Table 27

"PREVIOUS WORKER" UNEMPLOYMENT RATES BY SECTOR[a]:
(percent)

Period of Sample	Sector					
	Manufacturing	Construction	Commerce	Transport	Service	Government
			Urban Colombia			
1970	10.09	15.06	10.64[a]	5.33	8.06[a]	
			Bogota			
ril 1967	17.75	24.90	16.96	15.36	9.57	13.92
rch 1966	9.6	12.9	5.6	10.7	4.4	4.8
c. 1965	3.8	8.5	6.3	9.1	3.4	3.5
pt. 1965	6.7	15.8	6.6	9.1	3.5	4.8
ne 1965	7.4	13.0	3.3	3.8	5.8	2.9
rch 1965	6.3	17.2	3.6	5.3	4.2	--
t. 1964	5.3	20.5	5.0	4.6	2.2	7.4
. 1964	6.9	11.6	3.0	8.0	1.7	5.6
ch 1964	5.2	6.8	3.2	4.9	2.0	4.5
. 1963	7.4	10.4	4.2	1.1	2.6	2.9
t. 1963	5.7	13.8	2.6	1.4	3.4	6.3
e 1963	7.4	9.4	4.3	4.4	4.1	3.1
ch 1963	7.8	9.6	3.7	3.9	3.3	8.7
			Eight Cities--Weighted Average			
7	16.00	26.49	15.24	13.85	10.87	13.24
			Cali			
ch 1965	11.6	22.1	3.9	15.4	5.8	7.9

e's 1970 Encuesta de Hogares lumped people in commerce, restaurants and motels together
hat division between commerce and services is different in this source from the others used
, where people working in restaurants and motels were included in the service sector. The
unemployment rates are presented in DANE, Boletin Mensual de Estadistica No. 238, page 63.

Table 27 continued:

Sources and Methodology: Figures for the period March 1963 through March 1966 for Bogota come from Rafael Isaza, "Occupacion y Des Ocupacion en Bogota:, _Empleo y Desempleo en Colombia,_ CEDE, Universidad de Los Andes, Bogota, 1968, page 139. It appears that domestic servants are included in the service category; since their unemployment rate is typically quite low, they helped keep that of the category as a whole low.

The April 1967 figures are Bogota are based on Isaza and Ortega _op. cit.,_ Tables 15 and 24.

The eight city estimates for 1967 are based on data in ILO, _op. cit.,_ page 366 and the weighted average unemployment rate of 15.37 for those eight cities.

The
∧Cali sample∧ is reported in Centro de Investigaciones Economicas, Universidad del Valle, _Empleo y Desempleo de la Mano de Obra en la Ciudad de Cali_ (Cali, 1965).

Table 28

"PREVIOUS WORKER" UNEMPLOYMENT RATES BY OCCUPATION
(Percent)

Sample	Occupational Category						
	Manager/ Professional	Office Workers	Sales Workers	Transport Workers	Artisans/ Operators	Manual Workers	Service Workers

Eight Cities: 1967

1967	4.46	13.09	7.41	11.26	12.92	10.15	7.12

Bogota

1970

	Manager/ Professional	Office Workers	Sales Workers	Transport Workers	Artisans/ Operators	Manual Workers	Service Workers
April 1967	4.50	14.2	6.24	13.24	12.49	10.96	6.34
March 1966	7.4	14.1	12.3	12.3	10.9	18.5	4.6
Dec. 1965	7.0	12.2	10.4	8.2	6.7	28.9	3.0
Sept. 1965	7.4	10.8	10.9	9.6	11.5	30.8	4.4
June 1965	6.7	16.4	10.8	1.4	10.7	17.2	2.4
March 1965	3.4	13.4	8.2	5.6	11.1	28.2	6.6
Sept. 1964	3.3	13.0	7.7	8.9	10.5	7.4	2.8
June 1964	3.2	14.7	5.3	12.9	9.2	5.6	3.0
March 1964	6.9	11.4	8.0	4.6	6.5	--	4.3
Dec. 1963	3.8	13.9	7.8	4.1	8.8	11.8	3.3
Sept. 1963							
June 1963							
March 1963							

Cali

March 1965	19.0	15.3	6.57	17.4	18.0	30.0	1.8

Source: Bogota samples: unpublished data, CEDE. Cali sample: Centro de Investigaciones Economicas, Universidad del Valle, Empleo y Desempleo de la Mano de Obra en la Ciudad de Cali (Cali, 1965).

Sources and Methodology: The Bogota estimates, 1963-1966 are, as in Table 27, from Isaza, op. cit. The eight city estimates for 1967 were based on ILO, op. cit., page 366 and 364 and the assumption that 2/3 of the labor force in the cities in question was male, a figure somewhat below the all urban figure for Colombia in 1964. This implied an overall previous worker unemployment rate of 10.145 for these eight cities in 1967.

The conclusion that unskilled workers do have particular employment difficulties is consistent, of course, with the very high unemployment rates for the sector construction; in Table A-8 the distribution of white collar and blue collar workers is presented by sector.

It may be argued that the social cost of unemployment reaches beyond the individuals and families directly affected, in that it may be a cause of crime and chaotic disruption. To my knowledge, no information is available on the extent to which property crimes are related to unemployment (as opposed, for example, to low income levels); the same goes for crimes against persons. Conceptually, robbery could provide a safety val ve against low income and unemployment[1]; prostitution does provide one and begging another.[2] Since robbery is monopolistically competitive by nature, as is begging, these two occupations could conceivably encompass a substantial number of people. But in fact, they do not appear to.

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[1] Police and vigilante protection against property crimes provide another source of employment for the relatively poor.

[2] Though large income and consumption differences may create a climate for robbery, it seems unlikely that its practitioners would have particularly low alternative incomes. In the case of prostitution and begging they probably would. Studies have linked economic difficulties of the family to both phenomena, e.g. Arturo Calle Restrepo, Conflictos Familiares y Problemas Humanos, Madrid, Escuelas Profesionales "Sagrado Corazon", 1964; Saturnino Sepulveda Nino, La Prostitucion en Colombia, Bogota, Editorial Andes, 1970.

It seems plausible to suppose, in short, that unemployment has a number of important negative externalities whose consideration might lead one to a more negative appraisal of it relative to poverty per se.

Ṿ. Major Policy Issues Relating to Unemployment

It may be presumed that aggregate demand policy cannot help to resolve

the unemployment problem in anything but the occasional short run period

(though policy affecting the composition of demand may well be relevant).

On the other hand, there is strong evidence that some part of unemployment

might be alleviated by more effective use of the capital stock (i.e. samller

dispersion in capital/labor ratios, etc.) -- a distribution improving policy

as we -- so this possibility must clearly be considered in detail, factor

suitability in the various sectors be analyzed, etc. Little work has as-

yet been directed to this question in Colombia, though considerably more

evidence is available when the experience of the LDC's as a whole is con' -

sidered.[1] Although evidence demonstrates the possibility of a wide variety

of factor proportions, it remains quite unclear how much the demand for labor

in a given situation can be affected by the manipulation, for example, of

factor prices. Factor proportions used in different production units in

Colombia vary greatly, so if even all of the existing technologies are con-

sidered to be alternatives, the economy as a whole has a wide range of

choice. It has been argued that some of these alternatives are   ,

and would not exist in the presence of perfect factor markets, but there

seems to be adequate evidence that some labor intensive technologies could

compete satisfactorily and even expand under perfect factor markets.[2]

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[1]See, for example, Jeffey Williamson, "Capital Accumulation, Labor Saving
and Labor Absorption Once More", Quarterly Journal of Economics, Vol. LXXXV,
February, 1971; Gustov Ranis, "Factor Proportions in Japanese Economic Develop-
ment", American Economic Review, XLVII, Sept., 1957; Howard Pack, "Employment
and Industrial Growth - Some Cross-Section Results: 1953-63", Mimeo.

[2](See next page)

[2]Although many statistical problems and difficulties of interpretation remain, it seems clear that within a given industrial sector - and sometimes for the same product or very close substitutes - the labor/ capital ratio typically varies considerably across firm size. And, at least in some sectors, it appears that the small firms with higher labor/ capital ratios are not dominated, i.e. they have higher output/capital ratios. In this connection, see John Todd, "Size of Firm and Efficiency in Colombian Manufacturing", Research Memorandum #41, Center for Development Economics, Williams College, Williamstown, Mass.; Albert Berry, "The Relevance and Prospects of Small Scale Industry in Colombia", Mimeo, 1971. These studies suggest that the capital/output ratio is substantially lower for highly capital intensive plants; it is very unlikely that the difference between that size category (there are some doubts as to which category it is) with the highest output/capital ratio and the largest plants is less than two to one. A similar phenomenon has been observed in Colombian agriculture. While other sectors have apparently not been studied in this light, it seems probable that the phenomenon is a rather general one.

Whether feasible manipulations of factor prices could have much short! or long run impact on factor proportions is, nevertheless, open to question. Other studies have purported to get at the issues, but without success. One study carried out by Planeacion suggested that the elasticity of labor/ capital substitution was high. (Departamento Nacional de Planeacion, "Breve Esquema sobre el Problema del Desempleo en Colombia," U.P.G., 022, Junio 30, 1970). This study found high elasticities of substitution in almost all two-digit sectors, but suffered from a methodological defect in that, in spite of its time series approach, no attempt was made to "take out" technological change. As a result, what was probably primarily a gradual technological change, shifting the factor proportions towards capital intensity over time, was interpreted as a high elasticity of substitution (at a point of time). The Planeacion study was criticized subsequently by another group of researchers (Juan Felipe Gaviria, Francisco Javier Gomez, Hugo Lopez, "El Uso de las Funciones de Produccion en el Analisis del Desempleo" DANE Boletin Mensual de Estadistica, #236, Marzo, 1971, a study of the Centro de Investigaciones Economicas, Facultad de Ciencias Economicas, Universidad de Antioquia).

The planeacion methodology found an over time relationship between value added per person and a variable which should approximate the wage share, a relationship whose presence was probably due primarily to the time trend in both variables. The Antioquia study criticizes the Planeacion methodology on the grounds that, among other things, it assumed perfect competition, constant returns to scale, and that entrepreneurs would vary their factor proportions on a yearly basis; the latter assumption was justifiably panned. An alternative model permitting non-constant returns to scale and assuming that each sector acts like part of a profit maximizing firm in each period was proposed. The elasticities of substitution estimated were much lower; The R^2 were generally high in both cases, perhaps somewhat higher in the CIE study.

Further, it is highly probable that serious governmental attempts to make

available more information on labor intensive techniques from other

countries -- countries like Japan -- would improve substantially the pos-

sibility of reducing the problem. Finally, it must be borne in mind that,

if factor

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2 (cont'd.) But the authors came, parenthetically, to the intriguing con-
clusion that, "...it is not possible to test economic hypotheses with
statistical tools." On the contrary, only economic theory which deter-
mines rigorously the conditions which define each economic structure --
in our case the Colombian --capable of furnishing the valid criteria of
different hypotheses.

prices were changed, the composition of output would change, and even if factor substitution were limited (in the majority of existing industries), this would not mean that it was limited for the economy as a whole.

