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URBAN LABOUR SURPLUS AND THE COMMERCE SECTOR: COLOMBIA

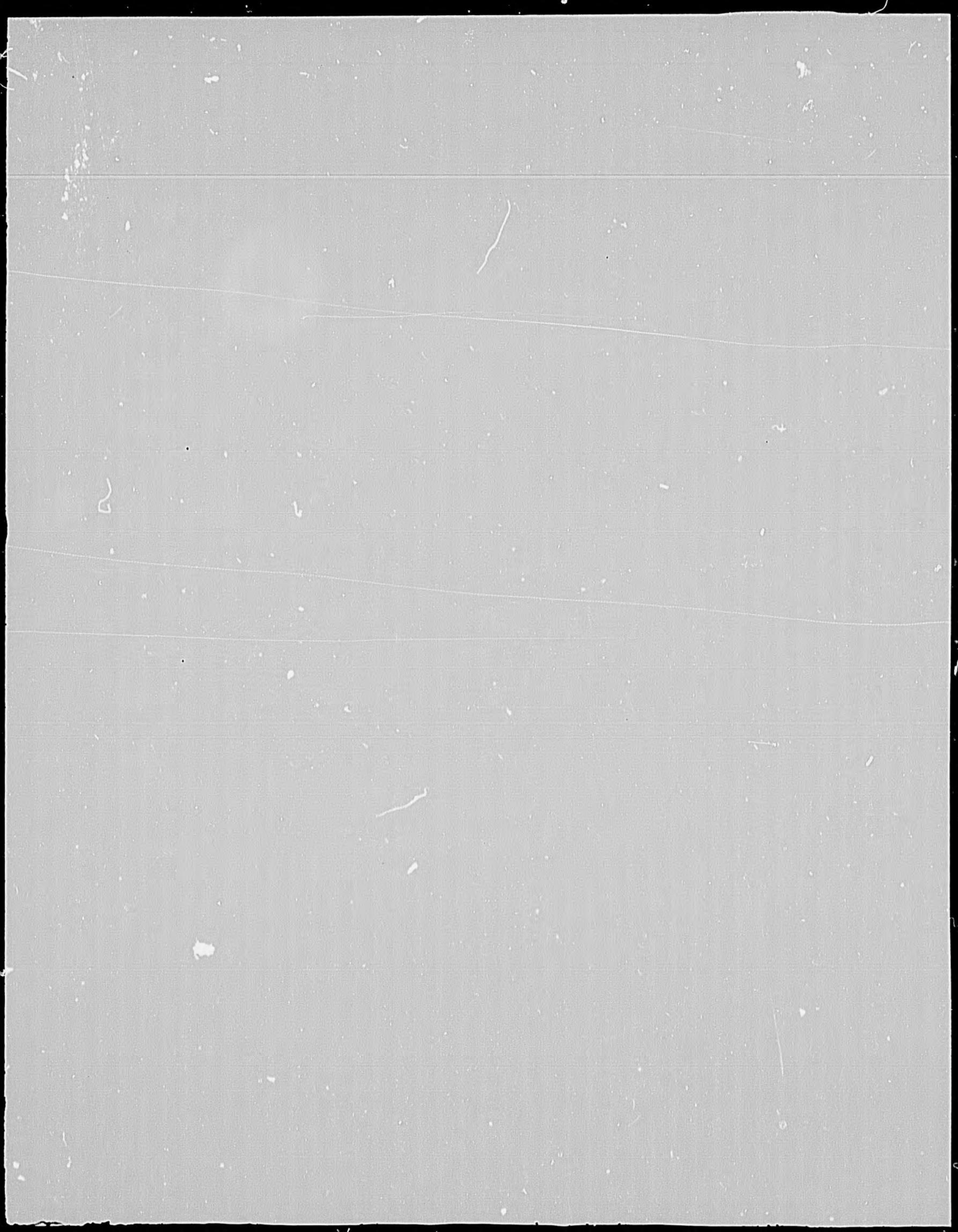
R. Albert Berry

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### Urban Labour Surplus and the Commerce Sector: Colombia

Proponents of the relevance of the labour surplus model under certain development conditions, among others, have made much of the argument that large parts of the urban service sector represent a sort of "sponge" in which essentially excess labour can be absorbed and sustain itself, but in which it contributes little if anything to the total productivity of the economy. Earlier labour surplus models<sup>1</sup> tended to assume that this sort of surplus is retained in the countryside, but the rapid urbanization of many developing countries in the postwar period accompanied by an increase in open employment and frequently a rapid expansion of the low skill service sector have led to the model's extension to include the possibility of an urban labour surplus along with the rural one.<sup>2</sup> Two situations are perhaps the most frequently hypothesized explanations of how a person's social productivity can be at or close to zero while he continues to subsist; one is the mechanism traditionally assumed to explain a labour surplus in agriculture, i.e., the small family farm where total family income is shared and no individual is required to leave the producing unit even though the marginal productivity of labour may be below the consumption level. A second hypothesized explanation, in particular with respect to sectors like commerce, personal service, small-scale transportation, etc., is the existence of monopolistic competition

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<sup>1</sup>For example, W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour," The Manchester School, Vol. 22, May 1954; John C. H. Fei and Gustav Ranis, Development of the Labor Surplus Economy: Theory and Policy, Homewood, Ill., Richard D. Irwin Inc. 1964.

<sup>2</sup>Lloyd G. Reynolds, "Economic Development with Surplus Labour: Some Complications," Oxford Economic Papers, Vol. 21, No. 1, March 1969.

(involving among other things easy entry, since little capital is required) which permits additional production units to enter the industry even though total output may rise little or not at all; their arrival redistributes the production activity among a larger group and lowers average productivity.

It is frequently alleged that at the same time as average incomes are rising among industrial workers, white collar workers, and the "modern sector" employees, many of the urban marginal population enter these spongy activities and, if the urbanization is sufficiently rapid, drive down the average income in such activities. Sometimes the argument is based more on the fact of the rapid increase in the number of people in the service sector, the high rate of open unemployment and the impressionistic evidence of surplus labour than on direct observations of the average incomes of the people in these activities, or the distribution of income generated in these sectors.

That the service sector, and in particular those subsectors of it which have a monopolistically competitive market structure should perform this "reservoir" function is not dependent on the existence of a labour surplus condition as traditionally defined.<sup>1</sup> Even in an economy in which neither the family structure nor some substitute institutional conditions permitted the form of underemployment hypothesized in the labour surplus model, the condition of relatively small and inelastic demand for labour in the modern capital intensive sector of the economy, implying a low equilibrium wage rate in the economy and a large labour force in these low productivity sectors would make the phenomenon of equal interest as a verification of the unfortunate income distribution impact of dualistic growth. In either case trends in the

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<sup>1</sup>As for example Lewis, op. cit., or Fei and Ranis, op. cit. These authors define labor surplus as a condition in which the marginal private productivity of labor is below the institutional subsistence income level.

average wage and the distribution of income in the low skill service sectors is an interesting test of the hypothesis that dualistic development (defined by widely varying levels of technology and of capital/labour ratios across firms and subsectors of the economy),<sup>1</sup> whether accompanied by a labour surplus or not, leads to highly and increasingly unequal income distribution.

Competing hypotheses to the effect that the expansion of the service sector should not be taken as a bad sign, which might be lumped together under the heading of trickle-down theories,<sup>2</sup> are generally based either on the monopolistically competitive character of a substantial part of the economy--permitting a spreading around of income even though the real need for labour services is small--or on the argument that a low demand for labour in modern manufacturing and such visible sectors does not necessarily imply a low demand in the economy as a whole. Although not often advanced, a plausible interpretation of the rapid increase in the relative importance of services would be that in a growing economy their demand is characterized both by a high income elasticity and a high "urbanization elasticity". The latter is especially predictable with respect to such activities as commerce and transportation, which are related to the movement of goods, a phenomenon which becomes relatively more important as incomes rise and population becomes more urbanized,

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<sup>1</sup>It should be underlined here, to avoid confusion, that we do not here equate dualism to labour surplus, nor wish to imply a bimodal distribution of anything in the sector discussed, e.g., of technology. The term is probably a misnomer but it is perhaps less confusing to use it, with this perhaps slightly unconventional meaning, than to introduce a new term.

<sup>2</sup>Although the concept is widespread, there are few written expositions of the mechanisms which might be at work to distribute the benefits of growth even if their direct recipients are few. Anderson in the U.S. argued from observed trends in income distribution in the U.S. that some such mechanisms must have been at work. (See W. H. Locke Anderson, "Trickling Down Between Economic Growth and the Extent of Poverty Among American Families," Quarterly Journal of Economics, Vol. LXXVIII, No. 4, Nov. 1964.)

with more of the goods purchased coming from substantial distances and passing through a number of processes.

In what follows we present Colombian information bearing on the above issues, and corresponding to the last two decades. The data refer primarily to commerce and those personal services for which it has been possible to obtain some over time information on both incomes and the number of people involved.

It seems probable (though not certain) that part of Colombia's urban economy has shown increasing dualism (which we will for the moment define as an increase in the ratio "standard deviation/mean" of the variable  $K/L$  across firms) over the post-World War II period; this seems to be true of the industrial sector and perhaps some other sectors.<sup>1</sup> It is clear that some parts of almost all the sectors of the urban economy are quite capital intensive; it is not obvious that these highly capital intensive enterprises face no technological choice so the question arises as to whether their capital intensity has a short-run cost in terms of lowered output of the system as a whole and of worsened income distribution.<sup>2</sup> Several situations are theoretically possible; one possibility is that capital intensive modern technology dominates all other technologies, and is therefore necessary to maximize the rate of growth; depending on the

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<sup>1</sup>One could not so clearly argue that the economy as a whole has demonstrated increasing dualism, so defined. The decreasing relative importance of agriculture would complicate the picture. Within agriculture, dualism, would seem to have been increasing. In this whole area caution is warranted, however; intuitions may well be misleading; evidence from some sectors is at least as consistent with decreasing as with increasing dualism.

