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Constant Utilization of the Labour Force despite Rising Open Unemployment

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Introduction

The view has been popular since the early or mid sixties that many developing countries are in the midst of "employment crises" resulting from low and stagnant demand for labour; major manifestations of this crisis are, according to this view, the rising open unemployment rates, falling participation rates, and continuing prevalence of "disguised" unemployment and underemployment.[1] "Fixed proportion" conceptualizations of the economy[2] and prominence of labour-saving technical innovation contribute to the plausibility of this hypothesis. This paper disputes the validity of the "crisis" interpretation, based on data for Colombia, one of the many countries to which it has been applied.[3] It argues

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[1] Some recent empirical evidence on participation rates and open unemployment rates suggests widespread underutilization of the labour force. For a good survey of evidence on unemployment and participation rates see David Turnham, The Employment Problem in Less Developed Countries: A Review of Evidence, Paris, OECD Development Centre, 1970.

[2] A number of interpretations of the nature of underdevelopment suggest relatively low utilization of the labour force; this is particularly characteristic of the labour surplus models, and the partially overlapping "factor proportions" interpretation which presents the problem of developing countries as their low capital/labour ratio and the rigidity of factor proportions. (See, for example, W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor," The Manchester School, Vol. 22, May 1954; and Richard Eckaus, "The Factor Proportions Problem in Underdeveloped Areas," American Economic Review, Vol. 45, September 1955.)

[3] Studies which lean in this direction include International Labour Organization, Towards Full Employment: A Program for Colombia, Geneva, ILO, 1970 ; Robert L. Slighton, Urban Unemployment in Colombia: Measurement, Characteristics, and Policy Problems, The Rand Corporation, Santa Monica, 1968.

a) that overall utilization of the human resource has been roughly constant over the last 20-30 years.

b) that some of the declining participation observed for certain age groups, e.g., men over 55, is more likely a result of voluntary withdrawal than inability to get work; while it does imply non-use of human resources, the interpretation should be less pessimistic when the withdrawal is voluntary.

Conclusions are based on over time comparisons of labour force utilization in Colombia during the last several decades. Utilization is assumed to be higher,

a) the higher the participation rate;

b) the lower the rate of open unemployment;

c) the lower the extent of disguised unemployment.

Persons receiving education warrant special treatment since, although not participating in the labour force, they are presumably investing in future productivity. A number of possible indicators of disguised unemployment are taken into account. Our broad conclusion is that, despite a higher level of open unemployment in the sixties than previously, the overall use of labour in 1970 was probably about as complete as in 1938 or 1951. Relevant evidence is summarized in Table 1.

TABLE 1

Trends in Labour Utilization, 1938-1970

	1938			1951			1964			1970		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
I Participation Rate:												
Persons 15-64	60.48-61.69	92.13-94.59	30.10	56.81	94.47	20.61	53.85	89.07	21.06	≈ 54.0	≈ 83.9	≈ 26.7
Persons 15 and up	59.46-60.61	91.29-93.64	29.13	55.80	93.32	20.01	53.60	87.45	20.31	≈ 52.3	≈ 81.9	≈ 25.5
II Employed Worker Rate:												
Persons 15-64	58.1-59.2[c]	88.4-90.8[c]	28.9[c]	55.1[b]	91.6[b]	20.0[b]	50.4[a]-50.8	83.8[a]-84.4	19.7[a]-19.9	50.0[d]	79.1[d]	23.6[d]
Persons 15 and up	57.1-58.2[c]	87.6-89.9[c]	28.0[c]	54.1[b]	90.5[b]	19.4[b]	50.1[a]-50.4	82.2[a]-82.8	19.0[a]-19.1	48.6[d]	77.3[d]	22.6[d]
III Employed Worker and Schooling Rate:[e]												
Persons 15-64	58.7-59.8	89.1-91.5	29.3	57.7	94.7	22.1	56.0-56.4	90.1-90.7	24.7-24.9	59.8	89.5	31.3
Persons 15 and up	57.6-58.7	88.3-90.6	28.4	56.5	93.4	21.4	55.4-55.7	88.2-88.6	23.7-23.8	57.8	87.1	30.7
IV Employed Worker and Eventually Productive Schooling:[f]												
Persons 15-64	58.58-54.76	89.1-91.5	29.06	57.08	94.7	20.87	54.72-55.11	90.1-90.7	22.2-22.4	57.4	89.5	27.8
Persons 15 and up	57.48-58.60	88.3-90.6	28.16	55.90	93.4	20.23	54.27-54.52	88.2-88.6	21.4-21.5	55.5	87.1	26.4

TABLE 1 (continued)

[a]Unemployment estimate based on the 1964 Population Census, which indicated 4.0 to 4.5% unemployment among persons who had worked before, plus an independent estimate of first time job seekers of 40% of the above category, i.e., 1.6-1.9%. Thus total unemployment was estimated at 5.6-6.4% for men and women together.

For males, the census indicated 4.2-4.75 for previous workers; an additional 25% for first time seeker yields 5.25-5.94.

For women, the census indicated 3.2-3.56 for previous workers; an additional 80% yields 5.76-6.41.

The same unemployment rates are assumed for the two categories 15-64 and 15 and up.

[b]In 1951 the population census reported an unemployment rate of only 1.18%. This was doubtless downward biased by failure to record first time seekers and for other reasons. Here we assume, arbitrarily, 3% for both men and women. (The census gave no separate figures for the two.)

[c]The 1938 Population Census registered an unemployment rate of 3.07 for males and 0.89 for women (many wives in agriculture were included in the labour force in that year). Here we assume 4% for both sexes.

[d]Based on the unemployment rates listed in DANE, Encuesta de Hogares: 1970, Bogota, 1971, p. 6. The overall rate is used as a basis from which to calculate the rates for the two age categories used here, taking account of unemployment rates for persons 12-14 and 65 years, as presented in DANE, Boletin Mensual, No. 238.

[e]Data for 1951 and 1964 comes from the population censuses for those two years. For 1970 the only data from the Encuesta de Hogares: 1970 is for the population 12 and up, so it was necessary to make somewhat arbitrary assumptions (based on the 1964 Population Census) as to how the students were distributed as between 12-14 years and 15 years and up.

For 1938 it was assumed, based on DANE data on enrolled students, that only 0.6% of the labour force over 14 was in school.

[f]See discussion in the text for definition of this concept. The share of females over 15 studying who would later be working in the representative year after leaving school was assumed to be: for women in secondary, 0.25, 0.3 and 0.35 of the total in 1951, 1964 and 1970, respectively; for women in university and technical studies, 0.58, 0.63 and 0.67.