The real problem in this context, however, is not "what would the demand for labor be had no past mistakes in the capital intensity of investment projects been made, and were the government and other institutions highly efficient in learning about and transmitting to the private sector information on labor intensive techniques used elsewhere?" The more practical questions are: (a) "How much would manipulation of factor prices affect the demand for labor given that much capital is now installed, a substantial learning process has been effected in the use of capital intensive techniques but (probably) less in the use of potentially productive labor intensive techniques, and the information apparatus of the private and public sectors in terms of labor intensive technological change is quite retarded?" and (b) What other policy steps could be taken to foster demand for labor and with what success? There are practical problems with respect to the manipulation of factor pricss and improvement of factor markets, which might limit the extent of achievement possible; though it seems clear that policy should move in this direction to the extent feasible and consistent with other objectives, it remains very open to question how much will be achieved. It is, correspondingly, important to consider complementary steps such as extension services to aid in technological change and adaptation, etc.

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[1]The possible desirability of lowering the wage rate in certain sectors might suggest a conflict with income distribution policy. It is usually held that an equilibrium wage rate (as opposed to a protected wage in a favored

subsector and an equilibrium one in the rest of the system) would improve
the distribution of income within the working class, but it is a question
of definition whether it would improve the overall distribution. There
is some dispute as to whether above equilibrium salaries really do worsen
the distribution within the working class, one group maintaining that
intra-family distribution between those with above qquilibrium wages and
those without tends to smooth off the differences. This proposition seems
inapplicable to Colombia, even though it may have merit elsewhere.

VI. Resolution of Unemployment Problems and Improved Distribution of Income

Competitive or Compementary?

The above discussion suggests that if all options are open and broad manipulative powers are available to the government, there should not be serious conflict between the goal of reducing at least some forms of unemployment, the goal of improving income distribution, and the goal of output growth. Labor intensive firms (high $^L/K$) are almost by definition intensive in blue collar labor and usually in relatively unskilled (at least relatively low paid) labor. This being the case, increased emphasis on such firms and technologies should raise output (with given capital stock), improve distribution and raise the demand for low income labor. It seems probable that the packages of alternatives which are available to unconstrained policy makers would form a series of points like those plotted in Diagram 6. Under such conditions, only the points on the frontier are relevant, the rest being dominated. If, as suggested by the widesppread evidence of current inefficiency of resource allocation, the economy is well inside even its static frontier, and many feasible output-employment combinations would imply an increase in both variables, it is in this sense that the trade-off between the two goals, as between feasible points C, D, and E, is not too great an issue; this is especially the case when uncertainty as to the effects of particular policy packages is allowed for;the possible results of a given package would be viewed as a probability distribution,(but with rather subjective probabilities).

Where policy is constrained, for example, by the absence of much
flexibility in terms of choice of size structure, there may be trade-
offs, so it may be of interest to consider their seriousness. Given real
world technical and political difficulties in achieving optimal policy,
it seems most likely that alternatives considered are well within the
frontier; secondly, only a few of the feasible alternatives are likely to
be considered and these are likely to include a range of points not all
in the first quadrant, e.g. points like R, S, and T. The political and
technical constraints are likely to imply the inevitability of consideration of
rather extreme points. Possibly, all points considered will be dominated
in terms of both objectives by many of the points on the frontier. When
points like R, S, and T are the ones under consideration, there is an im-
portant goal trade-off choice to be made, and the detailed characteristics
of the social welfare function are required to decide the issue. It
seems, however, that from the economists' point of view, it may be most
fruitful to emphasize the possible existence of points further out than
any of those being considered, i.e. points which have both better employ-
ment and output characteristics. [1]

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[1] The characteristics of factor proportions and output/capital ratios
across firm sizes, mentioned above, suggest strongly that such points as
C, D, and E do exist; the first order of business would seem to locate
them and relate policy to them, and a second order to consider possible
trade-offs of optimal or near optimal (i.e. frontier) points.

The interpretation presented above of a substantial segment of
Colombia's unemployment, which related it to a gap between aspirations
and possibilities of many people with some secondary school or completed
primary—people who aspire to jobs which would give them incomes in the
top quarter or third of the distribution, does suggest the possibility of
an inconsistency over the next decade or so between policies designed to
improve the distribution of income and policies designed to alleviate the
unemployment of this middle-class group of aspirants to white collar jobs
and standards.

Just as different industries nnd sectors vary in terms of their cap-
ital labor ratios and the functional distribution of income between labor
and capital which they generate, they also differ - and quite widely in
some cases - in terms of the relative proportions of the relatively low-
skilled blue collar labor and higher skilled and white collar labor. To
the extent that unemployment is a middle-class or aspiring middle class
phenomenon, and to the extent, as is possible, that the political power of
this group is greater than that of the lower income workers (usually un-
organized), it is not implausible to anticipate that, deliberately or not,
there will be an increasing tendency to focus on the creation of jobs in
the higher skilled and white collar categories, rather than the lower
skilled categories. That would be a natural reaction to political pressure.[1]

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[1]This presumes a fairly refined reaction on the part of decision makers
to pressures. It would probably not be a valid interpretation of the way
Colombian decisionmaking currently takes place. To the extent that indus-
trialization has gradually veered toward white collar and high skilled blue
collar job creation, this has probably been a side effect of other forces -
the fact that, of necessity, low skill industries evolved first, the rela-
tionship between capital intensive and "high income labor" intensity. But the
increasing pluralism of the Colombian political system suggests that it could
become possible in the future. A more direct reaction to the situation, and
a continuing characterisitic of the political system, is for these people
to try to attain jobs in exchange for rendering services to a particular
political faction. (This is a major thread in Payn's interpretation of the
political process in Colombia. See James Payne, Patterns of Conflict in
Colombia, New Haven, Yale University Press, 1968). The excess supply gen-
erates pressure to create non-economic demand for it in any sector where
such featherbedding can be maintained. The low level of competition in some
areas of the economy suggests that there probably is some of this in a number
of sectors, though its quantitative magnitude is far from clear.

Leaving the upper income group aside for the moment, it is clear that such a policy,(while the broken aspirations of this group may in many cases be personal tragedies), would be a distribution-worsening one, since these people are far from the bottom of the distribution. Industries like chemicals and petro -chemicals (with 60 and 53% respectively of total labor income going to white collar employees and a considerable share of the rest to quite high income blue collar workers, especially in petro-chemicals) may not represent a conscious following of this policy, but it is interesting that they appear to be consistent with it. (These industries create very low blue collar worker shares.)

Contributing importantly to the problem just cited have been the relatively rapid expansion of secondary education, in large part reacting to heavy demand from the people (as reflected in the increasing share of students attending private schools) combined with the continuing antipathy to blue collar work as something demeaning, "lower class", and so on. If one treats the continued rapid expansion of secondary education and this cultural attribute as constants, Colombia's real comparative advantage will gradually shift away from hightly blue collar intensive sectors to sectors where higher skilled labor and white collar labor is a substitute for capital. Precisely what sectors these might be remains to be seen, but if development were forced into this mold, it seems probable that substantial growth potential would be lost in the process[1].

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[1] In fact, much experience from other countries (and a little in Colombia) suggests that attitudes toward different occupations are rather flexible, so that if unemployment remains a problem over a period of time, or excess supply in an occupation pushes incomes down, the attitudes will gradually -- perhaps even quickly -- change. If, before they have, however, they lead to policy measures being taken to increase the opportunities for the group in question, e.g. making its qualifications required for various types of jobs, then the forces which would otherwise have helped to erode the attitudes may be weakened; the attitudes may, in other words, be self-perpetuating.

The relationship of rural-urban migration to the unemployment question
was discussed above. The Colombian experience seems consistent with an inter-
pretation whereby that flow is self-regulatory and tends not to reach propor-
tions such as to make it an important direct causal factor in unemployment.[1]
As observed above, unemployment rates for immigrants to the city are lower
than for native born, even after standardization for age - a striking phenom-
enon given the lower educational level (for a given age) for the immigrants.
It remains possible that some part of the unemployment is related to excess
competition provided by immigrants, but it seems unlikely that a high share
of it could be explained that way. Overall our interpretation of unemploy-
ment tends to suggest that if rural-urban migration flows were to increase,
while it would become more difficult to get a satisfactory job, the major
manifestation of this would not be a high enemployment rate, but low incomes,
flooding of some easy-entry sectors, and so on. The rural-urban migration
issue is, in any case, complicated, and it is not yet clear what policy

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[1]It could hardly be denied that if the migratory flow gets out of line
with the potential for relatively low skilled jobs in the city, it might lead
to unemployment. But the evidence does not suggest this.

whaiable would affect this flow.[1] And many factors not yet quantified should

go into the estimation of the optimal migration rate; among the important

ones would be (a) the impact of the migration on the rate of population

growth, (b) the relative ease and cost of educating people in urban, as

opposed to rural, areas, (c) the relative externalities of a person in the

two settings, (d) relative savings rates, and so on.

Perhaps the most promising avenue for policy designed to alleviate that

extreme form of unemployment which is related with low incomes (and to alleviate

the low incomes at the same time) lies in improved international trade policy.

Evidence for this comes both from the international realm – where such countries

as Korea and Taiwan have rapidly increased employment in the urban and indus-

trial sectors via their dramatic export booms –and from general principles con-

sistent with observation in Colombia, that the import substitution industries–

especially those of the later import substitution period – are highly capital

intensive, whereas some of the obviously export potential industries like

wooden furniture, clothing, and so on tend to be labor intensive.[2]

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[1] The impact, for example, of expanded rural education seems confused;
it increases the attractiveness of rural life, but may also encourage emigration
by increasing ease of communications, aspirations, etc.

[2] In this connection, see Unidad de Integracion Economica, Departamento
Nacional de Planeacion, Recomendaciones Concretas de Politica contra el Desem-
pleo, Documento U.I. E. - ool, Febrero, 1971. This and other Planeacion docu-
ments have discussed a variety of possible policy measures, including subsidies
to labor. It has been observed that since the elasiticity of demand for labor
is likely to approximate one in the public sector and in public works, it is
particularly important to be careful in fixing public sector salaries. An-
other suggestion is to increase tax deductions for salary payment. Another is
to restructure the CAT so that it will not discriminate against small firms.

The usual combination of stimuli for exports seems appropriate here, i.e a closer to equilibrium exchange rate, good credit facilities, and perhaps, especially, the provision of certain complementary services like information and improved commercialization, services particularly relevant to the small scale producer whose output is exported. It might be noted also that the chances of improving the "income-distribution-employment" situation would appear from some points of view to lie more in trade with the developed countries than with the less developed ones; this proposition is plausible both on theoretical and empirical grounds at present.[1] But the restrictions placed on this trade by the developed countries do constitute a barrier and both options should no doubt be pursued.