<sup>2</sup>In the long run, of course, if such technologies are not as efficient as labour intensive ones, the loss they caused could be avoided by their demise.

situation the growth argument for using such technology may have to be weighed against a strong distribution argument working in the opposite direction; but if either a) the relative supply and demand of labour are not such as to imply a very low equilibrium wage in a neoclassical framework, or b) such phenomena as income sharing in a labour surplus context or the presence of extensive monopolistic competition are sufficient to prevent any income from falling too low, then the distribution argument has less potency. If all income levels appear to be maintained at a fairly adequate level, despite the low social productivity of labour, the relevance even of finding by which mechanism this is achieved may not be too great. In most economies it is desirable to avoid having too much labour in the monopolistically competitive sectors; but, if it may be presumed that beyond a certain level labour in these sectors simply represents labour surplus, there may be no reason to believe that much potential output<sup>1</sup> is being lost.

If there is factor substitutability (with the wide range of observed technologies being the result, for example, of factor pricing problems) then the presence of much low productivity labour in other sectors signals real resource waste as well as an income distribution inferior to what could be achieved. It then becomes additionally important in order to design a policy to improve the allocation of resources, to know a) how low the social productivity of workers in "traditional" or monopolistically-competitive sectors is;<sup>2</sup> and b) whether some of the labour in the low income sector is "surplus" in the usual sense<sup>3</sup> and whether some of it achieves an income above

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<sup>1</sup>From labour's not being applied elsewhere.

<sup>2</sup>Relevant even if their marginal social product were equal to the wage, or earnings.

<sup>3</sup>Marginal private product below earnings.

its social product due to monopolistic competition structures. Knowing whether one of these two circumstances exists (as opposed to the existence of a neo-classical market in this subsector or the whole economy) is important in evaluating the opportunity cost of moving labour to the more capital intensive sector, and knowing which of the two it is facilitates the designing of appropriate policies. If for technological or other reasons there appears to be little hope of incorporating labour rapidly in the modern sectors, the existence of monopolistic competition and of the institutions making labour surplus possible may have the positive effect of alleviating poverty.

The discussion below addresses itself primarily to two questions:

a) the extent to which the severe and allegedly increasing dualism in certain sectors of the urban economy<sup>1</sup> has in fact led to the combination of an increasing share of the urban population in low productivity, low skill sectors, and to worsening income distribution and increasing open unemployment within those sectors; and b) the extent to which these low skilled service sectors are characterized by labour surplus, monopolistic competition which has the effect of improving income distribution, or both. In the analysis of the first question we look at the average income generated in the sectors, the intra-sectoral income distribution and changes in these over time; we also present some information on who works in these sectors, whether recent rural to urban migrants with few alternatives or people who have already held other jobs predominate. The analysis of the second question involves, among other things, consideration of the relative importance of family helpers (which would seem to be associated with labour surplus), changes in number and size of establishments in these sectors (which should give some indication of the importance of monopolistic competition), and changes in commerce margins

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<sup>1</sup>A position put forward by Robert L. Slighton, "Relative Wages, Skill Shortages, and Changes in Income Distribution in Colombia," The Rand Corporation, Memorandum RM-5651-RC/AID, November 1968. My own calculations do not support the allegation--see Berry, "Changing Income Distribution Under Development: Colombia," Department of Economics, University of Western Ontario, Research Report No. 7306, March 1973.

which should also be related to monopolistic competition. The interpretations which should be placed on evidence of the sort just referred to will be discussed as the data are presented.

Development of the Commerce Sector, 1951-1970

The "spongy" label is most frequently applied to the commerce sector in less developed countries; here it might plausibly be expected that both monopolistic competition with relatively free entry (at least into small-scale commerce) and family income sharing (as in the labour surplus models) are important phenomena, with the result that the sector will absorb many people when more productive employment opportunities are not forthcoming. At first glance the Colombian data for the period 1951 and on seem consistent with the "sponginess" interpretation. While the population census of 1951 suggested that about 4.9 percent of the economically active population were in wholesale and retail commerce, the corresponding figure of 1964 was 7.45 (or if people with unclassified occupations are excluded the two percentages are 5.0 and 7.7, respectively). DANE's 1970 household survey suggested (with a greater margin of error due to the failure to present separate figures for this category) about 8.6-8.7%.<sup>1</sup> While it is not possible with published census statistics to deduce the share of the urban population in commerce in the first two years--due to its not being possible to separate out banking, real estate and such activities from commerce proper in 1951 nor certain other services in 1970--the more broadly-defined sector including these latter occupations as well rose from about 11.6 percent in 1951 to about 14.8 percent in 1964.<sup>2</sup> A best guess would be that the corresponding figures for

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<sup>1</sup> Using comparable inclusions to those of 1951 and 1964 - see Sources and Methodology of Table 1.

<sup>2</sup> In 1951 data were presented on dependent population by sector for "municipal seats" and "other localities" separately. For the country as a whole the share of the population dependent on commerce was about equal to the percent employed in commerce so this equality was assumed for each of municipal seats and other localities. Then about the same percent increase in the share of commerce was assumed for the two parts of the population between 1951 and 1964.

commerce narrowly defined (wholesale and retail trade) were about 10.1 and 12.4. It appears probable that this percent has risen further since 1964, say to 13.0 - 14.0 percent. Meanwhile the category "salesmen"<sup>1</sup> registered an increase from about 7.1 in 1964 to 9.6 - 10.0 in 1970.<sup>2</sup>

Table 1 presents data from and estimates based on the 1951 and 1964 population censuses, the 1954 and 1967 commerce censuses, and the 1970 sample survey.<sup>3</sup> Comparison of the total number of people reported to be in commerce at each of the five dates suggests that: a) the 1964 population census was probably about as complete as that of 1951;<sup>4</sup> b) there appears to have been substantial undercoverage in the 1967 commerce census - it may well have failed to cover the majority of the independent workers; c) the 1954 census, although one cannot deduce it from its form of presentation, must have covered many or most of these individuals since there were about 100,000 in 1951 and it would not have been possible to arrive at such a high total employment figure in 1954 unless some had been included.<sup>5</sup>

<sup>1</sup>This differs from "commerce" in that it includes people working for firms classified in any sector but whose job is selling. Commerce, on the other hand, includes people who do not sell.

<sup>2</sup>This comparison is not precise since data were not available on a consistent basis in the two years. The 1964 figure refers to the population declaring an occupation, and includes "managers in commerce", listed separately but included in the 1970 figure presented. In 1970, the estimate comes from a table referring to persons who reported an income--the category in question accounted for 10.3% of that answer, but since the share of family helpers is less for this group than others, the share of all occupied persons would be lower than this.

<sup>3</sup>A 1970 Commerce Sample Survey has recently been published. (DANE, Muestra Commercial, Bogota, no date). It does not, however, provide any indication of the total labour force in this sector, since it focuses primarily on the larger establishments.

<sup>4</sup>There was substantial under-reporting in the latter census, although it appears to have been concentrated in rural areas so that under-reporting of people in the commerce sector may not have been strong. On the other hand, some comerciantes are highly mobile and might well have been missed in both 1951 and 1964.

<sup>5</sup>An alternative hypothesis would be that the definition of economically active persons was essentially different in the census of commerce and the population census, being more broadly defined in the former. But there is no particular reason to believe this; except no respect of family helpers, of which the commerce censuses always list more. This difference has been taken into account in the best guess estimates presented in Table 1.

The population census figures indicate relatively little change in the occupational structure of the sector between 1951 and 1964 despite a rapid increase in total employment (more than a doubling); the share of all persons (classified by occupational position) who were paid employees rose from 30.8 percent to 35.7 percent;<sup>1</sup> the share who were independent workers fell from 55.19 percent to 50.69 percent. Whether these trends have continued since 1964 is unclear since the data from the commerce census are not comparable to those of the population ones and the 1970 Encuesta de Hogares does not treat commerce separately. A best guess (see Table 1) is that the paid employee share rose to about 38.4 by 1970. (See the methodology of Table 1 for a discussion of these problems.) It does appear almost certain, in any case, that the share of the labour force in commerce has continued to rise.

<sup>1</sup>Where people not reporting an occupational position were assumed to fall in the unpaid category; if they are excluded the figures would be 32.0 and 36.0.

**Table 1**  
Employment in Commerce, 1938-1967<sup>f</sup>

Year	Economically Active Population			Occupational Position Within Commerce								Percent of Active Population <sup>a</sup>	Percent of Classified Active Population	Percent of Urban Labour Force in Commerce	
	Whole-Sale	Retail	Total	Employers	Independent Workers	(4)+(5)	White Collar	Blue Collar	Total Paid Employees	Unpaid Family Helpers	No Information				Unemployed
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1938			153,725			122,318	22,311	6,015	28,326 (18.43)	3,081				≈ 5.0	
1951			183,400	12,584 (7.13)	101,212 (57.32)	113,796 (64.44)	46,383 (26.27)	10,148 (5.75)	56,531 (32.01)	6,259 (3.54)	6,814		≈ 4.88	≈ 5.0	≈ 10.1
1954 (Commerce Census)	39,282	182,588	221,870	≈ 18,000 <sup>b</sup>	≈ 82,293 <sup>b</sup>	100,293			81,337	40,240					
1954 (my estimate)			240,000	≈ 18,000 <sup>b</sup>	126,558	144,558			81,337 (33.89)	8,105	6,000				
1964			382,303	36,636 (9.649)	193,779 (51.037)	230,415	119,514 (31.447)	17,019 (4.482)	136,533 (35.969)	12,792 (3.369)	2,619		7.446	7.713	≈ 12.4
1967 <sup>c</sup> (Commerce Census)	57,770	308,928	366,698			138,002			181,873	46,841					
1967 (my estimate)			455,000	[50,000]	[195,000]	[245,000]	[161,000]	[25,000]	[186,000]	[21,000]	[3,000]				
1970(a) (Conceptually comparable to earlier years <sup>e</sup> )			535-545	[57,000]	[235,400]	[292,400]	[176,200]	[31,000]	[207,200]	[36,300]	[4,000]		8.57-8.73	8.57-8.73	≈ 13-14
1970(b)			550-60	58,838	214,480	273,318	174,045	31,802	205,847	26,369		49,500 <sup>d</sup> 50,000	8.83-9.00	8.83-9.00	13-14

<sup>a</sup>Calculated on the assumption that the figure in Col. (3) is accurate. It is slightly inconsistent with the figure of Col. (14), as the difference between them should be about 0.17 percentage points.