I. Participation Rates: 1938-1970

Since 1938, whose census provides the first usable information, the participation rate for people in the age range 15 to 64 fell from perhaps 62% to around 54% in 1970[1] (see Table 1). Since the 1938 data are probably somewhat less reliable than those of the later years, particular attention attaches to these latter. There appears to have been a general decline in age specific participation rates between the 1951 and 1964 population censuses (See Table A-1); between 1964 and 1970 it decreased a little more, in spite of increases for the age groups 20-45; for both men and women the declines since 1951 have been concentrated in the younger age groups; for other age groups there is little change for men and an increase for women. The ratio "total labour force/population aged 15-64" fell from about 67.4 in 1938[2] to 61.6% in 1951, 58.3% in 1964, and 58.0% by 1970, while the ratio "labour force aged 15-64/population aged 15-64" fell from something over 60% in 1938[3] to 56.8 in 1951, to 53.8 in 1964, and 54.0 in 1970. A stronger downward trend characterizes the employed worker/population ratio; for persons 15-64 this fell from 58-59% in 1938 to about 50% in 1970. When

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[1] Since in 1938 a more inclusive definition of women working in agriculture was used, the census figures themselves are not comparable to those of more recent years. The figures cited are adjusted to take such differences into account.

[2] Calculated on the basis of ECLA's estimate of labour/force total population (37.14) and the census ratio of population 15-64 to total population (55.13). (See United Nations, Economic Commission for Latin America, Analyses and Projections of Economic Development: The Economic Development of Colombia, New York, United Nations, 1957, Annexo Estadistico, pp. 5-6.

[3] In 1951 and 1964 the labour force 15-64 was 92.2% and 92.3% respectively of total labour force. If this were true in 1938, the ratio in question would have been 62.2%.

persons still in school are added to the labour force, the share of 15-64 year olds in the two categories was essentially unchanged, though that for men fell a little while that for women rose. The ratio had edged down over 1938-1964; it then rose during 1964-1970.

Since employment and unemployment figures may have a different significance as between rural and urban areas, it is important to effect this disaggregation, especially since the urban share of the total labour force has been rising substantially over the period in question. In the rural areas (Table 2) there was a gradual decrease in the participation rate for people over 15 between 1951 and 1970; the share of the population employed fell somewhat faster (a total of almost five percentage points); but this was more than offset by the increased schooling ratio; as a result people employed or in school rose from 57.5% to 59.8% of the 15-64 age group. This ratio fell by 1% for men and rose by almost 8% for women. The long run implications of the rising "employed or in school" ratio are hard to appraise since it remains to be seen how many of the people in school will enter the labour force. It is interesting to note that over 1951-64 there was some decrease in the participation rate for older and younger men and a decrease of two or three percent for all women--the latter possibly being associated with the decrease in importance of rural artisanry. Figures for 1970 do not permit a more current accurate appraisal by age categories.[1]

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[1]Because of a non-representative rural sample in DANE's Encuesta de Hogares for that year. It was taken in the rural parts of the same municipios used to provide the urban sample; as a result it had a bias towards more urban municipios than the average. For what they are worth the figures indicate a decrease for males, especially at the extremes of the age spectrum, and some general tendency for female rates to rise. (See DANE, Encuesta..., op. cit., pp. 76-77.)

TABLE 2

Trends in Labour Utilization in Rural Areas

	1951			1964			1970		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Participation Rate									
Persons 15-64	57.50	96.87	14.11	55.45	95.11	12.22	53.83	90.05	15.87
Persons ≥ 15	56.84	95.83	13.95	54.52	93.59	12.01	52.79	88.07	15.56
Employed Worker Rate									
Persons 15-64	56.44[a]	95.03[a]	13.85[a]	53.85	92.32	11.90	51.84	87.56	14.31
Persons ≥ 15	55.76[a]	94.01[a]	13.68[a]	52.96	90.87	11.70	50.89	85.69	14.08
Employed Worker and Schooling Rate									
Persons 15-64	57.50	96.30	14.68	55.56	94.36	13.46	59.76	95.37	22.23
Persons ≥ 15	56.77	95.22	14.46	54.67	92.80	13.17	58.22	92.99	21.68

[a]Assuming the rate of unemployment is about 2% for the whole rural labour force. We previously assumed 3% overall (Table 1) and 4.5% in urban areas. Given the relative size of labour force, that implies a figure of about 2.0 for rural areas. For the age ≥ 15 we assume 1.9 and for 15-64, 1.85; we assume the same rate for males and females.

Sources: See Table 1, footnotes.

Female participation rates are lower in rural than in urban areas although there is a definitional problem here--women who put in a good deal of work on their husband's farm are probably usually excluded.[1] Lack of suitable paid work for women in the country is another difference; in the city, on the other hand, they provide many services; in fact the majority of women in the urban labour force are usually found in the service sector.[2] (In industrialized countries, too, the increasing prominence of the service sector has been an important factor in the relatively high female participation rates achieved.)

The urban developments are of particular interest since the figures are more meaningful and reliable, and since this is the context of the open unemployment. Over 1951-70 the total (male and female together) participation rate fell by about 1% for persons 15-64, falling by over 10% for men and rising by almost 8% for women (Table 3). The participation rate increased by 5% over 1951-1970 for the age group 25-65; for persons 15-64 there was a decrease of 10%. The ratio employed/population followed the same trajectory, falling by 4% net over 1951-1970; the ratio for men fell much more. Persons employed or in school rose a substantial 4.5% for persons 15-64. Most of the decreased participation for the younger categories is associated with extended education.[3] The joint "participation

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[1] Whereas theoretically they should be in the "family helper" category of the employed.

[2] It is not clear how many rural women would work on the farm (and still be excluded from the labour force) even were such jobs available. Experience from various countries makes it highly probable that a good number would be interested in outside jobs.

[3] Age specific participation rates for men dropped dramatically in the

TABLE 3

Trends in Labour Utilization in Urban Areas[a]

	1951			1964			1970		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Participation Rate									
Persons 15-64	55.86	90.52	28.31	52.49	83.07	27.64	54.6	78.2	35.9
Persons ≥ 15	54.38	89.17	27.13	51.0	81.3	26.5	52.9	76.5	34.4
Employed Worker Rate									
Persons 15-64	53.35[c]	85.99[c]	27.32[c]	48.90	76.68	25.71	49.21	71.42	31.54
Persons ≥ 15	51.93[c]	84.71[c]	26.18[c]	47.54	75.09	25.26	47.74	69.94	30.27
Employed Worker and Schooling Rate									
Persons 15-64	58.03	92.08	30.88	57.80	87.29	33.24	62.58	87.00	43.07
Persons ≥ 15	56.35	90.51	29.51	55.95	85.16	32.35	60.45	84.76	41.24
Share of Total Labour Force in Urban Areas[a]	40.67			51.27			56.98[b]		

[a] Municipal seats, for purposes of these comparisons.