One interesting idea is that of creating large labor intensive firms. Given what we know of the relationship between capital intensity and size, this could be a difficult undertaking, but it would be worth considering the experience in Ecuador where a large furniture plant is being initiated with the express goal of exporting. The problems of the small scale exporter are well documented, so size, either at the producer or the commercialization

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[1]With respect to the latter, see the Study on Mexico by John Sheahan... and others. Comparative advantage with respect to the developed countries of an LDC seem particularly likely to be related to labor intensity, whereas in trade among less developed countries, this would, for any given country, be less likely, with such aspects as natural resources, the particular history of growth, and so on, becoming relatively more important.

level seems important. More understanding of why large firms are so consistently capital intensive is necessary; if this tendency is due largely to their functioning in protected markets, the export orientation could resolve a good part of the problem.

Another possible policy direction involves improvements in the efficiency of the functioning of the labor market. Many imperfections (e.g. those caused by unions, firms having monopsony power in the market, etc.) may be constants in the situation, but informational problems, lack of good advice, etc. may be more avoidable.

The evidence does suggest that most labor markets[1] function fairly well in the sense of generating wage rates reasonably close to the equilibrium level, and therefore clearing without too long delays. This seems to be the case in the unskilled labor market where minimum wage legislation and especially fringe benefit legislation has not been too widely applied. As between agricultural workers and urban construction workers,[2] there is usually a fairly small differential (20 to 40 per cent) part of which may be due to cost of living differences (although this is not clear) and the evidence suggests that the flow of rural to urban migration adjusts fairly quickly to keep this differential within reasonable bounds over time.

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[1] i.e. the markets in which most individuals find their jobs.

[2] Minimum wage legislation (and more importantly, the fringe benefits) is not generally applied in agriculture; the same is true in construction where a subcontracting system permits the avoidance of the fringe benefits. (The minimum wage itself is not so much of a problem, since it has not normally been above even the unskilled construction worker wage in recent years.

It is not so easy to see how well markets work for skilled blue collar workers and white collar workers in general. Over the long run, there does appear to be a relation between wage rates and the state of the market; the increasing supply of people looking for white collar jobs has, over the last fifteen years, lowered the white collar/blue collar wage ratio in manufacturing and this is suggestive. In general, however, it may well be that in these more complicated and narrower markets, it takes some time for excess supply to have its impact.

It is unclear the extent to which institutions designed to direct people to sectors where demand for labor exists could contribute to relieving the unemployment problem for blue collar groups, especially the unskilled. For the relatively homogeneous labor supply which becomes available for work on construction, small scale industry, etc., it appears, at first sight, that not much could be anticipated here—that, in fact, the basic problem is not one of lack of information with respect to demand, but lack of demand. It is also true, however, that most people develop skills over time; in construction, for example, a reasonable share of the originally unskilled workers gradually move to higher skill classifications; the same goes for workers in small scale industry. Although the individual may be as well informed on where he can obtain employment in the short run as anyone else, an institution which would guide him toward sectors where the skills he learns in the next few years will have greater long run productivity might make a contribution. It is not clear how such an institution would function, or what leverage it could have over the decision process of individuals. So few studies have been done with respect to occupational patterns over life, occupational immobility at various

levels of experience, etc. as to make this a difficult problem to handle.

Recent empirical evidence suggests also that there is substantial turn-over of labor in middle sized manufacturing firms; possibly better institu-tions would permit more efficient reallocation of labor among firms over time

Given that some part of this white collar unemployed pool involves special-ized people , the policy option of improving information might be a productive one. It appears, hoever, that much of this labor force is also rather homo-geneous, but simply at a higher educational and aspiration level than the un-skilled blue collar aspirants. In such an event, institutions designed to bring demand and supply together may not provide too much of the answer. Per-haps, though, the increasing complexity of the economy over time would make such an institution more important.

Among the institutions evolved to aid in better use of human resources in the U.S. and other developed countries are (a) information exchanges, (b) retraining programs, (c) educational programs (formal and informal) designed to counsel individuals to choose areas of good demand and supply the education necessary for them to do so.

On the surface, at least, it would seem that this last function probably offers the greatest potential in a country like Colombia. The main institu-tion which now embodies the function of technical and practical training is SENA; financed by a payroll tax and employer contributions, it has now grad-uated a large number of people and constitutes a good test case of the poten-tial of this line of activity. But its contribution is hard to evaluate. To some extent it has substituted for (perhaps with an increase in efficiency) a learning by doing process which would otherwise occur in the firm. In some

cases, it has gone overboard and produced more people than necessary with a certain type of preparation. In general, the objective appears to have been to prepare people for the large scale firms; this is natural, since it is they who send people to SENA and they who support it financially. But there is serious question, given the employment records of the large scale firms in the past, of whether they can make a substantial contribution to the overall employment problem. Employment has been expanding more rapidly in the last six or seven years in small scale than in large scale industry, as nearly as can be made out, and it would appear to be here, where the individual firm has less of a chance to undertake and finance its own training, that such an institution could make an important contribution. SENA (and several other institutions, as well) have, in the last few years, moved into the area of advising small firms on management, etc., but insufficient time has elapsed to permit an evaluation of these programs. For the most part, they are not specifically aimed at training individuals, but at improving the functioning of the firm. It may well be that this sort of contribution is the key one. Some people have argued in developed countries that macro economic (monetary and fiscal) policy is more important in terms of achieving a solution to the employment problem than is retraining, etc. Such a position could not be held in a country like Colombia, but a somewhat parallel one could be - that   macro type employment policy of the sort which attempts to distinguish sectors and types of firms with high employment generating capacity and then design institutions to help their progress might be a more productive direction than one which attempts to attack the problem in terms of the individuals who have employment problems.

Table A-1

Open Unemployment in Twelve Colombian Cities, 1963-69
(Percentage of Active Labor Force Unemployed)

Year	Bogota	Medellin	Cali	Barranquilla	Others
1963					
March	8.7*	-----	-----	-----	-----
June	9.0*	-----	-----	-----	-----
September	7.7*	-----	-----	-----	9.9 1/
October	-----	-----	-----	-----	-----
November	-----*	12.8	-----	-----	8.9 1/
December	7.4*	-----	-----	-----	
1964					
March	7.0*	13.6	-----	-----	8.6 1/
June	7.5*	-----	-----	-----	6.9 1/
July	-----*	13.6	-----	-----	
September	7.7*	-----	-----	-----	8.5 1/
November	-----	11.3	-----	-----	
December	-----	-----	-----	-----	8.3 1/
1965					
March	9.2	12.0	13.2	-----	-----
June	8.8	-----	-----	-----	-----
July	-----	10.7	-----	-----	-----
September	9.7	-----	11.8	-----	-----
November	-----	9.7	-----	-----	-----
December	8.0	-----	-----	-----	-----
1966					
March	10.1	10.6	-----	-----	-----
June	11.6	-----	-----	-----	-----
July	-----	11.5	-----	-----	11.0 2/
August	-----	-----	-----	-----	-----
September	9.6	-----	-----	-----	-----
December	9.2	-----	-----	16.0	-----
1967					
January	-----	10.9	-----	-----	-----
March	-----	-----	-----	-----	-----
April	16.1	-----	-----	-----	13.1 3/
May	-----	-----	14.9	-----	
June	12.7	-----	-----	-----	
September	10.6	-----	-----	-----	9.8 4/
October	-----	14.5	-----	18.4	17.4 5/
					10.8 6/

(cont.)

Table A-1 (cont.)

Year	Bogotá	Medellín	Cali	Barranquilla	Others
1968					
March	13.5	----	----	----	----
May	----	----	14.9	----	----
June	11.6	----	----	----	9.9 [7]
September	11.2	----	----	----	----
December	9.8	----	----	----	----
1969					
March	11.0	----	----	----	----
April	----	----	----	----	7.5 [8]
June	11.6	----	----	----	----
July	----	----	----	----	8.5 [1]
September	8.9 [9]	----	----	----	----
December	6.9	----	----	----	----
1970					
March	8.8				
June	7.9				

*Adjusted upwards from the CEDE estimates according to the bias calculated by Robert Slighton, Unemployment..., op. cit.

[1] Girardot. [2] Pereira. [3] Ibagué. [4] Bucaramanga. [5] Manizales. [6] Popayán.

[7] Cúcuta. [8] Barrancabermeja. [9] Provisional result.

Sources: ILO, op. cit., pp. 362-3 and originally from CEDE, University of the Andes; Economic Research Centre (CIE), University of Antioquia; Centre for Research on Economic Development (CIDE), University of Valle; Economic Research Department (DIE), University of Atlántico.

Table A-2

Age Specific Unemployment Rates, 1970, By Sex,
Type of Unemployment and Rural/Urban.

Age	URBAN			RURAL		
	Cesantes	Aspirantes	Total	Cesantes	Aspirant	Total
			MEN			
12-19	8.1	13.0	21.1	2.3	3.1	5.4
20-24	8.9	6.0	14.9	3.4	1.4	4.8
25-34	5.8	1.2	7.0	2.3	0.1	2.4
35-44	4.6	0.1	4.7	1.7	-	1.7
45-54	5.0	-	5.0	1.2	-	1.2
55-64	4.4	-	4.4	1.0	-	1.0
65- +	4.8	0.5	5.3	1.5	-	1.5
			WOMEN			
12-19	4.9	11.6	16.5	6.7	17.2	23.9
20-24	9.3	8.9	18.2	8.5	3.3	11.8
25-34	7.7	4.4	12.1	3.9	2.7	6.6
35-44	4.2	1.8	6.0	2.8	3.3	6.1
45-54	3.1	1.8	4.9	2.4	-	2.4
55-64	4.0	2.6	6.6	1.5	-	1.5
65- +	1.7	-	1.7	2.4	-	2.4

<u>Source</u>:

The figures are from DANE, <u>Boletin Mensual de Estudistica</u> #238, p. 62.

Table A-2a

Occupations Sought By Open Urban Unemployed, 1967
(Percentages of those in each category)

Occupation Group[1]	Previous Job Holder	First-Time Job Seeker	Total	Employed Labour Force
Professional	3.1	5.4	4.0	7.4
Executive	0.7	0.3	0.6	1.8
Clerical	19.2	34.0	24.5	14.4
Sales staff	10.7	19.0	13.6	15.1
Rural Workers	1.3	0.1	0.9	2.0
Miners	0.4	0.3	0.3	0.3
Transport Workers	6.4	1.9	4.7	5.7
Craftsmen	40.1	23.1	33.5	30.5
Labourers	2.4	3.1	2.7	2.4
Service Workers	10.8	9.1	10.3	8.8
Domestic Servants	1.9	0.8	1.6	9.9
Defence and Police	0.3	-	0.2	1.0
Others	2.7	2.9	2.7	0.7
TOTAL	100.0	100.0	100.0	100.0

[1]As described by respondent.

Source:

ILO, op.cit., pg. 366; weighted average from city data in tables
14 and 21 of CEDE Encuestas Urbanas de Empleo y Desempleo, op.cit.