<sup>b</sup>The breakdown of the commerce census category "proprietors and associates" as between employers and independent workers (population census categories) was based partly on what seemed a logical extrapolation of the employer category over the three year period 1951-54, and in part on implicit number of independent workers, under varying assumptions with respect to number of employees per employer for those small firms which did employ workers. If it was assumed that the paid workers each corresponded to one employer, the implicit number of independent workers is 69.6 thousand, and if two employees correspond to each employer the number is 84.5 thousand. It is possible, of course, that the owner or employer is not actually engaged in commerce and does not appear at all in the population census under commerce. In any case the figure of Col. 5<sup>a</sup> arrived at primarily<sup>v</sup> this deductive technique; it is consistent with either almost two paid workers per employer in the firm sizes considered (small ones, since no independent workers are in the high sales categories) or with some employers not appearing in the sector, and a lower employee/employer ratio.

<sup>c</sup>Presumably excludes the unemployed (See sources and methodology).

<sup>d</sup>According to the Encuesta results presented in the Boletín cited, the unemployment rate in commerce, restaurants and hotels taken together was 10.0; since it seems to have been most severe for women, and since these predominate more heavily in the restaurants and hotels, we assume it to be 9 percent in commerce, therefore generating the figure shown here.

<sup>e</sup>For estimates of persons in a given occupational position, the average of the two total labour force estimates 550 and 560 was used, after subtracting the corresponding implicit number of unemployed.

<sup>f</sup>For 1951, 1964, and 1970(a) a percent breakdown of all categories except "no information" is shown.

Sources and Methodology for Table 1

Figures for 1951 and 1964 come from or are based on the population censuses of those years; the 1964 figures are taken directly from the census but the 1951 figures had to be estimated, since in that year (as distinct from 1964) the Resumen General did not distinguish subcategories of the broadly defined commerce sector, which includes banking, real estate, and insurance companies. For some of the departments, the distinction between these activities and wholesale and retail commerce was made and separate figures presented; for the other departments an estimate was made based on an observable relationship between the share of wholesale and retail trade in the total labour force in commerce (broadly defined) in relation to the percent of the population in that department living in urban areas. Since most of the larger departments did present this breakdown, the error in the figures presented here is probably small.

Sources and Methodology (continued)

The figures for 1954 come from DANE, Censo Nacional de Comercio y Servicios 1954, Bogota, April 1957. The 1967 figures come from DANE, Encuesta de Comercio, 1967. Finally, 1970 figures are from DANE, Encuesta de Hogares, 1970.

There seem to be some systematic differences between the evidence coming from the commerce censuses and the population censuses, as well as a substantial difference in coverage between the 1954 and 1967 commerce censuses. Major differences between population and commerce censuses appear to be:

1. The latter record more unpaid family workers employed in commerce; this presumably reflects the fact that the people reported in the commerce censuses were those working in the establishments on a given day while those included in the population censuses had to have worked one-third of a normal year working period. Since commerce is noted for the number of people who work relatively short amounts of time, this difference is understandable; it is interesting to note that according to the 1964 population census the commerce sector as a whole had a higher average number of months worked per person than did all other sectors as a group. But this is not inconsistent with its having a substantial number who worked very little and therefore were not listed as members of the labour force at all in the population censuses.

2. The commerce censuses miss many independent workers in the sector--such people as street vendors, very small-scale operators, etc., are not captured as well as in the population census. The best guess would seem to be that while about 2/3rds of these people were recorded in the 1954 commerce census, probably only about half or less were captured in the 1967 census.

Sources and Methodology (continued)

3. There may have been some relative under-reporting of paid workers in the commerce census since the population census includes a person as a member of the labour force in a given sector even if he is not employed on the day of the census; as of 1967 in CEDE's eight city survey the ratio of unemployed who had previously worked to the labour force in commerce was 15.2 percent. This figure was far above the relatively low rates usually observed in the commerce sector, usually below 5 percent in Bogota, for example. In DANE's 1970 Encuesta de Hogares the figure was 10.6 for urban Colombia as a whole.

As just mentioned, a systematic difference arises between population and commerce censuses in that the former includes less family workers than the latter. In our basic estimates of the total labour force in commerce (Col. 3) we opt here for the population census concept. In arriving at the 1954 estimate the following considerations were borne in mind. If the population concept of unpaid family workers is adopted, it is assumed that the relative growth rates over 1951-54 and 1954-64 are the same for paid employees and non-paid employees, and the paid employee figures of the 1951 and 1964 population censuses and the 1954 commerce census are assumed to be accurate, then the implicit labour force in this sector in 1954 is 247.9 thousand; we opt here for a slightly lower total figure of 240 thousand. The implicit growth rates of the unpaid portion (including in this the category "no information") are 9.5 over the first three years and 3.94 over the rest. One might expect that with per capita income growing rapidly in this sub-period the relative growth rate of the paid workers would be higher than in the later subperiod, though on the other hand the population swarming into the cities as a result of the violencia might auger in the other

Sources and Methodology (continued)

direction; on balance the former argument seems a little the stronger. The no information figure is quite arbitrary; unpaid family helpers are assumed to grow at the same rate of about 8 percent as does the larger group of all unpaid workers. The figure for independent workers (arrived at by deduction as described in footnote "b") implies that about 44 thousand were missed in the 1954 commerce census; this seems plausible in view of the great difficulty (especially in the first effort of this sort) of picking up many of the sidewalk salesmen, and so on. The 1964 figures are assumed to be accurate. The evidence for both 1967 and 1970 creates a number of problems, however. We turn first to 1970.

The total figure for commerce in 1970 (Estimate b) is based on the estimate of 8.83-9.00 percent of the active population in this category (Col. 13) and a labour force estimate of 6.227 millions (DANE Encuesta's estimate). This estimate could be too high, due to the probable relative overestimation of urban as opposed to rural labour force in the Encuesta. The estimate of total commerce labour force (550-560 thousand) with the accompanying estimate of commerce as a share of the active population was based on original information from DANE (Boletín Mensual de Estadística, No. 238, pages 79 and 63) which presents as one category, "commerce, restaurants and hotels"; the assumption was made that the share of commerce in this total fell a little from .6783 in 1964 to .657 - .669 in 1970; the implicit argument here is that hotels and restaurants are more urban concentrated than is commerce. It must be remembered that for the broad category "commerce, restaurants, and hotels" the implicit unemployment rate observed in the Encuesta was quite high; only 754 of a total of 838 thousand people in the sectoral labour force were listed as occupied. The unemployment was 16 percent for urban women, indicating probably a high share of first-time job seekers in this category.

Sources and Methodology (continued)

The figures just discussed are not comparable with those corresponding to earlier years for two reasons: first 1970 is probably the first of the sources which includes in a sector's labour force most of the people who are or will be habitually employed there but are presently unemployed; in particular those who are first-time job seekers. In CEDE's 1967 eight-city unemployment survey, it was found that an atypically high percent of first-time job seekers were sales people; but the 1964 population census, along with the other sources used here, essentially missed all of these people. Second, in the figures for the earlier years no attempt was made to correct for censal under-enumeration of the total population or labour force; the 1970 Encuesta seems to be closer to a realistic figure than the earlier ones, so the implicit growth rate of the labour force between 1964 and 1970 is too high. The figure presented here as 1970 (a) is designed to include the same degree of under-enumeration as the earlier sources and to give the same treatment to first-time job seekers, i.e., to exclude almost all of them. With these two modifications the estimated total labour force in commerce is in the range of 515-525 thousand. Some uncertainty clearly attaches to the assumption that "restaurants and hotels" grew faster in the 1964-70 period than did commerce, although it is a plausible hypothesis. (For the two categories together, the implicit growth between 1964 and 1970 in the sources used is about 6.2% after correcting for the relative underenumeration in 1964 as compared with 1970, but not for the different treatment of the unemployed--actually, therefore, the rate is a little below this . This hypothesis cannot be held with great confidence, however, since the "people in commerce and salesmen" category appears to have increased from about 7.11% of persons reporting occupation (6.86% of whole labour force) to about 9.5 - 10 over the period, suggesting that the increase

Sources and Methodology (continued)

in the commerce sector employed labour force indicated in Col. 14 may even be downward biased.

It should be noted that the distribution calculated in row 1970(b) probably involves a downward bias for employers and independent workers and an upper bias for the paid categories, since the unemployed would presumably be concentrated in the latter groups, and they have been excluded here. No attempt, however, is made to make these figures more precise, since they are not used for comparison with the other years in any case.

The same problem comes up with respect to the estimate 1970(a), and here, after subtracting 3,000 people assumed to be "no information" from the 520,000 total, and previous workers who are unemployed--assumed to be .4113 percent of the labour force (21,264) and to be eight-ninths white collar workers--then the figures shown in this row emerge. The higher figures in the paid columns here than in row 1970(b) are due to the different assumption made about the disposition of the unemployed in the two cases. The 1970 occupational distribution is deduced indirectly and is therefore highly tentative. The 1970 Encuesta permitted an estimation, (by applying regional weights to the occupational position figures presented on a regional basis) of the occupational position distribution of commerce, restaurants, and hotels, for occupied persons only. Using 1964 information on the relative occupational position distributions in the two categories, various assumptions were made about the relative changes in the labour force distribution by occupational position between the two years. But, with any reasonable assumptions, the resulting distribution shows an implausibly low number of white collar workers and an implausibly high number of independent workers in the light of the 1967 and 1964 figures. The resulting 1970 white collar figure is well below

Sources and Methodology (continued)

the implicit level for 1967 and the number of workers per employer is only about 1.5, whereas in 1964 it was about 4. While it cannot be rejected out of hand that dramatic changes occurred over 1967-1970, it is much more likely that there is some flaw in this indirect methodology. The figures shown (in square brackets to indicate their tentative nature) are, accordingly, a sort of compromise between those implicit in the above calculations and what would have been expected on the basis of trend extrapolation. If restaurants and hotels grew much less rapidly than commerce then our indirect estimates would be less inconsistent with the 1964 and 1967 figures, but still well out of line. Such an interpolation would imply more rapid growth of commerce than indicated in the estimates of Table 1.