[b] Probably somewhat overestimated, though this may be true also for the earlier years, which are uncorrected population census figures.

[c] Based on an assumed unemployment rate of 4.5% for men and women together, 5.0% for men and 3.5% for women.

or education" rate for persons 15-64 rose from 59.4 in 1951 to 59.4 in 1964 to about 63.8 in 1970. (Data are inadequate to effect a precise estimate in 1970.) The "employed or being educated" ratio was 58.0, 57.8 and 62.6 in the three years.

In appraising overall utilization of human resources, this latter rate may be the most relevant one though it does not, of course, tell the complete story. If all persons who receive education would subsequently enter the labour force, the ratio would be more meaningful. It could be argued that the decision to study constitutes an efficient allocation of time--one which increases the present value of the future income stream. Since almost all men are in the labour force during most of their lives and employed during almost as much, the argument is relatively persuasive for men. For women it is less so. The bulk of the students aged 15 and up are in secondary school and are in the age group 15-19. That age group has had the enrollment/population ratios indicated in Table 4. At present the enrollment ratio for girls 15-19 in urban areas (somewhat roughly estimated) is above the female participation rate for ages 25-64; if the latter rate were to remain at its present level, then a minimum of something over 10% of the female education received after age 15 would appear not to pay off in

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15-19 age group and less so in the 20-24 age group during 1951-64 and during 1964-70 (see Table A-2). Some, but perhaps not all of the decrease in age specific participation rates for young males was due to the increased schooling opportunities. For the period 1951-1964, 16.5 points of the total decline of 24 for the group 15-19 can be accounted for in that way and 4.3 of the 8.3 points for the group 20-24. The decrease in participation rates was, however, probably overstated due to the failure of the 1964 census to pick up first time job seekers as members of the labour force. If, as seems probable, they were to account for about one-half of all unemployment in the 15-24 age range, they would explain almost all of the difference between the measured decrease in participation rate and the increase in the "student rate."

TABLE 4

Enrollment Ratios, 15-19 compared to subsequent Participation Rates

		Enrollment Ratio, Persons 15-19			Participation Rate, Persons 25-64 in 1970		
		Total	Male	Female	Total	Male	Female
1951	Total	11.50	13.70	9.52			
	Urban	20.52	26.63	16.13			
	Rural	5.05	6.17	3.87			
1964	Total	24.13	26.54	21.96			
	Urban	36.51	43.14	31.49			
	Rural	8.53	9.45	7.49			
1970	Total	-	-	-	-	-	-
	Urban	-[b]	≈55.1[a]	≈45[c]	61.24	93.42	35.75
	Rural	≈15.0[b]	≈15.0[b]	≈15.0[b]	≈55	>90	≈16

[a] 84.2% of ER_{12-19}, based on guesswork and 1964 data.

[b] Assuming ER_{12-14} is 50%. We also assume the same ratio for boys and girls.

[c] About 81% of ER_{12-19}, based on guesswork and 1964 data.

Sources: The population censuses of 1951 and 1964, and DANE's Encuesta de Hogares, 1970.

higher subsequent output.[1] (In fact, the female participation rate has been rising.) But "wasted" education (in this limited sense of the term) is much more widespread than the above comparison would suggest. Figures are not available separately for rural and urban areas, but as of 1964 female participation rates were not high for any level of education. It does appear though (see Tables A-3 and A-4) that for the age group 20-64 or 24-64 the rate for technical and university training would by 1970 be well above 50%, perhaps 60%. For secondary education the participation rate is still much lower, judging from the figures, probably in the range 30-35%.

If we now assume education to be an efficient activity (in terms of effect on present value of the future stream of national income) for men but that some percent of female secondary received over age 15 and some percent of university is not subsequently put to use,[2] then a variable "employed worker and eventually productive schooling" increases substantially less since 1951 for women than does the variable "employed worker and schooling" (Table 1). Overall (i.e., men and women), however, the variable shows approximate constancy since 1938 and an increase since 1964.

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[1]This statement is not fully accurate, among other reasons because the female urban labour force includes many immigrants from rural areas, who tend to have less education.

[2]For details, see Table 1.

As noted above, the relative constancy of the "employment or in school" ratio has been the net result of a decrease in male participation, so defined, and an increase in that of women. Whether these effects are really offsetting in the sense that the decrease and the increase involve the same "quantity" of human resources can best be judged by looking at relative income figures, preferably for the "marginal" women now in the labour force but not before and the marginal men previously in the labour force but not now. Since such "marginal person" incomes are not available, the best alternative is to compare average male and female incomes. As of 1970, DANE's Encuesta de Hogares reported an average income per female income earner of about two-thirds the male figure.[1] CEDE's income data for its unemployment surveys suggested about the same ratio. It is of interest to note that female participation has expanded particularly rapidly in the more skilled categories like professionals and office workers while falling a little for manual workers and service workers. (See Table 5 and Table A-5.) Meanwhile, a considerable part of the decrease in male participation relates to young persons who are in school; their average incomes will eventually be high but current opportunity cost is not dramatically high.

Overall, if one were to assume that three women constitute the same human resource as two men, and thus further adjust the figures of Row IV in Table 1, no significant change would result, since in any case neither

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[1]The figures were 771 pesos per month for women and 1158 for men. (DANE, Boletin Mensual de Estadistica, No. 237, Abril, 1971, p. 71.)

TABLE 5

Occupational Composition of the Female Labour Force

1951-1964

	1951	1964
Professionals, Technicians and Related	4.62	9.23
Managers, Administrators, etc.	≥ 1.47[a]	1.93
Office Workers and Related	3.46	8.17
Sales People	≤ 6.11[a]	7.14
Farmers and Related	12.35	10.31
Mine Workers and Related	2.14	1.12
Conductors of Vehicles	0.12	0.18
Artisans, Factory Workers, etc.	22.45	14.00
Other Manual Workers	1.56	3.60
Service Workers	44.74	41.50
Other	0.98	2.82
TOTAL	701,189	1032,062

[a]In 1951 the category "managers, etc." included a considerable number of people engaged in commerce, and who were apparently so classified in 1964. This subcategory was estimated on the basis of a group of departments for which more detailed data were presented.

male nor female ratios changed much between 1938 and 1970. Over the period 1951-1970, the female rate (15-64) rose by 7% while that for males fell by over 5%, and the total rate rose slightly. Weighing off relative productivities as indicated above, the 7% rise in the female rate would only offset a little less than 5% decrease in the male rate, so that the adjusted overall rate would have fallen very slightly. Clearly, this adjustment does not affect trends much.

