.6	33.1	39.8	5.9	16.6	20.2	41.7	32.7	40.5	17.6	42.2	24.1	39.8
25 - 34	14.6	16.9	25.5	24.7	28.9	30.7	39.0	44.4	28.2	28.4	10.7	11.2	27.9	23.7	29.8	33.4	34.4	34.2	29.2	27.6
35 - 44	23.3	24.2	25.6	18.9	20.7	14.9	23.6	18.7	23.5	17.8	18.2	25.7	26.0	16.9	17.4	16.6	23.3	16.6	23.4	17.3
45 - 54	23.3	16.9	18.9	9.3	12.0	5.8	15.9	6.6	15.7	8.2	35.3	28.5	15.0	10.4	14.0	6.6	14.1	5.9	13.0	9.6
55 - 64	15.3	8.9	7.3	2.4	4.7	1.5	6.8	1.2	6.5	2.5	19.3	10.7	7.7	3.4	4.8	1.9	6.4	1.2	6.7	3.1
65 +	9.7	3.2	2.4	0.9	1.4	0.5	1.4	0.4	2.1	0.8	9.7	4.0	2.4	1.0	1.3	0.6	2.1	-	2.1	0.9
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Number of Workers (in thousands)	14	16	278	159	213	108	76	34	581	315	21	27	311	208	280	166	122	44	736	444

Source: 1975 DARE Special Household Survey (1982)

1977 DARE Household Survey (E115)

THE FIRM IN GHANA

Table A.2: DISTRIBUTION OF THE FIRM BY (SECTION 302)

BY LEVELS OF WORK AND OCCUPATION (Males Only)

Occupation/Level of Work	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		Total		All	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
<b>White Collar</b>	<b>16.7</b>	<b>100</b>	<b>40.7</b>	<b>26.8</b>	<b>21.9</b>	<b>45.0</b>	<b>27.0</b>	<b>25.3</b>	<b>23.6</b>	<b>20.0</b>	<b>30.0</b>	<b>28.9</b>	<b>36.8</b>	<b>31.3</b>	<b>20.8</b>	<b>26.4</b>
Professional and Technical	16.7	-	12.5	4.2	2.2	7.0	3.6	2.6	2.6	1.1	2.0	-	1.9	-	3.4	2.0
Administrative/Managers	-	-	-	-	2.2	-	2.3	0.9	0.9	1.1	1.0	-	0.9	-	1.9	0.6
Clerks and Typists	-	-	6.3	4.2	2.2	6.3	7.0	9.5	4.4	4.4	3.0	3.7	0.9	1.1	5.8	6.7
Sales Manager and Proprietor	-	-	15.6	-	10.9	11.6	7.9	4.2	11.3	5.4	16.0	11.4	25.5	18.9	11.3	7.4
Other Sales	-	100	6.3	16.5	4.4	20.5	5.2	6.1	4.4	14.0	8.0	13.8	7.6	11.3	5.6	9.7
<b>Blue Collar</b>	<b>83</b>	<b>-</b>	<b>29.4</b>	<b>73.1</b>	<b>78.4</b>	<b>55.0</b>	<b>72.9</b>	<b>76.9</b>	<b>76.5</b>	<b>74.1</b>	<b>70.0</b>	<b>71.3</b>	<b>63.2</b>	<b>68.7</b>	<b>71.9</b>	<b>73.5</b>
Service Worker (not maid)	-	-	3.1	8.8	4.4	-	7.3	9.1	11.3	14.3	10.0	2.4	20.8	27.3	9.1	10.8
Maids	-	-	-	-	8.7	-	0.3	-	-	-	0.0	-	0.9	-	0.7	-
Agricultural Workers	-	-	-	-	6.5	8.8	2.5	1.9	2.6	-	2.0	2.5	1.9	-	2.5	1.7
Production Supervisors	-	-	-	-	-	-	0.5	0.8	-	-	2.0	1.3	0.9	-	0.6	0.6
Production Workers	33.0	-	34.4	32.9	28.3	26.2	30.7	40.7	24.4	32.4	24.0	31.8	15.1	17.3	27.7	34.5
Construction Workers	-	-	12.5	20.1	19.6	5.8	20.1	13.9	25.2	13.3	13.0	19.3	8.5	4.6	18.4	13.1
Transport Workers	50.0	-	6.3	13.3	6.5	14.2	8.8	8.5	11.3	13.0	16.0	13.8	15.1	19.5	10.5	11.3
Other	-	-	3.1	-	4.4	-	2.7	2.4	1.7	1.1	3.0	-	-	-	2.4	1.5
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Percent in Category	0.6	0.2	3.2	3.5	4.6	5.0	59.4	53.9	11.5	13.3	10.0	11.5	10.6	12.6	100	100
Total Number of Workers	798	333	4256	5103	6110	7166	10756	17709	15293	19226	13300	16621	14098	35535	132601	144277