The estimates of 207,200 paid employees and 57,000 employers imply a ratio of employees to employer of 3.64 (about equal to the 1964 ratio). With these figures on occupational position--modified substantially from those suggested by the Encuesta--the direction of change of occupational position structure is different from that implicit in the unrevised Encuesta figures, with independent workers decreasing slightly and paid employees increasing. The arbitrary nature of these final year guestimates must be borne seriously in mind; the figures cannot be relied on to provide accurate evidence as to occupational structure trends over the present 1964-1970.

Accepting the 1964 figures as relatively accurate both in total and in occupational position structure, and the 1970 figures as reasonably accurate in both cases, a plausible estimate for the total labour force in commerce in 1967 is 455,000; with equal growth rate over 1964-67 and 1967-70, the figure would be about 450,000, but since the labour force in the commerce census referred in any case to November 1967, one would have expected a somewhat higher figure and a figure of 450 or lower suggests inconsistency with

Sources and Methodology (continued)

both the 1964 and 1970 figures in respect of one or more of the occupational positions. Given the relatively high number of paid employees reported, and the certainty that a few were still missed, it is hard to believe that the true figure in these categories was less than 186,000. Interpolating the unpaid family workers according to the population concept, allowing 3,000 "no information" people, and applying about the same employee/employer ratio as in 1964-70, implies 195,000 independent workers. Given that the paid employee figure is relatively solid, a lower estimate of the total commerce labour force would imply less independent workers, suggesting a somewhat implausible drop from 1964 to 1967 and a subsequent increase by 1970. It is perhaps more likely that the totals are still underestimated here, in which case the share of independent workers is also underestimated. As noted above, the figures for both 1970 and 1967 including the occupational structures are still open to considerable doubt. In 1967, of course, some allowance must be made for sampling error, since this was not a census.

As between the 1954 and 1967 commerce censuses (perhaps more comparable to each other than to the population censuses), there is substantial difference in the occupational position structure; whereas only about 36 percent of the employed persons reported in the 1954 census were paid employees, this ratio was about 50 percent according to the 1967 census. Given that the total employment registered in the latter census was below that of the 1964 population census, and that independent evidence suggests that the number of people in commerce was rising rather rapidly in the post-1964 period, these pieces of evidence taken together suggest the 1967 census tended to capture the larger concerns in the sector and missed a higher share of the smaller operators than did the 1954 census. This is not implausible in the light of the methodology in the two cases. The 1954 "census" was in fact a

census, covering 980 municipios. In 1967 only about 19,000 establishments were finally sampled out of a total of 170,000 believed to exist. (See DANE, Boletin Mensual de Estadistica, No. 227, Junio, 1970, p. 183.)

There was first a choice of 78 municipios including the 22 capital cities; 81,000 firms were enumerated and a stratification by type and size (according to sales) was effected leading to the final choice of 18,000 establishments. This methodology might have an implicit bias against the smaller establishment, although it is not obvious that there was a bias toward the larger cities; this depends on whether blow-up factors were used. In any case, for one reason or another, it seems clear that the smaller establishments were missed, perhaps deliberately; the discussion of methodology does not indicate whether it was planned to enumerate one-person establishments or not. (As noted above, this must indeed have been done in 1954; The number of independent workers listed in the 1951 population census was about 100,000. If the estimates shown in Table 1 are valid, about half of these establishments would have been missed in 1967, assuming no other establishments were missed--otherwise a greater share.

End of Sources and Methodology: Table 1.

Factor Proportions in Commerce Compared to Other Sectors

If in fact commerce, and perhaps in particular retail commerce, performs an important sopping up function in the labour market, one would expect it to be characterized, at least in a good share of its productive units, by high labour intensity and by a high share of independent workers and family labour. (The latter especially in view of the fact that it is frequently argued that potentially labour intensive activities may not be undertaken if they involve a lot of workers since only in the institutional context of the family can low opportunity cost labour really be taken advantage of.) Colombia's statistics are only gradually evolving towards a state where cross sectoral comparisons of the labour/capital ratio can be made with any degree of accuracy; some rough guesses are presented in Table 2. These figures indicate that small-scale retail commerce in food and beverages does appear to involve substantially less capital per worker than, for example, a small farm and probably than cottage shop activity in industry (although figures are too scanty to make the last comparison with any accuracy).<sup>1</sup> Small-scale activities in all three sectors tend to produce similar levels of income or output per person (note

<sup>1</sup>As indicated in Table 2, a small commerce establishment--best defined perhaps as one in the food and beverage line and typically having only a little over one worker, implied in 1967 only around 3,000-3,500 pesos of capital. (For method of calculation, see footnotes to Table 2.) The average traditional crop farm, with perhaps around one and one-half workers apparently requires over four times as much capital, and the representative cottage shop establishment in manufacturing (with about one and one-third workers) would probably require at least double and perhaps three or four times as much capital. Judging from the crudely estimated output capital ratio of the small scale firms (0.4-0.6) it would seem plausible to postulate that for cottage-shop this might lie in the range 0.6 to 1.0. Even if it reached the latter figure, capital per worker would be 6,500 pesos. Undoubtedly there is a wide range of capital labour ratios in this cottage-shop sector, which ranges from shoemakers, with probably quite low capital output ratios to auto repair shops with probably quite high ones. No doubt for some activities the figure is comparable to that in commerce. But the difference between the two averages is important here.

TABLE 2

Relative Labour Intensity of Commerce and Other Activities<sup>+</sup>

<u>Sector or Activity</u>	<u>Capital/Worker</u> (1)	<u>Output/<sup>r</sup>Capital</u> (2)	<u>Output/<sup>r</sup>Worker</u> (3)	<u>Labour Share</u> (4)	<u>Average Number of Workers</u> (5)
		<u>1967</u>			
Commerce: Total	32.2- 43.2	.64-.86 <sup>(s)</sup>	27,666		
Retail	26.4- 35.4	.64-.86 <sup>(s)</sup>	22,680	.40-.55 <sup>(m)</sup>	
Wholesale	70.7- 94.6	.65-.87 <sup>(s)</sup>	61,523	.35 <sup>(n)</sup>	
Food and Beverages					
All Retail	6818-9121	1.48-1.98 <sup>(p,s)</sup>	≈13,500	.30-.40 <sup>(t)</sup>	≈1.2 <sup>(y)</sup>
Establishments with < 100,000 sales	2844-3559	1.77-2.11 <sup>(z)</sup>	6.0-6.3	n.a. <sup>(v)</sup>	1.0+
		<u>1966</u>			
Agriculture					
Commercial	123,000-171,000	.18-.25 <sup>(g)</sup>	30,770 <sup>(a)</sup>	.15-.20 <sup>(e)</sup>	
Traditional Crop	13,750	≈.35 <sup>(b)</sup>	4,809 <sup>(a)</sup>	.50-.65 <sup>(f)</sup>	≈1.3-1.7 <sup>(w)</sup>
Cattle (dairy and meat)			19,342 <sup>(a)</sup>	.25	
		<u>1964</u>			
Manufacturing					
small scale (5-2 workers)	26.1- 39.1*	.4-.6 <sup>(l)</sup>	15,647	.378-.409 <sup>(j)</sup> (1964)	
large scale (≥ 100 workers)	133.2-200.0*	-.24-.36 <sup>(k)</sup> (or lower)	47,946	.330 <sup>(h)</sup> (1964)	1.33 <sup>(x)</sup>
cottage-shop			≈ 6,500		

Table 2 (cont'd)

<sup>+</sup>Note that the problem of inflation has been ignored in all the calculations made here, for example of commerce margins, value added, etc. so there is a tendency for both of these to be overestimated by a few percentage points.

<sup>\*</sup>Note that these figures are deduced from those of columns 2 and 3, and are therefore subject to any errors that the latter columns may have. They should be thought of simply as giving orders of magnitude.

Sources and Methodology:

Described mainly in the footnotes. Note that capital figures in commerce remain fuzzy and based to a considerable degree on guess work.

Footnotes for Table 2

<sup>a</sup>Data from Wayne Thirsk, The Economics of Farm Mechanization in Colombia, Yale Ph.d. Dissertation, 1972, p. 356; U.S. Department of Agriculture, Foreign Agricultural Economic Report No. 72, Changes in Agricultural Production and Technology in Colombia, Washington, D.C., June 1969, p. 72, (the author of this study was Jay Atkinson). Figures originally in 1958 pesos were converted to 1966 pesos by the GDP deflator.

<sup>b</sup>Source: Albert Berry, "Land Distribution, Income Distribution and the Productive Efficiency of Colombian Agriculture," Yale Economic Growth Center Discussion Paper No. 108, March 1971, Table A-5, p. 68. The capital figure used includes land.

<sup>c</sup>Albert Berry, The Development of the Colombian Agricultural Sector, forthcoming, Table A-11.7 for value of cattle and USDA op. cit., for value of output of cattle and milk. No correction is made for the apparent error in the milk estimate from the latter source. Both ECLA (referring to 1953) and De Meel (referring to 1958) estimated other forms of fixed capital apart from cattle and cattle raising to be 1/7 - 1/8 of the value of cattle; here we assume 1/7. If anything, the resulting ratio may be biased up.