Factors Underlying Changing Labour Utilization

Labour utilization may be low for either good or bad reasons, i.e., either because people (e.g., the young and the old) abstain voluntarily from working since pressures to do so have been relieved by satisfactory income or wealth levels, or because it is difficult or impossible to get jobs. In a different sense, it may be argued that effective utilization is low if people manage to get jobs but these tend for some reason to be socially unproductive.[1] The hypothesis proposed in some recent literature is that utilization of labour is falling for "bad" reasons, i.e., through lack of demand. To better appraise this contention, it is useful to consider labour use trends by age, sex, etc. with this question in mind. Over 1951-1970, the "employed or in productive schooling" ratio has been affected as indicated in Table 6 by the factors listed. Decreasing participation rates and higher unemployment have had about equal negative impacts, slightly more than offset by the large increase in the productive schooling ratio. A considerable part of declining participation is related to increasing

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[1] e.g., if easy entry activities are monopolistically competitive by nature, and marginal social product of labour is far below marginal private product.

TABLE 6

Determinants of Changes in "Employed Worker and Eventually Productive Schooling" Ratio, Colombia, 1951-1970[a]

Persons 15-64	
Total Change	+0.3
Effect (over 1951-1970) of changes in:	
(a) Participation rate:	
Total	-2.8
Male	≈ -5.3
Female	+3.0
Increased share of women in population 15-64	-0.5
(b) Unemployment rate	
Total	-2.3
Male	≈ -1.0
Female	-1.1
Increased share of women in labour force	-0.2
(c) Enrollment rate adjusted for probable subsequent participation:	
Total	5.4
Male	+3.7
Female	+1.7

Persons 15 and up	
Total Change	-0.4
Effect (over 1951-1970) of:	
(a) Changes in "E+EPS"[b] ratio for persons ≥ 65	
Total	-0.5
Male	-0.6
Female	-0.04
Increased share of population over 64 who are men	+0.1
(b) Changes in "E+EPS" ratio for persons 25-64	
Total	+0.1
Male	-1.9
Female	+0.9
Increased share of population 25-64 who are men	+0.2
(c) Changes in "E+EPS" ratio for persons 15-24	
Total	+0.2
Male	-2.0
Female	+1.6
Increased share of population 15-14 who are men	+0.6
(d) Increased share of population over 64	-0.2

[a]Numbers shown in the table reflect the effect of changes in the variable in question on the overall "employed worker and eventually productive schooling" ratio, on the assumption that nothing else had changed.

[b]"Employed worker plus eventually productive education."

education. In terms of age groups, the old and the young have contributed to a decline in the ratio in question, while the group 25-64 has contributed to an increase. The main issues in interpreting the factors affecting the participation rate negatively are thus: a) what have been the causes of the increasing unemployment; and b) have the decreased PR's for the younger and older groups been induced primarily by the opportunity not to work or by the lack of opportunity to work.

Meaning of Currently High Unemployment Rates

It is argued elsewhere[1] that the rise in open urban unemployment rates in the 60's did not primarily reflect difficulties in getting a job but rather more exacting job demands by the individuals. Supporting evidence included:

1) Most people who leave their jobs appear to do so by their own choice, rather than through the action of their employer.[2] Most job leavers in a Bogota study did so for economic reasons;[3] the rate of turnover in relatively good jobs such as those in modern manufacturing is low.

2) The particularly high unemployment rates in white collar jobs. While unemployment rates were fairly high for most occupational and sector categories in 1967 they were not, in general, higher for low income jobs than for high income ones. The rate for the "clerical" category was far

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[1] A. Berry, "Unemployment as a Social Problem in Urban Colombia: Myth and Reality," forthcoming in Economic Development and Cultural Change.

[2] A Barranquilla study found that about two-fifths of the unemployed men and one-tenth of the women lost their jobs through action originating primarily on the side of the employer.

[3] See Rafael Prieto D., "Causas del Desempleo y Movilidad de la Fuerza de Trabajo de Bogota," in Empleo y Desempleo en Colombia, Bogota, CEDE, Universidad de Los Andes, 1968.

above average, the overall rate for the blue collar and service categories a little below average.

3) CEDE's 1967 survey data indicates that among the first time job seekers only a small percent were heads of families; most were wives, sons, daughters, or other relatives and a few were lodgers.

4) In 1967 it was true, for all 8 of the cities included in a CEDE study, that average unemployment rates were higher for natives of the city than for immigrants from elsewhere in the department or other departments.[1]

5) There appears to be no general tendency for unemployment rates in poor barrios to be above city-wide averages.

6) CEDE's 1967-68 family budget survey provides evidence on the relative expenditure patterns of the unemployed--in this case, more specifically of families with an unemployed head; their consumption basket suggests that they are probably at about the same absolute level as the obrero category,[2] suggesting that this group corresponds on average to the second and third deciles from the bottom of the distribution; their long run average consumption pattern would presumably put them somewhat higher than this.

Some of this "frictional"[3] unemployment may be considered as a

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[1]Rafael Isaza and Francisco Ortega, Encuestas Urbanas de Empleo y Desempleo: Analisis y Resultados, CEDE, Universidad de Los Andes, Bogota. January 1969.

[2]Rafael Preito, Estructura del Gasto y Distribucion del Ingreso Familiar en Cuatro Ciudades Colombianas 1967-1968, Parte Tercera CEDE, Universidad de Los Andes, Bogota, 1971, p. 93.

[3]In the sense of its involving appraisal and comparison of jobs by the individual, and his remaining unemployed as part of a process of search for "the right job" (as opposed to "any job").

necessary cost involved in a complicated economy with substantial occupational specialization; it is not appropriate to define it as a waste of human resources. Most unemployment probably does involve waste, however, in the sense that the individual could be doing something (e.g., manual rather than white collar work) while undertaking the unavoidable searching for the specific job he wants. In any case, any interpretation of the high open urban unemployment of the sixties must take into account its relation to the rapid entry into the urban labour force of young people; especially in the case of women it appears that the rising unemployment rate has had to do with the rising participation rate and the entry into new types of occupations. Under otherwise similar conditions, one would expect lower unemployment when a smaller share of the labour force was at the age of entering or having recently entered the urban labour market.