Source: 1975 DAHE Special Accrue Household Survey (SHSE)

1977 DAHE Household Survey (SHHS)

THE POOR IN BOGOTÁ

Table A.6: DISTRIBUTION OF THE POOR (BOTTOM 30%)

BY HOURS OF WORK AND OCCUPATION (FEMALES)

Occupation/Hours of Work	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 +		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
<u>White Collar</u>	0	25.4	52.5	32.3	30.0	34.2	36.8	35.5	28.6	35.5	40.0	3.7	47.0	35.3	31.2	28.8
Professional and Technical	-	-	2.6	5.9	8.3	8.8	8.3	1.5	-	-	-	-	-	-	5.2	2.1
Administrative/Manager	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	0.3	-
Clerks and Typists	-	25.4	2.6	-	2.8	-	12.7	20.2	-	5.8	-	-	8.8	-	7.6	9.0
Sales Manager and Proprietor	-	-	18.5	8.2	13.9	5.4	7.6	6.5	14.3	8.1	32.0	1.9	29.4	22.9	13.5	7.8
Other Sales	-	-	36.8	8.2	5.6	20.0	7.6	7.3	14.3	21.6	8.0	1.8	8.8	12.4	7.3	9.9
<u>Blue Collar</u>	100.0	74.6	47.4	77.7	69.5	65.9	63.1	64.4	71.5	64.6	60.0	96.5	53.0	64.8	65.4	71.2
Service Worker (not maid)	50.0	74.6	13.2	50.8	25.0	48.1	25.5	22.2	20.0	37.4	20.0	13.7	20.6	15.0	25.4	28.0
Maids	-	-	-	2.7	25.0	-	11.5	10.4	28.6	18.8	32.0	71.4	20.6	44.9	17.4	22.8
Agricultural Workers	-	-	-	-	-	-	1.3	-	-	-	-	1.9	-	2.5	0.6	0.6
Production Supervisors	-	-	-	-	-	-	1.3	-	2.9	-	-	-	-	-	0.9	-
Production Workers	50.0	-	26.3	24.2	16.7	17.8	22.9	30.4	17.1	8.4	8.0	9.5	11.8	2.4	19.9	19.2
Construction Workers	-	-	7.9	-	2.8	-	-	7	-	-	-	-	-	-	-	.3
Other	-	-	-	-	-	-	0.6	.7	2.9	-	-	-	-	-	1.2	.3
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total	0.6	1.2	11.6	10.7	11.0	10.1	48.0	40.1	10.7	10.8	7.6	15.5	10.4	11.6	100	100
Number of Workers	266	840	5054	7691	4788	7304	20881	28904	4655	7780	3325	11203	4522	8395	43491	72117

Source: 1975 DANE Special Bogotá Household Survey (EMBE)

1977 DANE Household Survey (EM15)

THE POOR IN BOGOTÁ

Table A.1: DISTRIBUTION OF POOR WORKERS (BOTTOM 30%)

BY HOURS OF WORK AND INDUSTRY OF ACTIVITY

(MALE)