<sup>d</sup>Atkinson's figure for land rental (published in U.S.D.A. Foreign Agricultural Economic Report No. 66, Agricultural Productivity in Colombia, Washington, D.C. October 1970, p. 15) was used here, and the rate of return was assumed to be 10% in calculating a value of land figure. The resulting estimate is somewhat implausible in that the implicit land value is greater than that of cattle; it does, on the other hand, produce a reasonable "output/value of land and capital" ratio, reasonably consistent, after working capital is included, with the observation that the rate of return on capital is typically in the neighbourhood of 10%. (See, for example, Thirsk, op. cit., p. 25.) It is also reasonably consistent with the large farm "output/value of land and capital" ratio as presented in Berry, "Land Distribution ... " op. cit., p. 68.

<sup>e</sup>If the 1966 average wage rate were applied to the mechanized labour force estimated by Thirsk, it would imply a labour share of only 10.7%; undoubtedly average wages are higher in this sector, however, both because the commercialized regions have higher average wages than Colombia as a whole and because the workers on commercial farms have higher wages than those on other farms in the same region. These two factors taken together might imply that the actual labour share would be in the 15-20% range. This is roughly consistent with the labour share estimates of Berry ("Land Distribution ..." op. cit., p. 27) and Thirsk (op. cit., p. 143) on a crop by crop basis.

<sup>f</sup>This figure is designed simply to indicate that the variable in question is high; for small scale farmers with no alternatives in the labour market, their imputed labour share is theoretically undefined. If the average wage rate for Colombia is compared to the average labour productivity estimated by Thirsk for the non-mechanized crop sector, the resulting figure is .685. This is presumably too high both because the relevant wage rate to apply here is lower than the Colombian average and because these farms have products other than

crops. In our estimate made elsewhere of about 40% based on the application to the total labour force of the average paid wage rate (see Albert Berry, "Some Determinants of Changing Income Distribution in Colombia: 1930-1970," Yale Economic Growth Center Discussion Paper No. 137, March 1972, p. 31), then the figures corresponding to the two assumptions for commercial crops would be 61 and 64%. We leave a wider range here to indicate the uncertainty of the estimate.

<sup>g</sup>Indirectly deduced from the labour share information, and making the arbitrary assumption that the rate of return to capital lay in the 16-20% range; the capital stock implicitly used in the denominator here is the total one; if it were limited to physical capital, the ratio would be higher (unless it were assumed that the 16-20% rate of return really expressed total profits over fixed capital). As for most of the other calculations in agriculture, capital includes land.

<sup>h</sup>This figure is taken from Albert Berry, "The Relevance and Prospects of Small Scale Industry in Colombia," Yale Economic Growth Center Discussion Paper No. 142, April 1972, p. 3; the figure directly available is the paid labour share, equal to 32.52, but since the imputed labour share is very small for the large firms this would probably not raise it above 33 or 34%.

<sup>j</sup>Based on the source cited in the previous footnote, and the assumption that unpaid workers receive (as imputed labour income) at the one extreme one-half the average wage of those who are paid, and at the other extreme the same amount. Such a labour share estimate is difficult because such a high share of the workers are self-employed.

<sup>k</sup>A very tentative calculation based on the labour share estimate and presumed gross rates of return to capital; this calculation can be improved on with direct capital stock figures.

<sup>l</sup>Output/horsepower is only a shade higher for the large scale firms (in 1964, 10,340 pesos) than for the small ones (9.924) but Todd's calculations (John Todd, Efficiency and Plant Size in Colombian Manufacture, Yale Ph.D. dissertation, 1972) indicated that capital/horsepower is 2 to 3 times higher for the largest group than for the rest, as did my estimates. The largest group in DANE's classification system ( $\geq 200$  workers) had a somewhat lower output/horsepower ratio than the largest group used here ( $\geq 100$  workers) and it is unknown how the smallest firms compared with "the rest" in that comparison. Here we assume an output/capital ratio about 50% higher than for the large scale firms. This would imply a rate of return to capital of 24 to 36%, which seems high and rather suggests that the output/capital ratio is overestimated here. Presumably our indirect methodology has tended to underestimate the capital stock.

<sup>m</sup>The lower limit estimate is based here on application of the average paid wage (13.79 thousand pesos) to the estimated 184,000 paid workers and 4,000 for the remaining 208,000. The average wage paid in the size category with sales less than 100,000 was about 6,000 so the implication here is that many people were really part-time; this would appear to give a lower limit estimate though it must be borne in mind that 44.3 thousand of the 309 thousand counted

in the census were unpaid family workers, so this part-time phenomenon is probably widespread. But, on the other hand, a downward bias is created with respect to some of the owners whose imputed wage would be well above the average paid wage in this sector. The upper limit estimate is deduced by applying the average wage rate to all the workers; there is no way of proving that it is an upper limit, but it seems highly unlikely that the true figure could be far above it.

<sup>n</sup>The average wage was simply applied to the labour force; wage earners in any case involved over 80% of the labour force, and of the remainder, 75% were owners and associates (as opposed to family workers), suggesting that the figure presented is probably slightly downward biased, unless the family workers did almost nothing.

<sup>p</sup>This figure makes no allowance for the possibility that the many small establishments presumably missed in this category had a significantly different ratio.

<sup>r</sup>Value added in commerce was calculated, on the basis of the 1967 commerce census, as "value of goods sold minus value of goods purchased plus change in inventory over the course of the year." No allowance was made for possible bias in the census figures due to failure to take any account of inflation; especially in food retailing where turnover is relatively high (according to these figures about 15 times per year), the bias involved would be small. (See Muestra de Comercio Interior, 1967, op. cit., p. 20.)

<sup>t</sup>This figure is conceptually ambiguous as well as being difficult to estimate in practice, since of a total sectoral labour force which might be in the neighbourhood of 190,000 (including persons missed in the 1967 census, here estimated at 45,000) the census records remuneration to only about 27,000. It is necessary to calculate an imputation for the unpaid persons listed in the census and for unrecorded persons. Using a value of 3,000 pesos for the first group and 2,500 for the second we arrive at a labour share of 27.4, and with values of 5,500 and 3,500 we arrive at 40.6. Hopefully these results give lower and upper limits, respectively.

<sup>v</sup>No attempt is made to estimate the labour share for this category; even in the census only 3.7 thousand of 87.9 thousand employed persons were paid, and presumably many thousands of persons who were missed by the census fall in this category. It is clear that the average wage paid cannot be extrapolated to unpaid persons either in the recorded establishments or the missed ones, so any labour share estimate would be guess work.

<sup>w</sup>Estimated roughly on the basis of the relationship between (a) the total agricultural labour force minus persons employed in cattle raising, mechanized crops, and coffee and (b) an estimate of farms based on a subtraction from the total number of farms indicated in the 1960 agricultural census of plausible numbers for cattle (170,000), coffee (200,000), and mechanized crops (10,000). This figure is not very accurate, but for our purposes it is almost sufficient to know that it lies between one and two; the average ratio for the whole

agricultural sector is only two, and the figure is obviously bounded at the lower limit by the value one.

<sup>x</sup>Based on figures in Berry, "The Relevance and Prospects ...," op. cit., p. 3.

<sup>y</sup>It takes account of assumed underenumeration in the 1967 commerce census, and the assumption (used in other calculations in this row) that the excluded firms were smaller in every respect than the included ones.

<sup>s</sup>The assumption was made here that inventory (average of beginning year and end of year) was one-half to two-thirds of total capital. Lack of information on other forms of capital is the weak link in the estimates; these limits were based on data collected in the Cali study by Riley et al. and the 1970 DANE commerce survey (Muestra de Comercio), as discussed below.

<sup>z</sup>Here it was assumed that inventory constituted between two-thirds and four-fifths of all capital.

that the description of small is, inevitably, arbitrary in each category) and as nearly as can be ascertained from these figures, the characteristic separating commerce from the other two is its very high output/capital ratio.

Another possible advantage relative to the other two sectors is the relatively low amount of skill required,<sup>3</sup> and the fact that entry is probably easier in some respects. Further analysis of this question is needed, of course.

Table 3 presents data which, while specific to food retailing in Cali, constitutes the best source on capital in commerce available to date. (Additional data are presented in Tables A-6, A-7 and A-8.) The breakdown of retail food marketing by type of operation reveals new insights. While value added and sales per worker are, in general, closely related to average size of establishment, value added per unit of capital--while varying erratically<sup>1</sup>--tends to be negatively related. One exception is the category "tiendas," which comes out lowest in both labour and capital productivity. Beef stalls are also far off (this time below) the implicit "isoquant" formed by plotting as a single observation the input/output ratios for each category distinguished here (see Diagram 1). This is apparently due to a market imperfection involving subsidized rent and other factors.<sup>2</sup> The other observations tend to lie more or less along a straight line; the slope of the line is such as to indicate that, if all faced the same capital and labour prices, the relative price of capital would be extremely high. In fact it is clear that factor price differences must be at work here, labour being much more expensive and capital much cheaper for the larger scale establishments towards the left of the diagram.

<sup>1</sup>Not surprising since the categories distinguished here are different types of commerce and would therefore be expected to have different production functions.

<sup>2</sup>See Riley, et al., Marketing Coordination ... op. cit., p. 66.

<sup>3</sup>This may be debatable; the skills tend to be different. As discussed below, people in commerce are not low on the educational scale.

Table A-6a  
Factor Proportions in Cali Food Retailing

	Sales- Purchases (Gross Profit)	Salaries and Fringes	Profits Net of Deprec. and Bad Debt Losses	Capital	Labor	<u>Capital Labor</u>	Paid Labor Share	<u>Net Value Added Capital</u>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Self Service	42,735	21,300	9,232	219,706	16	13,732	60.94	1.909
II. Personal Service								
a) Tiendas	895	160	463	6,260	1.89	3,312	23.09	1.328
b) Small Graneros	3,741	655	1,344	14,636	2.70	5,421	21.17	2.537
c) Large Graneros	8,821	1,670	3,673	35,627	3.00	11,876	20.74	2.712
d) Wholesalers/Retailers	15,518	3,575	6,768	83,636	4.49	18,627	25.61	2.003
e) Banco de Carne				n.a.	2.30			
III. Public Market								
a) Fruit and Vegetable Stalls	581	-	424	558	1	558	-	10.624
b) Grain and Processed Food Stalls	1,466	12	1,136	13,453	±1.037	3,330	.85	4.911
c) Beef Stalls	6,572	873	4,837	2,557	±2.639	969	13.85	29.589
d) Ambulantes	439	-	392	89	1	89	-	55.011

Source: Table A-6a

The Cali study presents useful data on the composition of the capital stock in commerce. (See Table A-9) For the self service and personal service categories inventory is less than half of total capital--a fact to be borne in mind in our discussions (below) of the 1967 commerce census data, where inventories are the only component of capital stock presented.