The falling participation rates of persons 15-24 are for the most part associated with rising "in school" rates. Falling rates for persons 55 and over are, of course, due to different factors. The data itself do not help much in ascertaining whether this is primarily a result of higher incomes (and thus primarily voluntary) or of greater difficulty of getting jobs. Cross-sectional comparisons tend, however, to suggest the former. Urban participation rates are lower than rural ones (see Table 7) and those of richer cities (e.g., Bogota) lower than those of poorer cities (e.g., cities of Nariño).[1] Although high unemployment rates are not generally

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[1]The cities (or groups of cities) are ordered roughly by average income, i.e., Bogota has higher incomes than the cities of Valle, and they are higher than the cities of Atlantico, etc.

TABLE 7

Relative Participation Rates of Persons 55 and Up,
By Region, 1964

	Total	Male	Female
Persons 55-64			
Urban	46.67	84.53	16.45
Rural	57.76	94.26	13.73
Bogota	44.3	81.8	18.0
Cities of Valle	46.7	84.5	12.9
Cities of Atlantico	46.5	86.5	12.9
Cities of Caldas	45.8	83.0	12.3
Cities of Boyaca	51.9	89.5	23.4
Cities of Nariño	55.9	90.0	27.1
Persons ≥ 65			
Urban	24.6	48.5	8.1
Rural	39.3	68.2	8.5
Bogota	23.1	41.6	9.3
Cities of Valle	22.9	45.6	5.9
Cities of Atlantico	25.5	53.0	5.3
Cities of Caldas	25.1	47.8	6.0
Cities of Boyaca	29.8	55.3	13.2
Cities of Nariño	36.8	63.0	17.5

Source: Population Census of 1964.

clear indicators of objective employment difficulties for the young, one might expect either high unemployment or high participation rates for older people if their economic situations were really difficult. Unemployment rates tend, however, to be relatively low for persons over 55 (see Table A-6); as we have already seen, participation rates are decreasing too.

Time series analyses of the relation between PR's and unemployment for specific age groups has not yet been carried out in Colombia. Aggregate analysis indicates a definitely positive relationship between PR's and the unemployment rate in Bogota during the period 1963-1970,[1] particularly for men.[2] The bulk of the urban unemployment is of people below twenty five years of age, and fluctuations in PR's are also more notable in that group;[3] possibly, therefore, the positive aggregate relationship observed is a reflection of the relationship existing for the young age group 15-24.

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[1] See A. Berry, "Employment Difficulties and Participation Rates in Urban Colombia," mimeo, 1973. Since it was not possible to include such standard variables as wage earnings and non-labour income, this result could be due to misspecification.

[2] This relationship is not the more commonly observed one. For a detailed discussion of U.S. findings, see William G. Bowen and T. Aldrich Finegan, The Economics of Labor Force Participation (Princeton, Princeton University Press, 1969). A long literature surrounds this issue in the developed countries, with much attention being given to the "discouraged worker" hypothesis (explaining why workers withdraw from the labour force "discouraged" when unemployment is high) and the "secondary worker hypothesis" (whereby, when unemployment strikes the family head, other members of the family, who do not usually participate in the labour force, search for a job).

[3] See Miguel Urrutia, "El Desempleo Disfrazado en Bogota," in CEDE, Empleo y Desempleo en Colombia, Universidad de Los Andes, Bogota, 1968.

Increasing Disguised Unemployment?

Many students of developing countries argue that the main under-utilization of human resources takes the form of disguised unemployment. Among the plausible contexts in which people may be working but with low social productivity are:

a) family productive units where, even if an individual's marginal productivity is quite low, he will not be sent away, because of family ties;

b) monopolistically competitive and easy entry industries like retail commerce, where a new unit can enter and without adding anything to total output, can "share the pie," i.e., earn an income.

Are these contexts increasingly prevalent in Colombia?[1]

In connection with (a), it may be argued than a decreasing share of employees (as opposed to self-employed or family workers) in the labour force would suggest, or at least be consistent with increasing disguised unemployment. An increasing share would appear inconsistent with that

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[1]Their presence would not prove underutilization, but might suggest it.

trend. In Colombia, overall proletarization seems to have increased fairly continuously since 1938; the sum of white collar and blue collar workers as a share of the male labour force was 49.7% in 1938, 52.5% in 1951, 54.5% in 1964 and 59.1% in 1970. (See Table A-7) For women, the figures were 50.0% in 1938, 67.6% in 1951, 72.3% in 1964, and 72.1% in 1970, indicating a marked increase over the 30 year period. Overall (men and women) the ratio increased from 49.8% in 1938 to about 60% in 1970. Part of the positive trend over this period was associated with the decreasing share of the total labour force found in the relatively non-proletarized agricultural sector[1] and part was due to an increasing proletarization ratio in non-agriculture--from 57.4% in 1938 to 70.0% in 1970.[2] In short, the data would not support the increasing disguised unemployment argument, if based on point (a) above.

There has, on the other hand, been a definite increase in the share of the labour force in commerce, which is both small scale and, in general, monopolistically competitive. The share of the active population engaged in wholesale and retail commerce has risen substantially--from about 5% in 1951 (also the 1938 figure) to 7.7% in 1964. DANE's 1970 household survey suggested (with a greater margin of error due to the failure to present separate figures for this category) about 8.8 - 9.0%. It is difficult, without more detailed data than available at present, to ascertain the extent to which this increase is a result of push as opposed to pull factors. Some increase

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[1]The labour force share in the primary sector was 65.0%, 55.5%, 48.9% and a little over 40% in the four years; the ratio is about the same in agriculture and in the total primary sector.

[2]Problems of comparison are introduced by--among other difficulties--the lack of the "independent workers" category for secondary and tertiary sectors in 1938.

would be anticipated in response to the development of the economy, and in particular to the increasing commercialization and trade as a higher share of goods production enters commercial channels. The goods whose commercialization is in some sense the most complex are agricultural items; as of 1954 almost one-half of the commercial sector employment was involved here; with the increasing urbanization of the population it is not obviously inefficient for an increasing share of the total population to be engaged in this type of commerce. A better test of the "safety valve hypothesis" is provided by the trend in the share of commerce in the urban labour force than in the total labour force; the figures indicate a rather gradual rise from about 10.1% of the urban labour force in 1951 to about 12.5% in 1964, and to say, 13.0 - 14.0% in 1970.