Table A-2b-

Selected Growth Rates for Years When Unemployment Data Available

	1949 & 1950 (average)*	1951	1962	1963	1964	1965	1966	1967	1968
Gross Domestic Product (market prices)	4.85	3.12	5.41	3.29	6.17	3.60	5.35	4.20	5.8
Gross Domestic Product of Non-Agriculture (market prices)	9.4	4.26	6.43	4.56	6.40	6.40	6.19	3.83	5.68
Gross National Income (market prices)	9.43[1]	3.14	5.26	2.84	8.90	2.598	5.22	3.04	
Industry	10.52	3.14	6.8	4.7	5.9	4.6	6.6	3.5	6.1
Estimated Unemployment Rate in 4 Largest Cities		4-7[2]	11	11	10.5	11.5	14	13	11

(Non-Agriculture bracketed averages: 1962-63 → 5.50; 1964-65 → 6.33; 1967-68 → 4.76)

(Industry bracketed averages: 1962-63 → 5.8; 1964-65 → 5.7; 1967-68 → 4.8)

* Based on ECLA data (United Nations, Analyses and Projections..., op. cit.).

[1] Gross National Product (Gross National Income data not available)

[2] No comparable data is available for this year; hence the high uncertainty. See the discussion on page 14.

Sources: Output data from Cuentas Nacionales except for 1949-50 when it comes from the ECLA study.

Unemployment data from the sources cited in Table A-3 for 1963-69 and from the 1951 population census (data adjusted) for 1951.

Table A-3

Distribution of Urban Unemployed by Length of Time Seeking Work, Occupation, and Previous Work Experience, 1967

Period of Unemployment	Professional	Executive	Clerical	Sales Staff	Transport workers	Craftsman	Laborers	Service Workers	Domestic servants	Others	Total[a]	1970 Urban Colombia
All workers												
Total	100	100	100	100	100	100	100	100	100	100	100	100
5 weeks or more	78	57	75	77	74	73	85	73	57	89	74	73
3 months or more	53	43	50	53	41	48	67	51	33	63	50	49
1 year or more	23	--	26	26	14	23	46	27	19	16	25	≈ 10 or less[b]
Previously employed												
Total	100	100	100	100	100	100	100	100	100	100	100	
5 weeks or more	78	50	70	74	74	71	81	70	50	83	71	
3 months or more	52	50	47	49	42	45	67	48	28	58	46	
1 year or more	26	--	23	22	12	20	52	24	17	17	22	
First-time job seekers												
Total	100	100	100	100	100	100	100	100	100	100	100	
5 weeks or more	80	100	81	79	75	80	92	79	100	100	81	
3 months or more	55	--	54	57	38	58	67	58	67	71	56	
1 year or more	20	--	29	30	25	32	33	33	33	14	30	

[a]Includes mining and "rural workers" living in cities.

[b]The source for 1970 did not have a category for 1 year. Only 15.6% had been unemployed more than 33 weeks, so from this the figure presented here was guessed.

Sources: For 1967 figures ILO, op. cit., p. 365, and originally cited as "weighted average of CEDE data from eight cities in 1967; original data from table 9 in Encuestas Urbanas de Empleo y Desempleo, op. cit., Apendice estadistico, July 1968.

For 1970, based on tabulados of DANE, Encuesta de Hogares, 1970.

Table A-3a

Distribution of Unemployment By Length of Time
Seeking Work, Region, and Rural-Urban

	Total	5 Weeks Or More	9 Weeks Or More	25 Weeks Or More	33 Weeks Or More
Region #1					
Total	100	80.14	66.45	36.34	22.60
Urban	100	80	65.58	36.22	23.80
Rural	100	79.49	58.98	33.36	15.38
Urban: Men	100	74.65	59.16	25.37	19.71
Urban: Women	100	91.18	88.24	58.84	32.35
Urban Rate- Men	9.10	6.79	5.38	2.31	1.79
Urban Rate- Women	14.89	13.58	13.14	8.76	4.17
Region #2					
Total	100	73.78	54.11	32.82	14.75
Urban	100	69.77	52.81	34.80	10.86
Rural	100	86.67	60.01	26.69	26.69
Urban: Men	100	68.75	50.00	31.26	9.37
Urban: Women	100	71.43	57.15	42.87	14.28
Urban Rate- Men	4.45	3.06	2.23	1.39	0.42
Urban Rate - Women	5.49	3.92	3.16	2.35	0.78
Region #3					
Total	100	84.85	69.70	35.62	18.18
Urban	100	85.39	70.01	35.41	17.69
Rural	100	50.00	50.00	50.00	50.00
Urban: Men	100	84.34	68.68	19.74	14.45
Urban: Women	100	87.24	72.35	48.96	23.40
Urban Rate - Men	10.40	8.77	7.14	2.05	1.50
Urban Rate - Women	16.87	14.71	12.21	8.26	3.95
Region #4					
Total	100	57.45	39.02	9.26	2.12
Urban	100	63.42	46.35	17.10	11.38
Rural	100	53.13	37.51	18.77	9.37
Urban: Men	100	64.36	48.52	16.84	12.87
Urban: Women	100	59.10	36.38	18.20	4.54
Urban Rate - Men	9.67	6.22	4.69	1.63	1.24
Urban Rate - Women	9.29	5.49	3.38	1.69	4.22
Region #5					
Total	100	61.16	50.37	19.45	12.23
Urban	100	66.67	55.22	22.94	14.58
Rural	100	46.35	36.60	7.34	2.43
Urban: Men	100	61.30	45.18	16.16	11.29
Urban: Women	100	76.48	73.54	35.32	20.58
Urban Rate - Men	800	4.90	3.61	1.29	0.90
Urban Rate - Women	9.81	7.50	7.21	3.40	2.02

Total Country				
Total	69.98	54.26	25.23	13.04
Urban	73.68	53.06	28.83	15.88
Rural	67.02	48.41	21.76	14.44
Men	70.88	54.79	20.75	13.85
Women	78.19	66.02	41.35	19.41
Rate Urban Men	5.28	4.89	1.77	1.24
Rate Urban Women	12.12	8.43	5.34	3.23

Sources and Methodology

The figures come from tabulados of DANE's Encuesta de Hogares. The tabulados
indicate clearly a rounding phenomenon in reporting of weeks unemployed,
so an attempt has been made here to choose numbers of weeks at which this
problem may be relatively less serious; the only numbers which might suffer
from a serious bias are those referring to "25 weeks or more"; since a large
number of people reported 21-24 weeks of unemployment (in some regions almost
no one reported 25-28), it is quite possible that this figure is downward
biased.

Table A-4

The Extent of Urban Work Opportunities, 1967

(Percentage of Active Urban Labour Force)

	Total	Males	Females
1. Open unemployment (persons without work and seeking it)	14	12	19
2. Disguised unemployment (persons without work and who would probably seek it if unemployment were much lower)	$(7)^1$	10	$-^2$
3. Open underemployment[3] (persons working less than 32 hours per week and seeking to work longer)	2	2	1
4. Disguised underemployment[3] (persons working less than 32 hours per week, who would probably seek longer hours if the opportunity were available)	3	2	4
TOTAL[4]	$(25)^1$	25	$(25)^1$

[1] Incomplete total (see note 2).

[2] No estimate possible but probably substantial.

[3] The proportion of the labour force working less than 32 hours a week is larger than this figure which is obtained by expressing the number of hours of underemployment in units of 48 hours (i.e. in its full-time equivalent) before the percentage is worked out.

[4] Totals may differ from the sums of items because of rounding.

Source:
        ILO, op.cit., pg. 18; based on CEDE's 1967 surveys of eight of the largest cities.

Table A-5a

Percentage Distribution of Population by Occupation Position, Age and Sex

1951

Age Group		Employers	Independ. Workers	Family Helpers	White Collar W'krs.	Blue Collar W'krs.	Others	Participation Rate	Non-Participation Rate	No. of People	Economically Active
15-24	Total	0.96	6.63	9.28	12.75	22.18	4.27	55.72	44.28	2,233,462	1,244,511
	Men	1.87	9.33	17.73	10.78	42.17	8.14	90.02	9.98	1,077,496	970,091
	Women	0.11	3.40	1.40	14.60	3.55	0.66	23.72	76.28	1,155,966	274,420
25-34	T	5.28	14.08	3.29	12.01	21.10	2.03	57.80	42.20	1,536,103	888,019
	M	10.32	23.63	5.71	14.05	40.26	3.60	97.57	2.43	751,550	733,447
	W	0.47	4.93	0.97	10.04	2.75	0.52	19.68	80.32	784,553	154,572
35-44	T	9.36	18.86	1.40	9.72	17.13	1.75	58.23	41.77	1,140,088	663,929
	M	17.74	31.67	2.04	11.14	32.22	3.03	97.84	2.16	566,120	554,083
	W	1.08	6.58	0.78	8.33	2.24	0.48	19.49	81.51	573,968	109,846
45-54	T	11.70	21.20	0.78	8.02	14.19	1.74	57.65	42.35	748,921	431,719
	M	21.64	35.67	0.92	9.01	26.60	2.99	96.83	3.17	376,682	364,814
	W	1.65	6.55	0.64	7.03	1.62	0.48	17.97	82.03	372,239	66,905
55-64	T	12.50	21.66	0.64	5.96	11.28	1.71	53.77	46.23	440,342	236,773
	M	23.18	37.58	0.80	6.42	21.69	3.01	92.68	7.32	217,682	201,805
	W	2.07	6.10	0.49	5.51	1.10	0.44	15.70	84.29	222,660	34,968
65+	T									351,338	134,613
	M									159,932	114,893
	W									191,406	19,720
15-19	T	0.30	4.25	11.25	11.92	20.13	4.75	52.60	47.40	1,150,484	605,137
	M	0.56	5.83	22.00	8.46	38.66	9.27	84.78	15.22	545,073	462,138
	W	0.06	2.83	1.57	15.04	3.44	0.69	23.63	76.37	605,411	142,999
20-24	T	1.38	6.94	5.93	11.00	20.12	3.10	48.47	40.96	1,082,978	639,374
	M	3.23	12.92	13.36	13.15	45.77	6.99	95.42	4.58	532,423	507,953
	W	0.17	4.04	1.22	14.13	3.68	0.64	23.88	76.12	550,555	131,421

Table A-5a (cont'd.)