Relatively few studies have been undertaken on the factor proportions characterizing commerce in developing countries. The degree of factor substitutability is an important question, along with the degree of economies of scale; with a nonhomogeneous production function and important economies of scale, small-scale commerce might have increasing difficulty in competing. Bhalla comments on the existing evidence as to elasticity of substitution: "... it is often assumed that the small retail shops are highly labour-intensive. It would be interesting to explore whether this hypothesis remains valid if one considers inventory-sales ratios as a measure of capital-intensity. Justification for the use of inventory-sales ratio or inventory-labour ratio lies in the fact that the conventional indicators such as per capita availability of horsepower or "tons of steel" or value of equipment used for material production are not very relevant. Besides, the stocks reflect more accurately the annual flow of capital services than the fixed capital in the measurement of relationship between output and capital input. Finally, the variations in size of inventory-sales ratios may also throw light on the relative economic efficiency of small and large establishments in retailing.

The degree of capital-intensity depends on the elasticity of substitution between capital and labour. A priori, one might expect that this elasticity is low in non-material production where by and large, labour is the end-product and quality of services is judged in terms of the amount of labour. The empirical observation of a rise in the share of labour in retail

trades, and also in other services, without a corresponding rise in the share of output also suggests a low elasticity of substitution. However, contrary to expectations, the authors of the CES production function (Arrow et al.) obtained rather high estimates of this elasticity for trade (1.12) and transport services (1.74) from the data for Japan and the USA".<sup>1</sup>

Bhalla effects some new calculations in the production function mold, assuming separability of fixed and working capital, wage labour and own account labour. He focuses in part on the inventory sales ratio, while noting some of the dangers of so doing. (p. 4) He observes that in the family firm enterprise, working capital requirements may be reduced since remuneration does not accrue until the fruits of labour materialize. (p. 5) Based on Colombia's 1954 data he supports the popular expectation of higher inventory sales ratio in smaller establishments.

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<sup>1</sup> A. S. Bhalla, "Economic Efficiency, Capital Intensity and Capital Labour Substitution in Retail Trade," Center Discussion Paper No. 94, September 1970. He refers to the Arrow, et al. study "Capital Labour Substitution and Economic Efficiency," Review of Economics and Statistics, August 1961; he notes that in this study working capital was excluded; this, clearly, could have biased the results.

## Changes in the Structure of Commerce

### Regional

The percent of the active population engaged in commerce has risen systematically in the various departments. (See Table 4) In terms both of absolute percentage point increases and in the share of the additional labour force entering this sector, the more urbanized departments score higher. Among departments for which evidence is available this latter share ranges from 5.4% (Cauca ) to 15% (Atlantico).<sup>1</sup>

These data, like some discussed above, suggest that most of the increase in the commerce share has been due to the increase in the urban and nonagricultural shares in the labour force. Diagram 1 presents the estimate commerce shares in labour force on one axis and shares in "other localities" on the other axis for 1951 and 1964. The regression lines implicit in the two data do suggest a shift in the relationship in question between the two years. Observations for those cities for which separate data were available in 1951 and 1964 are plotted in Diagram 2; they do not reveal any relation between its size and commerce share; the three coastal cities have a higher commerce share, regardless of size.

### By Size of Firm

Between the 1954 and 1967 commerce censuses there was a substantial increase in the share of workers in large establishments; in 1954 and 19.6 percent of the employed<sup>2</sup> were in firms of 5 or more workers; in 1967 the

<sup>1</sup>The reported share for Caldas is above this but must be discounted due to apparent irregularities (or non-comparabilities) in the 1951 census; probably the share was underestimated in that year.

<sup>2</sup>Assuming about 240,000 employed (using, roughly, the population census definition of an employed person); the commerce census indicated about 223,000, but many of these were probably very part time; on the other hand it missed many independent workers, as explained above.

TABLE 4  
Numbers of Persons in Commerce by Department:  
1951, 1964, and 1967 (estimate)

	1951 (population census)				1964 (population census)					1967 Commerce Census						
	Total Labour Force	Commerce and Financial Services	Commerce Only	Share of Labour Force in Commerce	Total Labour Force	Commerce and Financial Services	Commerce Only	Share of Labour Force in Commerce	1964 Commerce Labour Force/1951 Commerce Labour Force	Share of 1951-1964 Labour Force Increase in Commerce	Reported Labour Force in Commerce	Estimated Labour Force in 1967	Commerce Labour Force Reported in Commerce Census/Total Labour Force	Revised Estimate of Commerce Labour Force	Commerce Labour Force Estimate/Total Labour Force Estimate	
	(1)	(2)	(3)	(4) (3)/(1)	(5)	(6)	(7)	(8) (7)/(5)	(9) (7)/(3)	(10)	(11)	(12)	(13)	(14)	(15)	
Antioquia	478,210	23,273	21,050	.0440	558,845	52,235	44,690	.0578	2.123	85.56	13.09	50,782	709,503.6	.07157	51,269	7.296
Atlantico	134,938	18,360	16,785	.1244	193,257	28,791	25,551	.1322	1.5223	88.87	15.02	16,093	209,981.2	.07664	28,300	13.477
Bolivar and Cordoba	272,278	16,538	15,798	.0580	426,475	31,305	29,753	.0674	1.8200	91.85	8.40	18,151 <sup>c</sup>	472,837.1	.03839	32,488	6.871
Bolivar and Sucre					267,334	21,408	20,143	.0753				13,317	296,393	.04493	22,751	
Boyaca	248,697	5,479	5,092	.0205	300,183	11,613	10,361	.0345	2.0348	89.22	10.23	13,299	313,430.1	.04243	13,557	4.325
Caldas + Quindio + Risaralda	346,751	18,271	(17,175)	.0495	408,999	40,668	36,830	.0900	2.1544	90.56	31.38	23,712	425,154.5	.05577	39,008	9.175
Cauca	133,213	4,659	4,462	.0335	187,006	8,010	7,376	.0394	1.6531	92.08	5.42	3,171	202,269.4	.01568	8,124	4.016
Cordoba					159,141	9,397	8,610	.0541				4,834	176,444	.02739	9,737	5.518
Cundinamarca (incl Bogota)	586,831	40,439	33,533	.0571	910,068	102,192	80,306	.0882	2.3948	75.87		112,259	1,007,540.8	.1114	117,083	11.621
Bogota	263,100	30,560 <sup>a</sup>			572,497	83,819	63,597	.1111				97,990	685,719.7	.14290	99,895	14.568
Other	323,731	9,879			337,571	18,373	16,709	.0495				14,269	340,615.9	.04199	17,188	5.046
Huila	97,809	3,028	2,796	.0286	123,441	6,833	5,071	.0492	2.1713	88.85	12.78	5,566	130,226.6	.04274	6,532	5.016
Magdalena + El Cesar	137,862	9,887			216,197	17,497			1.5710	91.81	8.34	7,569	239,699.8	.03158	16,885	7.044
Nariño	204,063	5,539	5,254	.0257	240,028	8,990	8,254	.0344				8,853	249,509.1	.03548	9,025	3.617
Norte de Santander	124,905	6,713			151,560	13,855	12,823	.0846				9,467	178,481.7	.05974	13,669	8.625
Santander	258,574	10,012			302,472	20,081						13,535	313,211.2	.07513	23,990	7.659
Tolima	221,633	9,275			251,803	18,811						16,855	259,432.6	.06497	17,183	6.623
Valle	398,746	29,429			529,544	63,451	56,309	.1063		88.74		42,853	565,267.0	.07581	61,256	10.837
Total of Depts. (excl. Choco)	3,644,510	200,902	180,614 <sup>c</sup>		4,899,638	435,299	370,577 <sup>e</sup>	.0756				52,163	5,245,503.4	.0630	438,869	8.367
Choco	45,087	648	614	.0136	59,844	1,581	1,491 <sup>b</sup>	.0249	2.4283	5.94		786				
Meta	26,802				57,673	3,640	3,264	.0566				3,479				
Other	39,210				116,970	7,416	6,971	.0596				10,285				
Grand Total	3,755,609	203,774	183,400 <sup>d</sup>		5,134,125	440,520	382,503	.0745				366,713	5,509,271	.0666	455,000	8.259

<sup>a</sup> Assuming Bogota has the same ratio of "vendedores/commerce" as does the department, i.e., 15,322/33,533 = .4569.  
Bogota vendedores are 12,456.

<sup>b</sup> Guess.

<sup>c</sup> Includes Sucre.

<sup>d</sup> See Table 1.

<sup>e</sup> Based on the figure for the nation and the assumption that 97% of the commerce plus financial services in the zones beneath this line were in commerce.

<sup>f</sup> or 15,826 people, there were 11,726 or .0500% in 1964

#### Sources and Methodology for Table 4

The data are from the 1951 and 1964 population censuses and the 1967 commerce census. With respect to a few departments the information from the 1954 commerce census strongly suggests serious underestimation, for some reason or other, in the 1951 population census. (See Table A-16) This would seem particularly true in the cases of Nariño and Huila, two of the departments with the lowest apparent commerce share, and also in the case of Boyaca. Possibly Cundinamarca had the same phenomenon, although there the alternative explanation would be an extremely rapid growth rate of the commerce labour force between 1951 and 1953, a phenomenon for which there is independent evidence.

share of workers in "large" establishments (5 or more workers) was probably about 35.5 percent.<sup>1</sup> No more recent source is comparable.

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<sup>1</sup>Assuming the total employment in commerce was 455,000. The 1964 population census recorded 392,000 in this sector.