Since these figures are hard to interpret, it is useful to consider trends in size structure of commerce establishments and in wages, especially in the small shops. Rapid rises in these wages would seem inconsistent with increasing labour surplus in the sector. Commerce census data indicate for the sector as a whole an increase from an average income per paid worker in 1954 of 4,463 pesos to 5,325 in 1967 (both figures in 1954 pesos); in other words, an increase of 19.3% or a little over 1% per year. More significant, it seems unlikely that the small establishment wage earners gained less than 20% in the period in question, and not impossible that they gained closer to 50%.[1] For the interesting "food and beverages" category, where excess

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[1] It must be borne in mind that there is some evidence that wages in commerce were falling in the early fifties as the sector expanded rapidly, so increases from the 1954 base may exaggerate the gains over a slightly longer period.

labour might especially be expected to concentrate, there appears to have been a striking increase in agerage wages since 1954. In establishments with sales of less than 100,000 1967 pesos, average wage in 1954 was perhaps 2,800 1967 pesos and in 1967 perhaps 4,400 pesos, i.e., 55-60% higher in the latter year.[1] This increase is substantially above that for all paid workers in commerce and is in the neighbourhood of the real wage increase achieved by another low-skilled urban group over this period--the unskilled construction worker.

In summary, evidence of an increase in disguised unemployment is hard to find; the data rather suggest the opposite.

A Comparison with the U.S.

Table 8 presents a comparison of utilization of the urban male labour force in Colombia with the U.S. male labour force (almost all of the U.S. labour force would in Colombia be classified as urban). Due to ambiguities in the Colombian data, not too much confidence can be attached to the figures; they suggest comparable levels of utilization in the two countries. In each case about 80% of theoretically available time from the labour force is used, and about 60-65% of theoretically available time from the base population. If account were taken of the very long hours worked by some Colombians, it is likely that the figure "hours worked per urban male 15 and up" would be somewhat higher in Colombia.[2]

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[1]For details of the calculations, see the author's "Unemployment as a Social Problem in Urban Colombia," Yale Economic Growth Center, Discussion Paper No. 145, 1972, p. 108.

[2]See Table 8, Sources and Methodology.

TABLE 8

Aspects of Urban Male Labour Utilization: Colombian and the U.S.,[h] 1964 and 1970

	UNITED STATES		COLOMBIA			
			Non-Agriculture : 1964			Urban: 1970
	Total (≥ 14 yrs. except as indicated)	Age 16-64	Total Non-Agri. (≥ 15 yrs.)	Age 15-64	Seven Principal Cities	≥ 15 yrs.
	(1)	(2)	(3)	(4)	(5)	(6)
Participation Rate (Persons 16 and up)	81.9	88.2	81.3[c]	83.1		74.5
(Persons 14 and up)	78.6					
Percent of population working ≥ 50 weeks, full time[g]	52.03					
27-49 weeks, full time	10.14					
1-26 weeks, full time	6.29					
Total, full time	68.46					
Total, part time	10.06					
Percent of total possible hours which were worked[a]	63.6		≥ 62.0[d]			61.3[f]
Percent of total possible hours from people in labour force which were worked	80.96		≥ 76.2[d]		80.00[e]	82.24[f]
Percent working 48 weeks or more full time	≈68.2[b]		58.8[d]			
Full and part time	≈72.5[b]					

[a]The maximum is defined as full time activity, using the U.S. standard of 35 hours per week, 50 weeks per year for all males 14 and up (in Colombia, 15 and up).

[b]Based on interpolation.

[c]15 and up.

[d]Based on our interpretation of the meaning of the "months worked" figures in the 1964 Census, i.e., people who worked 6 days in the census week still had to say how many months they worked in the year, while those working less than 6 days had the hours worked converted to monthly terms.

[e]Average of the data for Bogota, Medellin, Cali, Barranquilla, Bucaramanga, Cartagena and Manizales. See DANE, Subempleo en las Siete Principales Ciudades del Pais, Bogota, 1969. Methodology as given in (d) above.

[f]Treating people working over 45 hours as if they worked 45 hours.

[g]Defined as "usually worked 25 or more hours per week." (ibid., p. 251).

[h]For the U.S. the total male labour force is used.

Sources and Methodology

U.S. information comes from the U.S. Department of Labor, Manpower Report of the President, April 1971.

The Colombian figures presented in col. (3) and col. (4) are from the 1964 population census; figures were not available for the urban sector per se, but are presented here for the non-agricultural sector which corresponds fairly closely to the urban sector. The figure in col. (5) is based on DANE, Subempleo en las Siete Principales Ciudades del Pais, Bogota, 1969.

Col. (6) is based on figures from DANE, Encuesta de Hogares, 1970. In estimating the percent of possible labour force hours worked, it was assumed that 2% of the male urban labour force were family helpers (ayudantes familiares) and that they worked an average of 15 hours, and that 5% of the labour force worked less than the 15 hours which was the lower cutoff point for presentation in the published figures (it was impossible to deduce how many people might have been working less than 15 hours, but since very few were working 15-21 hours, it seemed that this number would be-rather surprisingly-quite small). Average hours worked in each of the categories was calculated by applying regional weights to the hours worked distributions for each region. Many people reported working more than the standard work week (45 hours), but it was assumed here that no one worked more than 45 hours. The recorded unemployment rate of 8.8% was used.

A comparable measure to that of col. (6) is difficult to calculate for the U.S. since I have not located figures on hours worked for people who work more than the 35 hours considered standard. For production workers the Statistical Abstract of the United States indicates an average of 37.8 hours in 1968; no comparable figure is presented for white collar workers although it would probably be about the same. Meanwhile 8.61% of the non-agricultural labour force is not remunerated (use of non-agricultural labour force here introduces some inconsistency with the figures of col. (1)); if it were assumed that this group averaged 45 hours, then the average for people working full time would be only 38.5; it seems unlikely that the production worker figure includes many part time workers, so their inclusion would pull the average down.

Neither of the Colombian sources permit an accurate estimate of total hours worked, but the two results (cols. (3) and (6)) are close to each other. In the latter, not taking into account the many people who reported working more than 45 hours, and the fact that the "standard" work week was 45 hours in Colombia but only 35 in the U.S., bias down the relative utilization figures for Colombia.

Conclusions

Various factors have affected the degree of utilization of Colombia's labour resources over the last several decades. Older persons have decreased their participation, while middle aged persons (25-54) have increased theirs. Women have entered the urban labour market in increasing numbers; rural-urban migration has thus had a positive effect on participation through this channel. Open unemployment rates have risen substantially; rising unemployment appears to have been less due to a greater shortage of jobs as to higher job aspirations over time, as education has expanded.

A best guess as to the net effect on the degree of utilization of the potential productivity of human resources is that it has changed little since 1938 or 1951, though it apparently fell sometime before 1964 and subsequently rose. Such a conclusion remains subject to many qualifications and possible misinterpretations. It is widely alleged, for example, that falling P.R's, rising unemployment, and the increasing share of the labour force in services reflect increasing looseness in the labour market. Evidence in support of these propositions is not persuasive, however; a best guess is that employment is at least as easy to get now as twenty years ago. In short, it appears that overall utilization has been maintained, in spite of increasing voluntary or semi voluntary abstention from active employment; this is a relatively optimistic conclusion.