1964

Age Group		Employers	Independ. Workers	Family Helpers	White Col. lar W'krs.	Blue Col- lar W'krs.	Others	Activity Rate	Inactivity Rate
28-37	Total	4.89	15.82	1.83	16.01	17.89	0.64	54.44	45.56
	Men	9.46	27.99	2.69	20.95	34.69	1.13	96.91	3.09
	Women	0.65	4.56	1.04	11.44	2.33	0.19	20.21	79.79
38-47	T	7.68	19.82	1.01	12.63	16.31	0.52	55.52	44.48
	M	14.31	34.01	1.04	16.18	30.88	0.89	97.03	2.97
	W	1.22	6.02	0.97	9.18	2.13	0.16	19.68	80.32
48-57	T	9.35	21.69	0.72	10.24	14.22	0.52	54.31	45.69
	M	17.03	36.83	0.61	12.88	26.74	0.91	95.00	5.00
	W	1.60	6.42	0.83	7.58	1.61	0.13	18.17	81.83
58-67	T	9.19	20.67	0.55	6.98	10.96	0.46	46.72	53.28
	M	17.17	36.65	0.54	8.67	21.41	0.83	85.27	14.73
	W	1.59	5.46	0.55	5.37	1.01	0.11	14.09	85.91
68-77	T	7.21	15.69	0.39	3.91	6.88	0.21	33.06	66.94
	M	13.97	29.20	0.48	4.74	14.08	0.36	62.79	37.21
	W	1.25	3.80	0.31	3.18	0.54	0.074	9.15	90.85

Methodology: Interpolation between these age categories in the 1964 census, part of which fall in a given cohort as defined in 1951. Thus the figures for the 28-37 cohort (the 15-24 cohort in 1951) are a weighted average of those for the 25-34 and 35-44 cohorts in 1964.

Table A-5b

Percentage Distribution of Population by Sector, Age and Sex

1951

Age Group in 1951		Population (Number)	Agriculture	Extractive	Transportation	Construction	Elec., Gas, Water	Commerce	Trans., Comm.	Services	Other	Active	In-active
< 15	Men	2,429,797	3.047	0.048	0.337	0.101	--	0.149	0.080	0.735	0.247	4.745	95.255
	Women	2,348,458	0.138	0.016	0.170	0.003	--	0.026	0.006	1.352	0.025	1.736	98.264
	Total	4,778,255	1.617	0.032	0.255	0.053	--	0.089	0.044	1.039	0.138	3.266	96.734
15-19	M	545,073	57.450	0.903	8.822	2.992	0.134	3.207	2.432	5.673	3.173	84.785	15.215
	W	605,411	1.886	0.370	5.339	0.056	0.013	1.188	0.209	13.941	0.620	23.620	76.380
	T	1,150,484	28.211	0.622	6.989	1.447	0.070	2.145	1.262	10.023	1.829	52.598	47.402
20-24	M	532,423	56.961	1.414	11.126	4.190	0.339	4.015	4.678	9.581	3.098	95.404	4.596
	W	550,555	1.815	0.456	6.076	0.075	0.024	1.595	0.320	12.769	0.741	23.871	76.129
	T	1,082,978	28.926	0.927	8.559	2.098	0.179	2.785	2.463	11.202	1.900	59.039	40.961
25-44	M	1,317,670	58.527	1.809	10.468	4.773	0.424	5.671	5.079	7.220	3.742	97.713	2.287
	W	1,358,521	2.642	0.518	4.820	0.056	0.017	1.409	0.171	9.300	0.531	19.464	80.536
	T	2,676,191	30.158	1.154	7.601	2.378	0.217	3.507	2.587	8.276	2.112	57.991	42.009
45-64	M	594,364	64.033	1.162	7.290	4.005	0.284	6.007	2.647	6.000	3.903	95.332	4.668
	W	594,899	4.315	0.524	3.199	0.039	0.011	1.415	0.094	7.074	0.453	17.124	82.876
	T	1,189,263	34.161	0.843	5.244	2.021	0.148	3.710	1.370	6.537	2.177	56.211	43.789
> 64	M	159,932	55.012	0.563	4.304	2.065	0.089	3.432	0.758	3.295	2.322	71.839	28.161
	W	191,406	3.581	0.366	1.552	0.024	0.004	0.641	0.032	3.832	0.271	10.303	89.697
	T	351,338	26.993	0.456	2.805	0.953	0.042	1.911	0.363	3.587	1.204	38.314	61.686

Table A-5b (cont'd.)

Percentage Distribution of Population by Sector, Age and Sex

1964

Age Group in 1964		Population	Agriculture	Extractive	Transportation	Construction	Elec., Gas, Water	Commerce	Trans., Comm.	Services	Other	Unemployed	Active	Inactive
< 15	M	668,179	22.037	0.248	1.207	0.389	0.006	0.858	0.168	1.291	0.665	1.343	26.869	73.131
	W	659,320	0.898	0.096	0.434	0.009	0.002	0.168	0.014	5.566	0.107	0.246	7.293	92.707
	T	1,327,499	11.538	0.172	0.823	0.200	0.004	0.515	0.092	3.415	0.388	0.798	17.147	82.853
15-19	M	836,284	43.319	0.769	6.758	2.908	0.070	3.836	1.350	4.737	2.544	4.257	66.291	33.709
	W	929,756	1.469	0.260	2.959	0.049	0.019	1.861	0.209	14.064	0.960	1.085	21.849	79.151
	T	1,766,040	21.286	0.501	4.758	1.403	0.043	2.796	0.749	9.647	1.710	2.587	42.894	57.106
20-24	M	671,272	46.794	1.335	12.340	4.844	0.244	6.494	3.859	10.082	3.792	5.516	89.785	10.215
	W	746,103	1.659	0.430	4.790	0.096	0.042	2.836	0.444	14.590	1.374	1.220	26.261	73.740
	T	1,417,375	23.035	0.858	8.366	2.345	0.138	4.568	2.061	12.458	2.519	3.255	55.346	43.654
25-44	M	1,852,093	48.475	1.697	13.142	5.748	0.397	8.477	5.931	9.723	3.299	4.615	96.839	3.111
	W	1,986,229	2.235	0.458	4.224	0.080	0.022	2.290	0.294	9.944	0.757	0.795	20.354	79.646
	T	3,839,212	24.579	1.056	8.528	2.815	0.203	5.277	3.015	9.837	1.984	2.639	57.294	42.706
45-64	M	884,447	55.159	1.301	8.697	5.283	0.283	9.143	3.360	7.827	2.618	4.165	93.671	6.329
	W	897,644	3.562	0.444	2.900	0.066	0.009	2.322	0.119	7.630	0.442	0.580	17.496	82.504
	T	1,782,091	29.170	0.869	5.777	2.655	0.145	5.708	1.727	7.728	1.522	2.359	55.301	44.699
> 64	M	240,393	42.152	0.481	3.652	1.902	0.053	5.200	0.646	3.698	1.134	2.209	58.918	41.081
	W	283,868	2.355	0.282	1.157	0.020	0.001	0.969	0.025	3.322	0.171	0.242	8.302	91.698
	T	524,261	20.603	0.373	2.301	0.883	0.025	2.909	0.310	3.494	0.612	1.144	31.512	68.483

Source: 1951 and 1964 population censuses.

Table A-6

Influence of Increasing Education Enrollment
on Labor Force Participation of
Urban Males

Age	1951 Partic. Ratio (1)	1951 Enrollment (2)	1951 Total (1)+(2)	1964 Parti. Ratio (4)	1964 Enrollment (5)	1964 Total (4)+(5)	1970 Part. Rate (7)	1970 Enrollment Rate (8)	1970 Total (7)+(8)	Age
15-19	71.81	26.63	97.88	47.73	42.40	90.0	25.9	65.4a	91.3a	12-19
							40.5a	56.0a	96.5a	20-24
20-24	91.40	6.24	97.64	83.30	10.56	93.86	76.9	18.6	95.5	20-24
25-34	96.31	.82	97.13	94.78	1.22	96.00	95.9			
35-44	96.93	.06	96.99	96.51	-0-	96.51	96.5			
45-54	95.29	-	95.29	94.29	-0-	94.29	93.9			
55-64	88.70	-	88.70	79.74	-0-	79.74	77.2			
65 +	62.79	-	62.79	48.53	.03	48.56	42.7			
Total							67.3	23.6	90.9	>/12
15-64	90.52	6.09	96.61	83.07	10.61	93.68	79.13b	15.6b	94.73b	15-64

a,b, deduced, as indicated in "Sources and Methodology;" not available directly from the sources.

Sources and Methodology: Figures for 1951 and 1964 are calculated from the population census figures of those years. The 1970 source is DANE, Encuesta de Hogares, 1970. Neither that study nor the subsequent discussion of participation rates, unemployment rates, etc., in DANE, Boletín Mensual de Estadística #238 presented figures comparable to those shown for 1951 and 1964. Data were available for age groups 12-19, 20-24, and everyone over 12. Estimates for the age groups 15-19 and 15-64 are deduced here using a variety of information in the Encuesta with respect to age structure, and making some assumptions with respect to the changing relative participation and enrollment rates as between children 12-14 and 15-19. (Although some students are both studying and participating in the labor force, there is no double counting here, since the enrollment ratio refers only to students who are classified as inactive.)

Table A-7

Participation or Enrollment Rates, 1951, 64 & 70

Age Group 15-64

	Participation Ratio	Enrollment Ratio	Total
1951	56.8	2.575	59.38
1964	49.5	5.64	55.14
1970	52.0	10.15	62.15

Sources and Methodology: As for Table A-6, the 1951 and 1964 figures come directly from the population census of those years and the 1970 figures were calculated from DANE, Encuesta de Hogares 1970. The accuracy of the estimates for 1970 is probably somewhat higher here than in Table A-6, since the overall participation and enrollment ratios for this age category are easier to arrive at, given the other information available in the Encuesta, than are those for uban males only.

Table A-8

Blue Collar Workers as a Share of Total Labor Force,
By Sector, 1964

	Agriculture etc.	Mining	Manufacturing	Construccion	Electricity Gas, Water, etc.	Commerce	Transportation, storage, etc.	Services	Other
Remunerated Blue Collar Workers (Obreros)	972,400	35,223	272,940	154,316	4,377	19,511	37,124	39,507	37,174
Family Helpers	369,267	8,752	18,541	1,765	24	12,854	1,238	5,184	2,060
Independent Workers	720,857	22,551	165,158	37,808	453	197,259	37,598	73,022	28,381
Employers	308,291	1,507	34,452	4,912	141	37,742	5,781	20,214	5,842
Total Labor Force	2,419,753	80,741	649,620	215,974	13,185	267,366	189,058	920,679	
Blue Collar Workers.									
Estimate A	2,268,031	67,452	456,649	191,801	4,995	—	74,741	132,927	
Estimate B	2,299,880	70,473	572,046	210,289	9,600	59,036	150,429	624,119	
$\frac{Blue\ Collar\ Workers}{Total\ Labor\ Force}$									
Ratio A	93.73	83.54	70.29	88.81	37.88	—	39.53	14.44	
Ratio B	94.76	86.71	81.5	96.46	72.30	13.6	78.42	67.40	

Sources and Methodology: There is no census information which gives a directly meaningful breakdown between white and blue collar workers. As a result it is necessary to guess somewhat crudely, for some of the sectors, what the breakdown is. In the calculations effected here two alternative estimates were made: Estimate A was the sum of "obreros" family helpers and an arbitrarily guessed at share of independent workers and employers. Estimate B was total minus the occupational categories "professionals, etc", "managers, etc.", office workers, salesmen and a guessed at share of personal service workers and farmers. For estimate A in agriculture two-thirds of the employer category was included; such a high percent seemed appropriate because the ratio of workers to employers was so low as to suggest that many of the employers were basically small farmers who also are manual workers themselves. The only possibility for exception would be if a lot of these employers lived in towns.