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Size of establishment is, not surprisingly, rather closely related to size of city, and probably also to the income and wealth levels of a city or region, although we do not have sufficient data to permit an independent test of this. For retail commerce some of the relationships are indicated in Table A-24. There is a generally positive relationship between the variables persons per establishment, paid workers/all workers, sales per person, value added per person, and wages per paid worker and the size of urban areas found in the various departments. Probably some of the cases which do not fit this pattern are due to relatively different degrees of under-enumeration in different regions. Varadero, for example, does not normally have wages comparable to those of the other departments.

Wholesale commerce is naturally characterized by larger establishments than the retail end. (See Table 5). Between 1954 and 1967 comparison of the two censuses (after some adjustments to the original figures--see Table 6) indicates a gradual increase in the relative importance of larger establishment (in commerce as a whole) as employers, but not in terms of sales. Establishments with sales of less than 100,000 pesos (of 1967) accounted for about 52% of the labour force and 8.5 % of sales in 1954; the comparable figures in 1967 were about 46% and about 9%. Very large establishments (sales of 10,000 pesos or more), increased their share of the labour force from 5.5% to 8.5% but their share of sales fell from 29% to 26%.<sup>2,3</sup> The suggestion is, therefore that sales distribution

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<sup>2</sup>The second highest category also had a decreasing share of sales and an increasing share of employment.

<sup>3</sup>This perhaps surprising conclusion might be exaggerated by the data of Table 6 if we have seriously underestimated the labour force in commerce

Diagram 1: Commerce Share of Labour Force and Nonagricultural Share, by Departments, 1951 and 1964

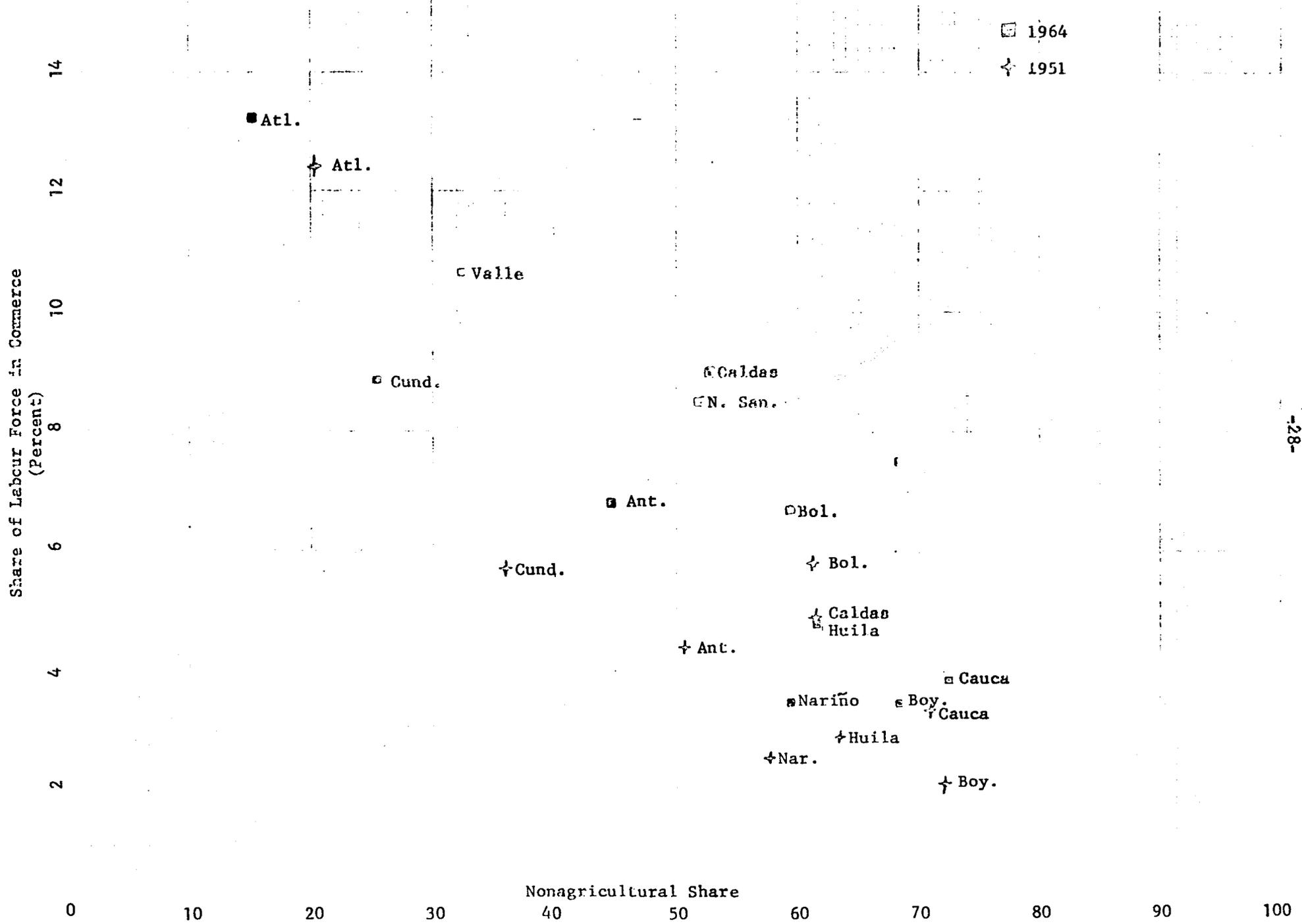


Diagram 2  
 Commerce Share of Labour Force and Size of City  
 1951 and 1964

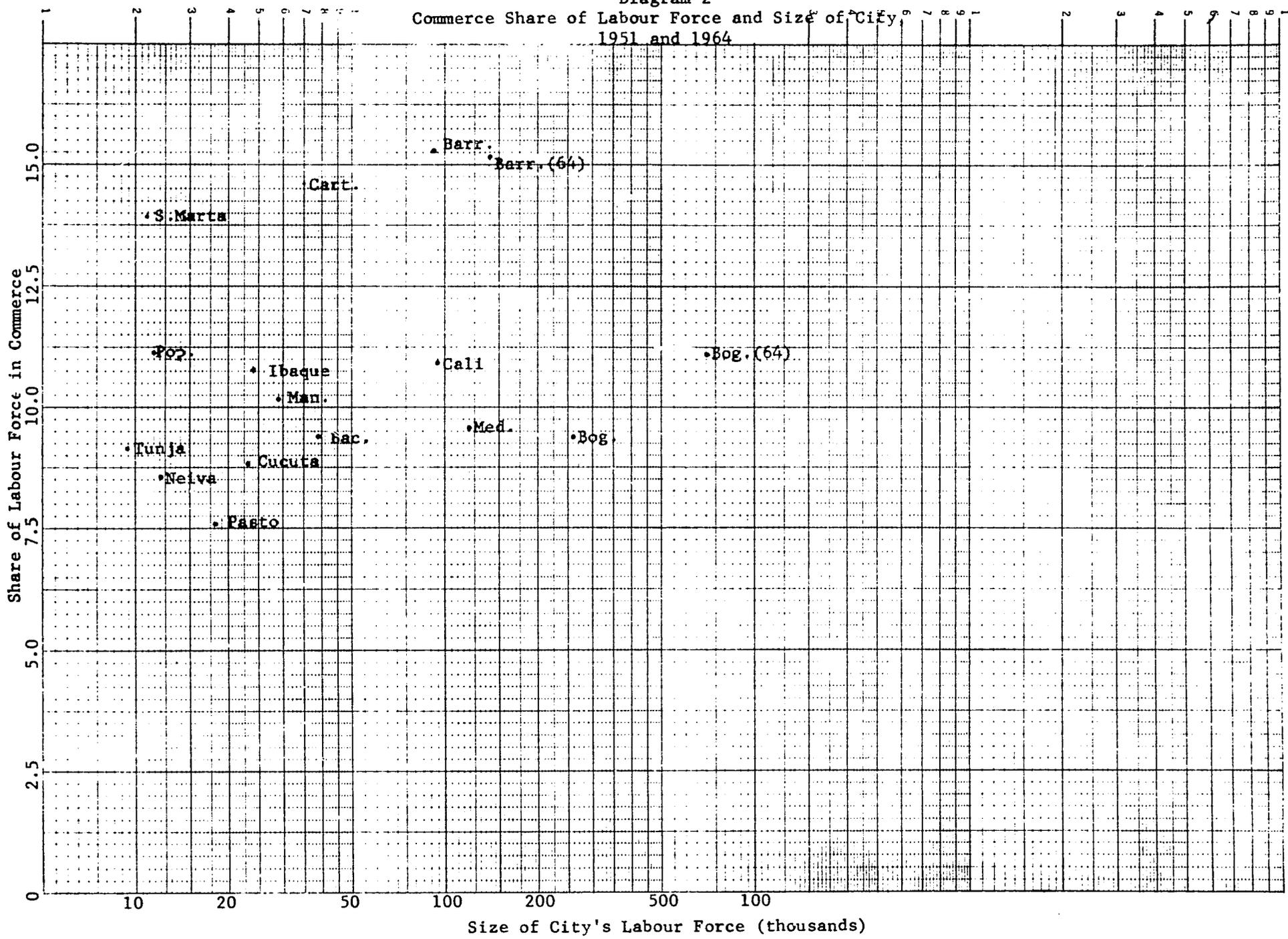


TABLE 5

## Size of Establishment, 1967: Wholesale and Retail

Size of Establishment (Number of Workers)	1967								
	Wholesale			Retail			Total		
	Number of Establishments (1)	Number of Workers (2)	Percent of Workers (3)	Number of Establishments: (4) = (7) - (1)	Number of Workers (5) = (8) - (2)	Percent of Workers (6)	Number of Establishments (7)	Number of Workers (8)	Percent of Workers (9)
< 5	5732	11,616	20.10	152,537	194,013	62.81	158,269	205,629	56.08
5 - 9	1404	9,534	16.50	6,501	41,121	13.31	7,905	50,655	13.81
10 - 19	727	9,587	16.59	2,009	26,013	8.42	2,736	35,600	9.71
20 - 49	385	11,384	19.70	773	21,333	6.91	1,158	32,717	8.92
50 - 74	61	3,530	6.11	107	6,078	1.97	168	9,608	2.62
75 - 99	29	2,342	4.05	62	5,238	1.70	91	7,580	2.06
≥ 100	40	9,792	16.95	72	15,117	4.89	112	24,909	6.80
<b>Total</b>	<b>8378</b>	<b>57,785</b>	<b>100.00</b>	<b>162,061</b>	<b>308,913</b>	<b>100.01</b>	<b>170,439</b>	<b>366,698</b>	<b>100.00</b>

### Sources and Methodology for Table 5

Basic figures are from the 1954 and 1967 commerce censuses. Adjustments to the 1967 census were much greater than the minor changes made here to the 1954 census.