Table A-1

Labour Force Participation, By Age and Sex,
1938, 1951, 1964 and 1970

Age Category	1938 Total	1938 Males	1938 Females	1951 Total	1951 Males	1951 Females	1964 Total	1964 Males	1964 Females	1970[e] Total	1970[e] Males	1970[e] Females
10 - 14				11.63	16.85	6.19	10.03	15.63	4.29	28.29*	40.01*	16.57*
15 - 19				52.60	84.78	23.62	42.89	66.29	21.85			
20 - 24				59.15	95.40	23.87	56.35	89.79	26.26	60.39	84.70	33.37
25 - 29				57.07	97.33	20.22	56.62	95.90	21.58	62.72	96.58	28.85
30 - 34				58.75	97.90	19.02	57.31	97.01	19.85			
35 - 39				57.58	98.00	19.15	57.07	97.60	19.74	62.12	96.86	27.38
40 - 44				59.12	97.71	19.12	58.66	97.37	19.82			
45 - 49				57.47	97.32	18.23	57.48	96.92	19.32	59.47	94.40	24.54
50 - 54				57.84	96.36	17.68	57.16	95.12	18.28			
55 - 59				56.22	94.81	15.93	54.76	92.46	15.46	49.76	81.96	17.55
60 - 64				51.41	90.54	15.50	49.20	86.81	14.21			
65 - 69				48.70	85.54	12.87	40.68	71.98	11.03	30.62	52.25	9.02
70 - 74				39.17	74.02	11.16	33.26	61.93	8.99			
75 - 79				34.81	64.87	8.70	27.70	51.17	6.85			
80 and up				21.61	44.62	6.45	15.05	31.65	4.13			
15 and up	59.46-[d] 60.61	91.29-[a] 93.64	29.13[c]	55.80	93.32	20.01	53.60	87.45	20.31	52.31	81.86	25.53
15 - 64	60.48-[d] 61.69	92.13-[b] 94.59	30.10[c]	56.81	94.47	20.61	53.85	89.07	21.06	53.95	83.94	26.65

*Refers to the age group 12-19.

a) Figures for 1938 are less precise than for the subsequent years. No clear figure seems to have been published showing the active persons of less than 15 years; lower and upper limit estimates were made here. Further, I was unable to find a definition of the category "unemployed" (desocupados); they were not listed as part of the "active population" but the term "unemployed" did seem to imply that they were looking for work. For these calculations, they were both included and excluded. The lowest and highest of all the estimates resulting from all possible combinations of assumptions are the ones shown here.

b) Derived as in (a) but using the assumption that the PR for men 65 and up to PR for men 15-64 was .78 to .80. (In 1951 it was .76).

c) Female labour force was based on ECLA's total labour force estimate minus the census figure for the male force. It was assumed that 91% of the total labour force was 15-64 years of age (the 1951 figure) and that 93% was 15 and up (94.2% in 1951).

d) Derived from the male and female figures.

e) Figures for 1970 are imprecise for several reasons. When these calculations were made, the population age structure by sex and sector was unavailable, so it was assumed that, for each sex, age structure was the same in the two sectors. Finally, the total figure is an unweighted average of that for males and females. The major problem, however, lies in the fact that the sample taken by DANE in 1970 was not representative of the rural areas so the rates calculated on the basis of those figures are not reliable; degree of error, while unknown, could be substantial.

Table A-2

Urban (Municipal Seat) Labour Force Participation

By Age and Sex: 1951, 1964 and 1970

(percent)

Age	Total	Male	Female
1951			
10-14	11.2	12.8	9.8
15-19	50.2	71.6	34.8
20-24	60.1	91.8	34.9
25-34	58.6	96.6	27.7
35-44	57.6	97.2	25.1
45-54	54.5	95.0	21.1
55-64	47.0	88.5	16.3
65+	29.4	63.2	9.6
15-64	55.86	90.52	28.31
1964			
10-14	6.1	6.4	5.6
15-19	37.0*	47.6*	28.9*
20-24	57.0*	83.5*	36.2*
25-34	58.3	94.7	27.9
35-44	58.4	96.5	25.7
45-54	55.4	94.3	22.5
55-64	46.6	84.6	16.3
65+	24.8	48.7	8.4
15-64	52.49	83.07	27.64
1970			
12-19	22.8	25.9	20.3
15-19 (estimated)	33.3	38.1	29.5
20-24	58.7	76.9	44.8
25-34	64.9	95.9	39.3
35-44	64.4	96.5	35.2
45-54	60.6	93.9	30.2
55-64	47.7	77.2	20.3
65+	22.1	42.7	8.3
15-64	54.6	78.2	35.9

*It seems probable that these figures are downward biased in

(continued on next page)

absolute terms, with respect to those of 1970, and probably also those of 1951. The failure to include first job seekers in any appreciable numbers is one source of the bias; in 1970 2.3% of the age group 12-19 would fall in this category (i.e., say 12% of the labour force).

A second and possibly related incomparability between the 1951 and 1964 censuses is the higher share of individuals about whom incomplete information was gathered in 1951 than in 1964; there is a possibility that some were classified as being in the active labour force in 1951 when in 1964 they would have been classified in "other conditions of inactivity." (For a discussion of this point see Roberto Jungito, Alvaro Lopez, Alvaro Reyes and Diego Salazar, Analisis de la Estructura y Evolucion de la Fuerza de Trabajo Colombiana: 1938, 1951, and 1964 y Proyecciones de la Poblacion Economicamente Activa, 1964-1985, CEDE, Universidad de Los Andes, Bogota, 1970, p. 18.) Since the possible range of difference made by people with either incomplete information recorded or listed under "other conditions of inactivity" seems to be 5 or 6%, this could account for most but not quite all of the difference in global average participation rates.

Table A-3

Educational Level and the Participation Rates
(of Non-Students)[a]

Panel A: National, 1964

Level of Education	Total	Males	Females
None	46.8	85.9	17.1
Primary	53.5	89.3	19.4
Secondary	53.8	78.7	25.4
University	88.0	95.0	59.9
Other[b]	$\approx$ 70-75	$\geq$ 90.0	56.3

Panel B: Bogota, 1967

	Total	Males	Females
None	n.a.	n.a.	n.a.
Years 1-5	61.7	82.9	41.6
Years 6-11	66.6	94.6	43.9
Years 12-17	69.1	near 100	47.1

[a]Refers to the population of 12 years and up, for the country as a whole.

[b]Refers to technical training such as commercial, industrial, etc. The figures for this level are particularly open to question, along with those for "zero education" persons. (See sources and methodology).