In the case of mining (Est. A) all of the four categories were included except for 581 people listed as professionals and also employers. In manufacturing the evidence was that most of the employers were blue collar workers; 29.5 thousand artisans and operators were listed as employers (population census p. 114); this included both manufacturing and construction and we assumed that 3,000 were in construction and 26.5 in manufacturing. Even so, this approach leads to an estimate of only a little over 70 percent blue collar total in this sector. But it must be remembered that the population census involves overstatement of the

number of white collar workers; there is clearly an inconsistency between the 160,000 so categorized (p. 135) and the occupational breakdown (p. 139) which suggests that probably less than 100,000 workers might be white collar. A somewhat parallel apparent over-statement of empleados occurred in construction, although in absolute terms only 17.2 thousand people were so classified; with a more realistic definition (excluding transport workers, etc.) about 10,000 might be excluded and a figure of 96.5 arrived at, as in Estimate B. In general the B estimate would seem the more meaningful one.

The difference is particularly dramatic in electricity, water, etc., where a majority of workers had classified themselves as empleados, but did not appear to be doing white collar type jobs. Commerce is a special case, since a majority of the workers have as their major activity selling, although there is probably a reasonable amount of manual labor involved in their activity.

Services constitutes another somewhat problematic case in that personal service workers (primarily maids), are the bulk of this category; if all maids are categorized as blue collar, which is a fairly plausible, the share of blue collar is as high as 67 percent; if one-half were defined as white collar less than 45 percent would fit the category.

TABLE A-9

UNEMPLOYMENT RATES BY OCCUPATION SOUGHT

	Total Unemployment Rate	Previous Job Holder	Seeking First Time
Professional	8.38	4.25	3.91
Executive	5.17	3.94	.89
Clerical	26.38	13.52	12.66
Sales Staff	13.96	7.18	6.75
Rural Workers	6.98	6.59	.27
Miners	15.5	13.52	5.36
Transport Workers	12.78	11.38	.58
Craftsmen	17.02	13.33	.41
Laborers	17.44	10.14	6.93
Service Workers	18.14	12.44	5.55
Domestic Servants	2.51	1.95	.43
Defence & Police	1.00	3.04	-
Others	59.79	3.91	22.22
Total	15.5	10.14	5.36

Source: ILO, op. cit, data presented on page 366.

Table A-10

Urban Unemployment Rates, By Educational Level, 1970

Educational Level	Previously Employed	First Time Seekers	Total
None	3.07	1.11	4.18
Urban Primary	5.90	2.97	8.87
Rural Primary	2.36	1.21	3.57
Basic Buchillerato	5.87	6.60	12.47
Classic Buchillerato	5.18	6.70	11.88
Technical or Vocational Secondary	6.29	7.04	13.33
Other Secondary	10.57	6.50	17.07
Normal	2.65	4.92	7.57
Higher	4.55	2.89	7.44
Other	6.44	5.44	11.88
Total	4.57	2.93	7.50

Source:

DANE, Encuesta de Hogares, pg. 8.

Table A-11

Unemployment Indicators – U.S.

Year	Unem-ployment Rate	Labour Force With Some Unemployment (%)	Labour Force With Some Unemployment but Excluding people working 50 weeks or more (%)	Labour Force with 15 Weeks or More of Unemployment (%)	Labour Force With 2 Spells Or More of Unemployment (%)
1960	5.6	17.2	5.9	5.41	5.60
1961		18.4	17.2	6.17	6.06
1962	5.6	18.2	16.8	5.70	6.22
1963		16.7	15.3	5.25	5.45
1964		16.2	14.9	4.71	5.48
1965	4.6	14.1	12.7	3.51	4.50
1966	3.8 (3.9)	13.0 (12.9)	11.6 (11.5)	2.75 (2.72)	3.90 (3.85)
1967	3.8	12.9	11.4	2.60	3.75
1968	3.6	12.4	11.0	2.34	3.41
1969	3.5				

Note: 1966 figures in parentheses correspond to the "old series" which ends in 1966, and which used as base people 14 and up; the series beginning in 1966 uses as base people 16 and up.

Source: Presidents Manpower Report, op.cit; various tables.

Table A-11.5

Urban Male Labor Force Distribution by Time Worked: Colombian and the U.S,[1] 1964 and 1968-70

	United States 1964 Total (1)	Excluding People over 64 (2)	1968 Total (3)	Excluding People over 64 (4)	Colombia Non-Agriculture: 1964 Total Non-Agri. (5)	Age 15-64 (6)	Seven Principal Cities, 1964 (7)	Urban Area, 1970 ≥15 yrs. (10)	(age 15-64) (11)
Participation Rate (Persons 16 and up)	81.9	88.2	81.2	88.6	81.3*	83.1		74.5	79.1
(Persons 14 and up)	78.6		77.9						
Percent of population working ≥ 50 weeks, full time[g]	52.03*		56.35[a]						
27-49 weeks-full time	10.14+		9.34[a]						
1-26 weeks full time	6.29+		6.41[a]						
Total full time	68.46+		72.10[a]						
Part time	10.06+		9.18[a]						
Percent of total Possible Labor Force Hours which were worked	63.6+		67.85[a]		≥ 61.98[2],Δ				
Percent of Possible hours of People in Labor Force Workers	80.96		83.56[a]		≥ 76.24[2],Δ		80.00[d]	106.5 (90.18[h])	113.1 (95.77[h])
Percent working 48 weeks or more full time	≈68.2[3]				58.8[2],Δ			79.34 (73.5[h])	84.26 (78.1[h])
Full and part-time	≈72.5[3]								

[a] 16 yrs. & up.
* 15 and up
+ 14 and up
Δ non-agriculture. (Census, p. 140)

[d] Average of the data for Bogota, Medellin, Cali, Barranquilla, Bucaramanga, Cartagena and Manizales. See DANE, Subempleo en las Siete Principales Ciudades del País, Bogota, 1967.

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

[h] treating people working over 45 hours as of May only worked 45 hours.

[1] For the U.S. the total male labor force is used.

[2] If our interpretation of the meaning of the "months worked" figures in the 64 census is accurate, i.e. if 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.

[3] Based on interpolation.

[h] Assuming people working over 45 hours worked only 45hrs.

Table A-11.5 continued

The figures for Col. 5 are from the 1964 population census; for 1964, figures are 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.

Cols. 11 and 12 are based on figures from DANE, Encuesta de Hogares, 1970.

In estimating the percent of possible labor force hours worked, it was assumed that 2 percent of the male urban labor force were family helpers (ayudantes familiares) and that they worked an average of 15 hours, and that 5 percent of the labor 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 distribution for each region. Since so many people work more than the standard work week (45 hours) it seemed appropriate to make an alternative calculation where no one was assumed to be working more than 45 hours. (see footnote h). The figures in col. 11 are guesses, since there are no breakdowns available between age and hours worked; the assumption used here is that there is no relation between the two variables. In fact it might be that people over 64 tend to work less, and that therefore the figures in Col. 11 would be downward biased.

A comparable measures to that of Col. (10) is difficult 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 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 percent of the (the non-agricultural) labor force is not remunerated (use of nonagricultural labor force here introduces some inconsistency with the figures of Cols. 1 through 4); 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.

Table A-12

Labor Force of Eight Cities by Origin
1967

	Total	Natives		(thousands)	Immigrants			
					Same	Dept. %	Other	Dept. %
Bogota	581	162.7	28.0		142.8	22.1	275.5	47.4
B/quilla	150		90.3	60.18			59.7	39.82
B/manga	81	31.5	38.9		38.1	47.1	11.4	14.0
Cali	212	71.4	33.7		53	25.0	87.6	41.3
Ibague	49	18.4	37.5		18.9	38.5	11.7	24.0
Manizales	66	28.5	43.2		22.8	33.0	15.7	23.8
Medellin	274	89.7	32.7		149.6	54.6	321.7	12.7
Popayan	221	11.6	48.5		6.3	26.3	6.1	25.2
Total	1,437	505.1	35.15		431.5	30.03	500.4	34.82

Source, CEDE report

Table A-13

Urban Unemployment Rates by City and Department: 1964

Age	Bogotá			Cundinamarca			Antioquia			Valle			Atlantico			Caldas			Nariño		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
<15	7.302	12.712	3.837	3.205	6.122	.453	13.428	18.899	6.552	8.638	11.844	4.434	10.263	15.811	5.197	8.380	10.404	4.636	7.332	10.961	3.535
15-19	8.850	12.457	5.613	4.650	6.678	2.148	13.735	17.049	8.882	9.892	12.446	6.322	12.163	16.390	7.036	9.610	11.699	5.646	6.752	9.072	4.284
20-24	8.251	10.216	5.518	3.974	5.113	2.035	10.633	12.118	7.774	8.299	9.745	5.289	12.291	14.801	7.348	7.791	9.071	4.910	6.616	8.322	4.056
25-29	7.737	9.057	5.235	2.763	3.434	1.019	8.443	8.899	7.183	6.910	7.546	4.654	10.333	11.561	6.575	6.610	7.175	4.500	6.652	7.825	4.211
30-34	7.470	8.550	4.812	2.420	2.656	1.691	7.619	7.781	7.066	5.760	6.203	4.122	9.393	10.303	6.014	5.962	6.417	4.332	6.209	7.015	4.193
35-39	7.425	8.496	4.848	1.840	2.070	1.198	7.183	7.371	6.560	5.498	5.843	4.239	9.368	10.271	6.076	5.537	5.645	4.436	5.566	6.135	4.190
40-44	7.560	8.528	4.835	2.247	2.541	1.396	7.110	7.371	6.198	5.272	5.543	4.127	9.518	10.496	5.382	5.536	5.900	4.036	5.903	6.571	4.057
45-49	7.775	8.842	4.303	1.529	1.708	1.035	7.273	7.563	6.267	5.443	5.037	3.742	9.303	10.248	5.919	5.683	6.018	4.195	5.882	6.476	4.361
50-54	6.436	8.525	5.079	2.216	2.505	.968	7.548	8.013	5.801	5.928	6.383	3.592	9.072	10.807	5.351	6.021	6.429	3.803	5.935	6.715	3.733
55-59	8.846	10.126	4.672	2.744	3.372	.861	8.061	8.441	6.357	6.293	6.796	3.365	10.303	11.213	5.463	6.055	6.422	3.818	6.324	7.073	4.172
60-64	7.869	10.746	5.098	2.872	3.646	.502	8.165	8.639	6.148	6.223	6.653	3.682	10.573	11.336	6.003	6.309	6.670	4.122	6.360	7.011	4.590
>65	8.266	9.596	4.818	1.321	1.415	1.024	7.486	7.575	7.092	4.965	5.306	2.971	9.417	9.853	6.230	5.214	5.422	3.306	6.432	7.450	3.723
Total	8.019	9.580	5.179	2.875	3.504	1.481	8.998	9.630	7.304	6.913	7.621	4.886	10.476	11.884	6.492	6.799	7.447	4.764	6.342	7.462	4.122

Sources and Methodology: The figures are from the 1964 population census which, as is evident in the figures, has substantial incomparabilities with the samples. Although unemployment rates for young persons, especially males, are quite high in Bogota and Antioquia (presumably largely determined by Medellin), as well as in Atlantico, they appear to be somewhat below those registered in the sample, although perhaps not so dramatically as to imply that they are not of use. It is striking that female unemployment rates are very low in some of the younger age groups in Bogota, Valle, Atlantico, and especially in the cities of Cundinamarca apart from Bogota. No analysis has been performed to date, as far as I know, to ascertain why the figures differ from those of the samples; some of the difference is presumably due to the lower tendency to report first time seekers as unemployed in the census (evidence of this lower tendency was cited in Table   ).