Activity/Hours Worked Year	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 +		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
PRIMARY	16.7	0	0	0	8.9	5.9	2.4	1.9	5.2	0	2.0	3.8	0		2.8	3.5
Agriculture	-	-	-	-	6.7	5.9	2.2	1.9	1.7	-	2.0	3.8	0.9		2.1	1.8
Mining	16.7	-	-	-	2.2	-	.2	-	3.5	-	-	-	-		0.7	1.7
SECONDARY	18.7	0	50.6	45.8	52.1	32.6	52.8	50.7	54.0	52.6	32.0	52.5	25.2		52.2	52.4
Food Products, Beverages, and Tobacco	16.7	-	3.1	4.1	-	3.4	2.7	4.3	1.7	6.5	6.0	5.1	1.9	11.7	2.8	5.6
Textile and Footwear	-	-	3.1	-	2.2	8.6	4.3	6.4	4.4	4.3	7.0	6.3	2.8	3.4	4.2	5.6
Lumber and Wood	-	-	6.3	8.4	2.2	-	4.1	4.3	5.2	4.3	1.0	4.2	4.7	2.3	3.9	3.9
Paper, Printing, Publishing	-	-	3.1	-	2.2	-	1.9	1.9	2.6	1.1	1.0	1.3	0.9	1.1	1.8	1.5
Miscellaneous Products	-	-	3.1	-	2.2	-	2.9	3.2	1.7	2.2	-	-	-	-	2.1	2.0
Industrial Chemicals, Petroleum	-	-	-	-	-	-	2.9	2.7	2.6	2.2	2.0	1.3	0.9	1.1	2.3	2.0
Metal Industry	-	-	3.1	4.1	4.4	-	6.1	8.6	4.4	2.2	4.0	3.8	1.9	1.2	5.0	5.6
Other Industry	-	-	-	-	-	-	0.2	0.8	0.9	1.1	-	-	-	-	0.2	0.6
Utilities	-	-	-	-	-	-	1.4	1.2	-	-	-	-	-	-	0.8	0.6
Construction	-	-	18.0	28.2	28.9	20.6	21.4	17.4	26.1	18.7	14.0	20.5	10.4	5.8	20.1	17.0
TERTIARY	66.6	100	59.4	55.3	48.9	61.5	50.1	47.5	45.1	57.5	63.0	53.8	73.4		53.8	56.0
Wholesale Trade	-	-	-	-	-	-	2.5	0.8	1.7	1.1	4.0	-	0.9	-	2.2	0.6
Retail Trade	-	100	18.8	12.4	15.6	28.8	12.4	12.9	14.8	21.4	23.0	26.4	34.0	28.9	16.3	18.5
Other Commerce	-	-	3.1	8.4	-	-	1.7	2.5	1.7	1.3	3.0	-	2.8	3.4	1.9	2.3
Transportation, Communication	-	-	3.1	13.3	6.7	14.2	8.5	6.9	7.8	8.7	13.0	14.9	11.3	20.7	8.9	10.4
Financial Establishments	16.7	-	-	4.2	4.4	6.2	5.8	4.1	1.7	4.4	3.0	-	5.7	9.0	4.8	4.4
Public Administration, Social Services	-	-	12.5	-	6.7	-	7.0	8.3	5.2	7.6	8.0	3.8	5.7	4.6	6.8	6.5
Public Instruction	33.3	-	3.1	4.2	2.2	-	2.5	2.4	3.5	3.3	1.0	1.3	5.7	-	3.0	2.0
Personal and Domestic Services	16.7	-	18.8	12.4	13.3	12.3	9.7	9.6	8.7	9.7	8.0	7.4	9.4	6.8	9.9	9.3
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Percent in Category	0.6	0.2	3.2	3.5	4.5	5.0	59.4	53.9	11.6	13.3	10.1	11.5	10.7	12.6	100	100
Number of Workers	798	213	4256	5103	6118	7166	78736	77709	15295	19226	15300	16621	14098	18239	132601	144277