Sources and Methodology: Panel A is calculated from figures presented in the 1964 population census. Several problems arose; the major one was the need to subtract from the total population (12 and up) at a given educational level those people who were still studying. Interpolations and some guess work, plus use of the not fully comparable DANE educational registration figures were used. The result for the category "none" is particularly sensitive to possible error in this methodology. Another problem was the failure of the census to present separate figures for active persons with zero education and with "other" levels; the estimates made relied primarily on the occupation of the person, which tends to be sufficiently different for illiterates and post-primary trained people as to permit this; some error undoubtedly remains however, leading to opposite biases in these two categories.

For Panel B, the methodology was more complicated and more dubious. CEDE's data on participation by number of years of schooling (Encuestas Urbanas... op. cit) required exclusion from the denominator of persons under 12 and persons over 12 but still studying. An estimate was made for each educational level of the percent of the population which would fall in one of these two categories, using the 1964 population Census (persons study by age) and the DANE educational statistics (persons studying by age and level of studies, for primary and bachillerato). The 1964 estimates were adjusted slightly to conform to apparent 1964-1967 trends for the ratios in question. While if the data were all accurate and comparable, with no sampling error in the CEDE figures, this methodology could be accurate, the number of possible sources of error suggests that it be thought of more as illustrative than reasonably precise.

Table A-4

Education and Participation - 1964

Level of Education	Number of Persons ≥ 15			Number of Persons 15-64			Number of Persons in Labour Force			Labour Force/Persons 15-64		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
None	2,664,186	1,128,546	1,535,640	2,385,980	1,009,898	1,376,082	1,364,992	1,077,843	287,149	57.21	106.72	20.87
Primary	5,468,289	2,678,018	2,790,271	5,248,253	2,569,868	2,678,385	3,111,389	2,535,785	575,604	59.28	98.67	21.49
Secondary	943,939	524,778	419,161	923,238	515,621	407,617	467,366	364,864	102,502	50.62	70.76	25.15
University	104,635	85,070	19,565	101,837	82,453	19,384	71,263	63,154	8,109	69.98	76.59	41.83
Other	147,930	68,967	78,963	145,410	67,146	78,264	119,115[a]	60,417[c]	58,698[c]	81.92	89.98	75.00[b]

Persons in Labour Force age 15-64 / Total Persons in Labour Force

Total	Male	Female
92.35	92.17	92.39

Source: Population Census of 1964, pages 85-86, 114.

[a]Assuming that of people with no education or technical education, all the professionals, etc., 80% of the office workers and 50% of the managers, et al. and the salespersons have technical education.

[b]Arbitrary guess.

[c]By deduction.

TABLE A-5

Sectoral Composition of the Female Labour Force

1951-1970

	1951		1964		1970[c]	
	Number	%	Number	%	Number	%
Agriculture	93.0	13.27	116.0	11.24	110.6	6.91
Mining	16.0	2.28	20.1	1.95	3.2	0.20
Manufacturing	157.2	24.59	179.3	17.38	351.2	21.94
Electricity, Water and Sanitary Services	0.5	0.07	1.0	0.10	3.0	0.19
Construction	1.9	0.27	3.5	0.34	8.3	0.52
Commerce, Restaurants and Hotels[a]	76.9[e]	10.96[e]	209.2	20.7	326.7	20.41
Transport and Communications	6.1	0.87	12.3	1.19	21.5	1.34
Financial Establishments	4.8[d]	0.68	13.6	1.32	28.3	1.76
Services	326.0	46.49	437.6	42.41	748.1	46.28
Maid Service	273.4[b]	38.99	400.2	38.78		
Other	18.8	2.69	39.3	3.82		

[a]For 1951 and 1964 it is assumed that the category "services rendered to the public" corresponds to the category "restaurants and hotels" in 1970.

[b]Assuming that, as estimated by the author for 1964, 81.9% of all domestic servants were women, and using an estimate of 333.7 thousand domestic servants in 1951, also made by the author.

[c]The share of the agricultural sector may be underestimated (say by 1-2%) and that of other sectors correspondingly overestimated.

[d]Based on the 1964 rate of 23.4% female/total employment in this sector and the author's estimate of 20.3 thousand persons employed in this sector in 1951.

[e]Rough estimate based on five departments for which data were available to me on "services available to the public and to companies" (5.47% of the total labour force). In 1964, 94.6% of the total for these two categories were in "services available to the public"; this percent was also applied in 1951, giving 5.17% of the total labour force.

Sources: The 1951 and 1964 population census; for 1970, DANE, Boletin Mensual de Estadistica No. 238.

TABLE A-6

Age-Specific Rates of Open Urban Unemployment: 1967, 1970
(Percentage of Active Labour Force Unemployed)

1967				1970		
Age Group	Males	Females	Total	Age Group	Males	Females
Under 15	35.1	17.9	23.4	12 to 19	21.1	16.5
15 to 24	26.2	27.0	26.5	20 to 24	14.9	18.2
25 to 34	10.3	17.7	12.8	25 to 34	7.0	12.1
35 to 44	6.8	10.8	7.5	35 to 44	4.7	6.0
45 to 54	7.5	8.4	7.7	45 to 54	5.0	4.9
55 to 64	8.6	3.1	7.4	55 to 64	4.4	6.6
65 and over	7.8	0.7	6.5	65 and over	5.3	1.7

Source: ILO, op. cit., p. 364 for 1967; DANE, Boletin Mensual de Estadistica, No. 238, p. 62 for 1970.

Table A-7

Rural[a] Participation Rates
1951

Age Categories	Total (1)	Male (2)	Female (3)	Total (4)	Male (5)	Female (6)
< 15[b]	25.31	39.21	8.56	24.21	42.09	04.51
15 - 19	54.26	92.34	14.07	50.31	85.38	11.16
20 - 24	58.24	97.96	14.03	55.55	96.65	12.26
25 - 34	57.24	98.40	13.24	55.25	98.21	11.39
35 - 44	58.58	98.44	14.28	57.13	98.45	12.46
45 - 54	59.77	97.78	15.29	59.37	97.68	14.17
55 - 64	58.33	94.95	15.10	57.76	94.26	13.73
≥ 65	45.05	76.96	11.25	39.26	68.23	08.55
Total	32.83	55.62	08.11	50.55	86.81	11.03
> 15	56.84	95.83	13.95	54.52	93.59	12.01
15 - 64	57.50	96.87	14.11	55.45	95.11	12.22

[a]"Other localities," i.e., everything but the municipal seat.

[b]Unoccupied persons are considered in the base population only if 12 or over. As a result these figures may be overestimates of the participation rate for persons 12-14, if employed persons less than 12 are included in the category "employed, < 15 years."