Table A-14

Occupational Mobility: Previous Jobs and Job Sought by "Cesante" Unemployed

Occupation Sought \ Previous Occupation	Professionals and Executives	Office Workers	Salesman	Farm and Mine Workers	Transport Workers	Artisans & Blue Collar Workers	Services	Domestic	Police Defense, Vigilantes, etc.	Other	Total
Professionals and Executives	81.3	.9	-0-		2.5	.3	.8			1.9	3.9
Office Workers	9.8	81.2	13.1	4.5		5.1	2.8		43.7	11.0	18.4
Salesmen		10.1	56.0	5.1		3.9	5.8		38.4	6.3	11.5
Farm & Mine Workers			1.6	29.0		.4					2.0
Transport Workers			1.4	8.0	87.2	1.5				3.7	5.8
Artisans and Blue Collar Workers	1.1	6.0	19.6	20.0	9.8	85.4	16.9	17.1	21.9	15.8	43.2
Services	6.8	.4	5.0	10.7		2.6	70.4	18.0			10.2
Domestics						.3	3.3	64.9			2.3
Police, Defence, Vigilantes, etc.			1.0	1.7						3.6	.4
Other	2.0	1.4	2.3			.5				57.7	2.3
Total	100.0	100.0	100	100	100	100.0	100.0	100.0	100.0	100.0	100.0

Sources and Methodology: Based on tables for the 8 cities studied in CEDE's 1967 unemployment surveys presented in sa a and Ortega, Encuestas Urbanas de Empleo y Desempleo, op. cit., Table 6a to 6h. The CEDE analysis did not take an average for the cities; the table here presents a weighted average (with weights the relative labor force in each city).

Sources and Methodology for Table A-14 continued:

     As can be seen, there is no overwhelming tendency for people either to scale down or scale up their aspirations with the passage of time, at least as judged by their statements as to next job being sought in relation to last one. Obviously people at the top of the scale must have some average downscaling and people at the bottom some tendency to aspire upwards. Unfortunately this table gives very circumstantial evidence at best, as the categories are very broad, the incomes attainable in them overlap greatly, and there may be some misclassifying of individuals. All the table indicates with a certain amount of assurance is that there is some mobility by occupational category; with categories of the breadth used here it appears on average that 70-80 percent of people search for their new job in the same category and the remainder outside it. Only 6 percent of ex-office workers search for regular blue collar jobs in manufacturing, construction, and so on, while about 5 percent of the latter group are trying to go the other way. A much higher share of salesmen are searching for blue collar jobs; but here it is by no means clear whether the income change associated with such a shift would be upward or downward.

Table A-15

Composition of New Jobs and Aspirations of First Time Job Seekers. 1964–1970: Bogota

Category	1964 (census) Men (1)	Women (2)	Total (3)	1970 (sample based) Men (4)	Women (5)	Total (6)	Implicit New Jobs 1964–1970 Men (7)	Women (8)	Total (9)	Distribution of First Time Job Seekers — All Seekers Bogota (10)	Bogota: Seekers Unemployed Up to 4 weeks (11)	Colombia: Seekers Unemployed Up to 4 weeks (12)	Average of (11) and (12) = (13)	Previously Employed: Employed 0–4 Weeks Bogota (14)	All Unemployed: up to 4 weeks Bogota (15)
Professionals – Technicians, etc.	8.56 (29,237)	9.786 (28,908)	(48,235)	12.13 (63,597)	10.13 (35,957)		(34,360)	(6,959)	≤15.19 (51,319)	6.7	13.6	5.6		0.0	3.9
Managers, Directors, (including public sector – excluding high person in Commerce)	3.84	1.238		1.83	0				0	<0.8	0	0		0	0
Office (including lower administrative)							(≤30,521)	(≤41,065)	21.19 (71,585)	40.8	45.45	35.21	40.33	29.09	33.8
Commerce + Salesmen (Including Managers)	13.256 (45,261)	(17,755)		14.59 (76,445)	14.34 (30,659)		(31,234)	(32,904)	21.34 (74,133)	≥15.0	≥18.2	22.54	20.37	5.45	9.1
Agric. workers	4.87 (16,630)	0.51 (9,880)	(17,618)	1.98 (10,381)	0.24 (838)		—	—	13.00	9.2	13.63	9.82	11.72	10.91	40.3
Service Workers	7,545 (25,764)	49,298 (95,705)	(121,469)	8.25 (43,254)	35.04 (122,125)		(17,490)	(26,420)(43,910)	26.30	23.3	9.09	26.77	17.93	50.91	10.4
Non-agricultural workers	49,553 (169,197)	15,011 (29,141)	(198,338)	47.34 (248,204)	19.91 (69,406)		(79,007)	(40,265)(119,272)	0	4.2	0			1.82	1.3

Note: Figures in parentheses are absolute numbers.

Table A-15 continued   *of the unemployed*

Sources and Methodology: The major difficulty /in making the comparison proposed--
between the occupational composition in 1967 in Bogota, and the occupational composition
of net new positions between 1964 and 1970, lies in incomparabilities in the occupational
classification between 1970 and 1964. The classification is presented in more detailed
fashion in the 1964 census than it is for 1970, so it is not possible to ascertain
exactly how the two relate to each other. It appears from the implausible decrease in
the share of "directors, managers, etc.", between the two years that the 1970 <u>Encuesta</u>
breakdown included those directors and managers working in commerce in the category
"commerce and salesmen"; as a result that group has been so reclassified in the 1964
figures presented here. Even with this a considerable decrease in the "directors, etc."
category has occurred, and presumably this is associated with misclassifying in one or
the other year between this group and either "professionals" or "administrators, etc."
There are no particular good leads as to which it might be.

The 1964 totals presented exclude people searching for work for the first time,
members of the armed forces and people not well classified. Altogether this involved
an exclusion of over 10 percent, but the 1970 figure was decreased (relative to total
1970 labor force) by partly *(less than this)* to make up for the fact that the net change in positions
between the two years would be something of an underestimate of the new jobs opening
up. The breakdown between males and females in the labor force was deduced from the
tabulados of The <u>Encuesta de Hogares</u>.

The 1967 distribution of occupations sou ght by the unemployed corresponded
to the 1964 census breakdown and therefore required some aggregation into the 1970
format . Presumably the same characterization of managers and directors as per-
vailing in the 1964 Census held; fortunately this (the non-comparability with 1970)
does not lead to any problem since no one in this category was listed as first-time-
job seeker unemployed.

One crude test relates the distribution by occupation of the first-time-job
seekers who are unemployed to the distribution of new jobs available. The figures
in   Col. 9 give the distribution of new openings (allowing for the various
difficulties of relating the 1964 and 1970 figures mentioned above) while columns
10-13 give different breakdowns of the first-time-job seekers. Table 10 is the
distribution of these people found in the sample, regardless of time during which
a job had been sought. (The equal to or greater-than signs relate to the fact that
some of the people listed as directors could have been in the "commerce and salesmen"
category). Column 11 gives the breakdown of people unemployed for 0-4 weeks in Bogota,
Column 12 for the 8 cities together (weighted by the number of unemployed for this
time period, in each city) and column 13 is an unweighted average of columns 11 and
12. Column 11 is not fully satisfactory for present purposes due to the small sample
size, so the averaging with column 12 is designed to suggest possible deviations from
the figures which a larger sample would have generated in column 11; but since Bogota
is not typical of all the cities, column 11 may in fact be a better indicator than
column 13. Bogota has, for example, higher shares of professionals and technicians,
office workers and so on, and lower shares of blue collar workers, as evidenced in
the differences between columns 11 and 12.

If the figures on first-time-job seekers (e.g. Col. 11) referred to a shorter
period in time, so that it would be plausible to assume that a high share of entrants
to the labor market would be unemployed for that period, then a comparison between
columns 9 and 11 would indeed suggest a much higher share of people looking for white
collar office jobs than new jobs coming available, a rough equality in the professional-

technical category, the commerce-salesmen category and the service worker category, and less people wanting to get into the non-agricultural blue-collar worker category than in fact did enter. In short, the figures would very strongly suggest that many people must have had to adjust their aspirations down. But the share who had to adjust their aspirations down would likely be overestimated by such a technique, since many service workers and non-agricultural laborers may get jobs almost immediately and do not show up in the unemployment statistics at all; in that case the figures simply reflect the fact that for some categories the waiting line is longer than for others. Circumstantial evidence on this question is provided by a comparison of the first time job seeker unemployment rate for periods up to 5 weeks with the average number of new jobs opening up every 5 weeks. An estimate of this latter would suggest, if every one were unemployed during this period, a zero to four week first time job seekers unemployment rate of 0.66; the rate observed in Bogota was about 0.91; its being above the theoretical maximum (if job creation had been constant over the period) could be related in part to the particulary high unemployment at the time of the 1967 sample, though Bogota has had a total first time job seekers unemployment rate above 4% consistently since late 1966. Unless the statistics are very misleading this conclusion would suggest that relatively few people are not for some period of time in the unemployed pool, and/or some repeat job hunters are included as first time job seekers, or some such phenomenon.

Column 15, the percent distribution of all persons (whether first time job seekers or not) unemployed up to four weeks implies the same story as do columns 11 or 13, i.e. that the people searching for white collar jobs are 50% or more above the availabilities at any given point in time, while people searching for jobs in commerce and selling are normally below the number of new positions opening up (presumably because many of these are opened up as own account activities by individuals who did not go through an unemployed period prior to doing so) and the share of people looking for blue collar jobs is much less than the share of all job openings which are in that category.