Source: 1975 DANE Special Bogota Household Survey (EMBE)

1977 DANE Household Survey (EH15)

THE POOR IN BOGOTA

Table A.8: DISTRIBUTION OF THE POOR (BOTTOM 30%)

BY HOURS OF WORK AND INDUSTRY OF ACTIVITY

(FEMALES)

Activity/Hours Worked Year	0 - 14		15 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 +		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
PRIMARY	0	0	2.6	0	0	0	1.9	.7		0	1.8	1.9	0	2.5	1.2	0.9
Agriculture	-	-	-	-	-	-	1.3				1.8	1.9		2.5	0.6	0.6
Mining	-	-	2.6				0.6	.7							0.6	0.3
SECONDARY	50.0		34.2	24.3	19.5	17.8	26.8	35.5	25.7	11.6	6.0	7.7	11.8	2.4	23.8	21.4
Food Products, Beverages, and Tobacco	50.0		5.3	2.8			1.3	2.1	5.7	2.7	3.9	1.9			2.2	1.7
Textiles and Footwear			18.4	18.8	13.9	14.9	16.0	16.2	11.4	3.1	2.3	5.8	11.8	2.4	14.4	11.5
Lumber and Wood			7.9		5.6		0.6	1.5							1.8	0.6
Paper, Printing, Publishing							3.2	4.3		2.7					1.5	2.0
Mineral Products							0.6	.7							0.3	0.3
Industrial Chemicals, Petroleum							2.6	7.1	2.9						1.5	2.9
Metal Industry							1.9	3.6	5.7	3.1					1.5	1.8
Other Industry				2.7		2.9	0.6								0.3	0.6
Utilities																
Construction			2.6													0.3
TERTIARY	50.0	100.0	63.2	75.8	80.6	82.2	71.0	63.8	74.3	88.3	92.0	90.6	88.2	95.2	74.4	77.8
Wholesale Trade								2.3	5.7						0.6	0.9
Retail Trade		25.4	7.9	16.5	19.4	22.5	18.6	17.4	20.0	29.4	32.0	7.6	38.2	35.3	20.1	19.8
Other Commerce			5.3		2.8	2.9	5.1	3.6	8.6	18.8	12.0	1.9	14.7	5.0	6.8	4.6
Transportation, Communication					2.8		1.9	2.2							1.2	0.9
Financial Establishments				2.7	5.6		7.0	5.4	5.7	2.7					4.6	2.8
Public Instruction						2.9	5.1	4.4			4.0	1.9		4.9	2.8	2.9
Public Instruction	50.0	25.3	5.3	5.8	13.9	14.6	11.5	8.1	2.9	2.7	4.0	1.9	5.9		9.2	6.2
Personal and Domestic Services		49.3	44.7	50.8	36.1	39.3	21.8	20.4	31.4	34.7	40.0	77.3	29.4	50.0	29.1	39.7
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Percent in Category	0.6	1.2	11.7	10.7	11.0	10.1		40.1	10.7	10.8	7.7	15.5	10.4	11.64	100	100
Number of Workers	266	840	5054	7691	4788	7304	20881	28904	4655	7780	3325	11203	4522	8395	43491	72117

Source: 1975 DANE Special Bogota Household Survey (EH8E)  
1977 DANE Household Survey (EH15)

THE POOR IN BOGOTA

Table A.9: UNEMPLOYMENT RATES BY AGE AND EDUCATION GROUPS

(PERCENT UNEMPLOYED)