Relationship of First and Last (Before Sample) Occupational Category: Sample of Active Population in Five Colombian Cities

(Percentage Distribution)

Occupational Category in Last position (Sample)	Category of First Job							
	Professional, semi-professional	Manager, upper level office workers	Lower level office workers	Owners of own business, salesmen	Specialized blue Collar workers	Semi specialized blue collar worker	Un specialized blue collar workers	Rural workers
Professional, semi-professional	74	31	-	4	-	-	1	1
Manager, upper level office workers	15	46	42	9	3	-	-	-
Lower level office workers	4	-	17	9	3	3	-	-
Owners of own business, salesmen	7	15	19	70	11	11	19	2
Specialized blue collar workers	-	8	13	4	74	29	13	24
Semi specialized blue collar workers	-	-	7	13	3	50	23	11
Un specialized blue collar workers	-	-	2	-	6	7	42	21
Rural workers	-	-	-	-	-	-	1	21
Total	100	100	100	100	100	100	99	100
Persons in Category	27	13	59	47	35	97	69	62
Number who, with high probability, moved up	0	0	25	2	2	42	26	21
Number who, with high probability moved down	1	1	5	0	3	7	0	0

Source: García, Carlos, Xo Lilidad Ocupacional, op. cit, p. 58, based on data from CEDE, Encuestas sobre Movilidad Ocupacional y Geografica, 1967.

Table A-17

Non-Female Labor Force: Composition of the Non Paid
Categories 1964 and 1970[b]

	Employers (1)	Independent workers (2)	Family Helpers (3)	Sum (1)+(2)+(3)
1964				
Colombia	1,666	17,612	3,206	22,484
Bogota	1,692	8,034	1,217	10,943
1970				
Atlantic Region	3,556	28,050	5,338	36,944
Eastern Region	3,262	33,262	7,186	43,710
Bogota	1.99	13.77	4.50	20,260
Center-West (Medellén etc.)	0.908	15.44	1.561	17,909
South	1.982	37,473	7.067	46,522
Colombia	n.a.	n.a.	n.a.	25.92[a]

[a]From Table 23; an indirectly derived figure.
b Figures expressed as percent of total female labor force.
Sources and methodology: The figures for 1964 come from the Population Census of that
year. The 1970 figures are based on data in DANE, Encuesta de Hogares; they are deduced
by making use of the (known) figure for the total female labor force in the region, with
respect to this breakdown and the figure for the agricultural sector and the share of
women in agriculture. Unfortunately since the absolute female labor force by region is
not available, it is not possible to weight the regional figures to produce a national
figure.

Regression Results on Unemployment- Participation Rate Relationship

Participation Rate: The Dependent Variable

Men and Women

(1) $\quad PR = 34.16 - 0.090U + 0.039T$ $\qquad R^2 = 0.88$
$\qquad\qquad\quad (-0.88) \quad (1.54)$ $\qquad\qquad\qquad D\text{-}W = 1.39$

(2) $\quad PR = 34.43 - 0.182U_{ces} + 0.036T$ $\qquad R^2 = 0.110$
$\qquad\qquad\quad (-1.204) \quad (1.514)$ $\qquad\qquad\quad D\text{-}W = 1.421$

(3) $\quad PR = 34.55 + 0.026U_{ces} - 0.212T + 0.008T^2$ $\qquad R^2 = 0.281$
$\qquad\qquad\quad (0.162) \quad\;\; (-2.037) \; (-2.435)$ $\qquad D\text{-}W = 1.65$

(4) $\quad PR = 34.46 - 0.097U_{ces} + 0.341U_{asp} - 0.256T$ $\qquad R^2 = .335$
$\qquad\qquad\quad (0.183) \quad\;\; (0.245) \quad + 0.009T_2$ $\qquad D\text{-}W = 1.774$

(5) dev. $PR = 0.534 + 0.047U$ $\qquad R^2 = 0.53$
$\qquad\qquad\qquad\quad (5.75)$ $\qquad\qquad\qquad\quad D\text{-}W = 1.40$

(6) dev. $PR = 0.628 + 0.081U - 0.054T + 0.0014T_2$ $\qquad R^2 = .817$
$\qquad\qquad\qquad\quad (9.47) \quad\;\; (-4.87) \; (4.238)$ $\qquad D\text{-}W = .89$

(7) dev. $PR = 0.519 + 0.069U_{ces} + 0.014U_{asp}$ $\qquad R^2 = 0.559$
$\qquad\qquad\qquad\quad (3.794) \qquad (0.657)$ $\qquad\qquad D\text{-}W = 1.868$

(8) dev. $PR = 0.543 + 0.063U_{ces} + 0.048U_{asp} - 0.008T$ $\qquad R^2 = 0.657$
$\qquad\qquad\qquad\quad (3.821) \qquad (2.024) \qquad (-2.455)$ $\qquad D\text{-}W = 1.564$

(9) dev. $PR = 0.630 + 0.082U_{ces} + 0.064U_{asp} - 0.042 + 0.0012T^2 \; R^2 = 0.776$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad D\text{-}W = 1.752$

(10) $\quad PR = -6.38 + 40.19 \text{ dev.s}U$ $\qquad R^2 = 0.53$
$\qquad\qquad\qquad\quad (5.07)$ $\qquad\qquad\qquad\quad D\text{-}W = 0.127$

(11) $\quad PR = -8.55 + 41.70 \text{ dev.s}U + 0.041T$ $\qquad R^2 = 0.60$
$\qquad\qquad\qquad\quad (5.58) \qquad\qquad (2.03)$ $\qquad\qquad D\text{-}W = 0.177$

(12) $\quad PR = -8.18 + 43.42 \text{ dev.}U - 0.310T + 0.011T^2$ $\qquad R^2 = 0.87$
$\qquad\qquad\qquad\quad (9.78) \qquad\qquad (-5.56) \; (6.45)$ $\qquad D\text{-}W = .613$

(13) dev. $PR = 0.391 + 0.610 \text{ dev.}U_{asp} - 0.0026T$ $\qquad R^2 = 0.564$
$\qquad\qquad\qquad\quad (5.337) \qquad\qquad (-0.095)$ $\qquad D\text{-}W = 2.015$

Men Only

(14) $\quad PR = 46.53 - 0.118U - 0.031T$ $\qquad R^2 = 0.127$
$\qquad\qquad\quad (-1.156) \; (-1.445)$ $\qquad\qquad\quad D\text{-}W = 2.15$

(15) dev. $PP = 0.471 + 0.061U$ $\qquad R^2 = 0.595$
$\qquad\qquad\qquad\quad (5.81)$ $\qquad\qquad\qquad\quad D\text{-}W = 1.36$

(16) dev. $PR = 0.574 + 0.097U - 0.062T + 0.0019T^2$ $\qquad R^2 = 0.85$
$\qquad\qquad\qquad\quad (10.73) \; (-5.92) \quad (5.76)$ $\qquad\quad D\text{-}W = 1.12$

(17) $\quad PR = -4.61 + 49.64 \text{ dev.}U$ $\qquad R^2 = 0.74$
$\qquad\qquad\qquad\quad (8.08)$ $\qquad\qquad\qquad\quad D\text{-}W = 0.442$

(18) $\quad PR = -1.81 + 47.41 \text{ dev.s}U - 0.036T$ $\qquad R^2 = 0.80$
$\qquad\qquad\qquad\quad (8.51) \qquad\qquad (-2.58)$ $\qquad\quad D\text{-}W = 0.541$

(19) $\quad PR = -1.60 + 48.34 \text{ dev.s}U - 0.230 + 0.0062T^2$ $\qquad R^2 = 8.86$
$\qquad\qquad\qquad\quad (11.23) \qquad\qquad (-4.62) \; (3.992)$ $\qquad D\text{-}W = 1.016$

Unemployment: The Dependent Variable

Men and Women

(20) $U = -3.03 + 0.248\ PR + 0.647T - 0.018T^2$
         $(0.705)\qquad (3.82)\qquad (-3.33)$
         $R^2 = .413$
         $D\text{-}W = 1.538$

(21) $U = -5.64 + 9.96\ \text{dev.s}\ PR + 0.708T - 0.018T^2$
         $(9.47)\qquad\qquad (7.53)\qquad (-6.233)$
         $R^2 = .907$
         $D\text{-}W = .54$

(22) $Uces = 2.49 + 0.040\ PR + 0.354T - 0.011T^2$
         $(0.162)\qquad (3.003)\qquad (-2.782)$
         $R^2 = 0.296$
         $D\text{-}W = 2.00$

(23) $Uasp = -6.43 + 0.233\ RR + 0.303T - 0.008T^2$
         $R^2 = 0.459$

(24) $Uasp = -1.078 + 7.210$
         (5.307)
         $R^2 = 0.55$
         $D\text{-}W = 1.272$

(25) $Uces = -3.139 + 6.469\ \text{dev.}\ PR + 0.387T - 0.011T^2$
         $(6.33)\qquad\qquad (4.241)\quad (-3.774)$
         $R^2 = 0.776$
         $D\text{-}W = 2.355$

(26) $Uasp = -2.612 + 3.754\ \text{dev.}PR + 0.296T - 0.006T^2$
         $(3.885)\qquad\qquad (3.43)\quad (-2.375)$
         $R^2 = 0.717$
         $D\text{-}W = 0.972$

(27) $\text{dev.s}U = 0.263 + 0.016\ PR + .0005T$
         $(8.51)\qquad (1.79)$
         $R^2 = .773$
         $D\text{-}W = 1.16$

Men

(28) $U = 14.868 - 0.208\ PR + 0.523T - 0.016T^2$
         $(-0.707)\qquad (3.811)\ (-3.890)$
         $R^2 = .413$
         $D\text{-}W = 2.16$

(29) $U = -4.47 + 8.70\ \text{dev.s}\ PR + 0.662T - 0.020T^2$
         $(10.73)\qquad\qquad (8.85)\quad (-8.41)$
         $R^2 = .915$
         $D\text{-}W = .996$

PR = participation rate
dev PR = deviation from a 3 period moving average of the participation rate
U = unemployment rate
Uces = unemployment rate of the previously employed
Uasp = unemployment rate of first time job seekers
T = time trend
Note: Figures in parenthesis are "t" values

TABLE A-19

REGRESSIONS YIELDING SIGNIFICANT RESULTS:

Analysis by Miguel Urrutia

	Sex	Age	a	Coefficients b_1	b_2	R	F	K	N-K-I	F-Test: Significant Relation Among the Variables at the Level
1	Men & Women	15-54	41.52	-2.61* (0.98)	-0.09 (0.07)	0.65	8.311	2	9	1%
2	Women	15-54	26.95	-0.54 (1.17)	-0.32** (0.09)	0.58	6.2903	2	9	5%
3	Women	45-49	23.70	+2.66* (1.03)	-0.12 (0.34)	0.54	5.2896	2	9	5%
4	Women	15-19	35.24	+2.02* (0.91)	-8.05 (0.25)	0.58	6.2688	2	9	5%
5	Men	45-49	97.12	+0.48* (0.09)	-0.05 (0.07)	0.42	3.3242	2	9	N.E.S.

N.E.S. Not significant at the 5% level

* Significantly different from zero at the 5% level

** Significantly different from zero at the 1% level

( ) Standard error of coefficient

Source: Urrutia, op. cit., "El Desempleo Disfrazado...", page 47.