<u>Age Group</u>	<u>Males</u>									
	<u>None</u>		<u>Primary</u>		<u>Secondary</u>		<u>Higher</u>		<u>Total</u>	
	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>	<u>1975</u>	<u>1977</u>
12 - 14	50.0	50.0	23.5	22.8	0.0	0.0	-	-	18.4	24.3
15 - 24	18.8	14.1	13.4	14.6	16.0	14.6	10.7	9.0	14.6	13.9
25 - 34	11.8	15.4	4.3	5.1	4.5	6.1	3.9	4.5	4.4	5.5
35 - 44	11.1	0.0	5.3	2.8	2.4	0.9	1.5	0.8	4.0	1.8
45 - 54	11.1	0.0	5.8	2.8	3.5	0.9	0.0	0.8	4.6	1.8
55 - 64	5.9	0.0	3.2	0.0	1.3	1.8	0.0	0.0	2.4	0.9
65 +	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
<b>Total</b>	<b>12.0</b>	<b>3.6</b>	<b>7.0</b>	<b>6.4</b>	<b>7.7</b>	<b>7.4</b>	<b>3.4</b>	<b>3.5</b>	<b>6.9</b>	<b>6.3</b>
	<u>Females</u>									
12 - 14	0.0	0.0	2.0	6.5	0.0	0.0	-	-	1.7	5.2
15 - 24	3.1	0.0	5.4	5.8	17.9	11.4	12.6	7.1	11.3	8.0
25 - 34	0.0	6.1	3.3	4.5	5.3	6.3	3.6	11.8	4.0	6.3
35 - 44	0.0	2.9	1.8	1.8	2.4	2.9	2.2	5.9	1.9	2.7
45 - 54	0.0	0.0	2.6	1.0	0.0	5.6	0.0	9.0	1.5	2.5
55 - 64	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	1.7	0.0
65 +	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
<b>Total</b>	<b>0.8</b>	<b>1.5</b>	<b>3.8</b>	<b>4.1</b>	<b>10.9</b>	<b>7.7</b>	<b>5.9</b>	<b>8.6</b>	<b>6.4</b>	<b>5.8</b>

Source: 1975 DANE Special Bogota Household Survey (EIBB)  
1977 DANE Household Survey (EH15)



THE POOR IN BOGOTÁ

Table A.10: PARTICIPATION RATES BY AGE AND EDUCATION GROUP

(MALES)

Age Group	Education									
	None		Primary		Secondary		Higher		Total	
	1975	1977	1975	1977	1975	1977	1975	1977	1975	1977
12 - 14	13.3	15.8	7.2	4.5	3.4	4.2	-	0.0	5.6	3.1
15 - 24	61.5	46.5	80.1	78.2	43.2	42.5	33.6	41.5	52.2	50.6
25 - 34	81.0	86.9	96.7	98.2	96.2	96.5	86.6	83.8	94.3	94.3
35 - 44	90.0	89.5	96.4	97.5	96.9	94.3	95.1	96.6	96.2	96.2
45 - 54	81.8	97.4	92.6	92.0	90.9	97.8	94.8	95.9	91.9	94.9
55 - 64	60.7	66.4	69.5	71.1	81.1	70.3	88.6	82.7	73.8	72.0
65 +	37.9	25.8	39.8	32.1	53.5	34.7	38.1	52.2	42.1	33.7
Total	64.3	63.2	74.5	71.8	58.2	58.5	71.8	72.5	66.9	65.9

FEMALES

12 - 14	24.0	32.0	9.3	7.3	0.7	1.1	-	-	6.1	5.4
15 - 24	54.2	53.0	51.4	60.4	28.4	26.9	31.0	38.0	36.8	38.8
25 - 34	41.2	40.0	38.9	42.0	40.1	46.9	66.9	63.5	42.2	46.1
35 - 44	36.6	65.3	31.0	37.5	32.1	38.0	75.4	71.9	33.9	41.2
45 - 54	24.7	39.7	27.4	31.3	21.3	23.9	51.6	62.5	26.3	31.0
55 - 64	16.9	18.2	13.5	17.7	14.8	15.6	25.0	29.2	14.6	17.5
65 +	4.9	7.2	6.8	7.1	7.5	8.2	50.0	0.0	6.7	7.2
Total	27.9	34.0	32.2	36.2	26.7	29.0	48.6	49.4	30.7	33.8

Source: 1975 DANE Special Bogota Household Survey (EH8E)

1977 DANE Household Survey (EH15)

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