There is no information to go on with respect to the size distribution of the establishments missed in either year, except for the commonsensical conclusion that they would be in the small size categories. In 1967, for example, it seems very unlikely that many establishments in the third size category (with average employment of three workers per establishment) would be missed; the roughly 88,000 workers assumed to be missed (see Table 1) by the commerce census have been allocated (a) one thousand in the third category, (b) five to ten thousand in the second category, and (c) the remainder (77,000 - 82,000) in the first category. For simplicity, it has been assumed that the characteristics of firms missed in the second and third categories from the bottom are the same as for the representative establishment which did report (although probably the ones missed would tend to be smaller than average in each category); in the bottom category it has been assumed that sales per person were either one-half or three-quarters of the average for the category as a whole. Only two estimates of establishments were made for the smallest category; here the same average workers per establishment ratio (1.079) as characterizing the category as a whole in the census was assumed. With respect to paid workers it was assumed that the additional firms had only two-thirds as many per establishment as those in the census, i.e., .072 per firm. For sales, the two figures presented here are the lowest and highest of the four possible estimates involving the assumption of sales per person one-half and three-quarters as high for the reported firms and the lower and higher estimate of the total number of firms.

In adjusting the original 1954 figures it was assumed that only in the bottom two categories were any establishments missed; the total labour force under enumeration was assumed to be 2,000 in the category "sales equal to 100,000 - 300,000" and the rest in the smallest category. In the former category the missing firms were assumed to have an average number of workers, paid workers, and sales somewhat lower than the "reported" firms; specifically 1.8 instead of 2.04, .65 instead of .714, and 145 instead of 165.4 respectively. The unadjusted averages of 1.474, 1.012, and 30.354 were replaced in the calculations for the additional firms by 1.10, 0.05, and 20.0.

in 1954. This is possible, but even a substantial underestimation would not alter the qualitative conclusions drawn.

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by amount of sales was rather stable; the middle sized categories (0.3 to 3.0 million 1967 pesos) increased their share from 30.1 to 36.0 while the highest categories (3.0 million and up) fell from 50.4 to 45.3. Meanwhile sales per worker rose faster in the smaller establishments--so that their employment share fell while sales share was roughly constant--and slower in the largest establishments--so that employment share rose while sales share fell. This does not mean that, for the representative individual large establishment, sales grew less rapidly than for smaller ones; since many growing firms must have changed categories during this period, this datum is not deducible from the figures. Certainly the entry of new firms into the largest category would tend to bias its growth figures downward. What is most striking of all, perhaps, is the great number of quite small establishments founded between 1954 and 1967.

The evolution towards an increasing share of workers in the establishments characterized both wholesale and retail trade. (See Tables A-10 and A-11), but in wholesale the share of sales also rose; in retail the opposite occurred, with median establishments gaining and the smallest establishments losing marginally.<sup>1</sup>

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<sup>1</sup>Given the unknown aspects of the two census' methodology, only definite trends should receive much confidence. The increase in very small wholesale units between the two periods may or may not be a real phenomenon.

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**TABLE 6**  
**Establishments by Level of Sales, 1954 and 1967**

Level of Sales (thousands of 1967 pesos)	1954 (slightly adjusted)							
	Establishments		Labour Force		Paid Workers		Sales	
	#	%	#	%	#	% Distrib.	#	% Distrib.
< 100	88,305	73.65	124,711	51.96	8,182	9.88	25285.9	8.50
100 to < 300	19,789	16.51	40,098	16.71	14,055	16.98	3250.70	10.92
300 to < 500	3,202	2.67	10,242	4.27	5,259	6.35	1309.80	4.40
500 to < 1000	4,188	3.49	16,114	6.71	11,547	13.95	2758.65	9.27
1000 to < 3000	2,876	2.40	19,328	8.05	16,057	19.39	4900.90	16.47
3000 to < 5000	1,211	1.01	16,382	6.83	14,994	18.11	6360.51	21.37
5000 to < 10,000								
≥ 10,000	326	0.27	13,128	5.47	12,698	15.34	8655.52	29.08
<b>Total</b>	<b>119,897</b>	<b>100.0</b>	<b>240,003</b>	<b>100.0</b>	<b>82,792</b>	<b>100.0</b>	<b>29764.67</b>	<b>100.0</b>

a) To simplify the presentation of the percentage figure totals for establishments, paid workers and sales are assumed to include the average of the two values presented in the first two categories.

TABLE 6

## Establishments by Level of Sales, 1954 and 1967

1967 (unadjusted figures)						1967 (adjusted for apparent censal underenumeration)							
Labour Force		Paid Workers		Sales		Establishments		Labour Force		Paid Workers		Sales	
130,601	35.62	13,031	7.16	3496.2	6.91	192,534 -	77.63 -	207,802 -	45.69 -	18,188 -	9.55 -	4529.5 -	8.60 -
						197,166	79.50	212,802	46.77	18,522	9.72	5146.6	9.77
56,599	15.43	20,539	11.29	4430.5	8.76	27,665 -	11.15 -	61,600 -	13.54 -	22,354 -	11.73 -	4821.9 -	9.15 -
						29,907	12.06	66,600	14.64	24,166	12.69	5212.9	9.90
22,139	6.04	11,647	6.40	2810.7	5.55	7,671	3.09	23,239	5.11	12,226	6.42	2950.3	5.60
33,814	9.22	23,081	12.69	5603.2	11.07	7,910	3.19	33,814	7.43	23,081	12.12	5603.2	10.64
48,169	13.14	40,871	22.47	10393.8	20.54	6,215	2.51	48,169	10.59	40,871	21.45	10393.8	19.73
17,830	4.86	16,723	9.19	4198.8	8.30	1,105	0.44	17,830	3.92	16,723	8.78	4198.8	7.97
18,881	5.15	17,893	9.84	6003.2	11.86	876	0.35	18,881	4.15	17,893	9.39	6003.2	11.40
38,643	10.54	38,085	20.94	13668.8	27.01	602	0.24	38,643	8.49	38,085	19.99	13668.8	25.95
366,698	100.0	181,873	100.0	50605.2	100.0	248,015 <sup>a</sup>	100.0	455,000	100.0	190,497 <sup>a</sup>	100.0	52673.5 <sup>a</sup>	100.0



Product Sold

As indicated earlier, there is in the commerce sector substantial heterogeneity by type of product sold. Tables 7 and 8, for retail and wholesale commerce, respectively, illustrate this characteristic.<sup>1</sup> Of

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<sup>1</sup>Data for Bogota and Pasto are presented in Tables A-30 and A-31.

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categories of some importance (say 10,000 workers or more) average workers per establishment varies from 1.3 in Food and Beverages to 5.8 in Automobile Parts and Accessories. And wages per paid worker vary, within the important categories, from 8.5 thousand in Food and Beverages to 14.1 thousand in Automobiles, etc.. Different structure of the service performed, or in some cases different degree of competition, is reflected in wage/sales ratios varying from 1.9 in Food and Beverages to 7.8 in Automobiles, etc. and 11.1 in Furniture and Electrical items for home and office. The value added to sales ratio, a simple function of the markup, ranges between 15 and 30 percent for most of the important items. The overall average is 22 percent. Wholesale establishments are, of course, larger on average than retail one' (averaging almost 7 persons as opposed to about 2 at the retail level); this differential is maintained for all the subsectors, though it varies substantially across them. Wages and value added per worker are, respectively, about twice and almost three times as high in wholesale, with differences among branches in these respects being again rather similar. In both cases the first three categories, Food and Beverages, General, and Clothing and Footwear are all substantially below the average, and in more or less the same degree.

Average labour productivity and wage differentials by size of establishment appear in most branches of commerce (see Tables 7.2 and 7.3), although they are less systematic than for all commerce taken together--partly because

of small sample size. Wages are less erratic than Sales-Purchases + Inventory Change, no doubt because the latter is only a crude proxy for value added. When establishments are classified by number of workers, the labour productivity proxy almost always rises between the smallest and second-smallest categories (13 of 16 cases, by branch and by whole-sale retail); from the second category (5-9 workers) up, there is not much evidence of a trend--in 9 of 16 cases the labour productivity proxy is higher in this second category than in the largest one, although in retail as a whole it is higher in the largest category (not so in wholesale). Similar patterns emerge when firms are classified by level of sales. Meanwhile, the average wage bears a smoother, more monotonic relation with number of workers, though the relation varies a great deal by branch of commerce.

TABLE 7  
 Characteristics of Retail Commerce by Branch, 1967  
 (Value figures in 1967 pesos)

Branch of Commerce	Number of Establishments	Sales per Establishment	Workers/Establishment	Wages <sup>a</sup> /worker	Wages <sup>a</sup> /paid worker	Wages <sup>a</sup> /Establishment	Wages <sup>a</sup> /Sales	Value Added	Value Added/Worker	Value Added/Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
611 Food and Beverages	109,673	108,618	1.30	1,616.5	8,540.2	2,100.6	1.93	2,339.322	16,413	19.64
612 General	11,410	368,680	2.99	5,628.9	9,612.3	16,839.7	4.57	833.713	24,424	19.82
613 Clothing and Footwear	14,006	284,263	2.81	5,075.3	9,334.4	14,238.9	5.01	874.032	22,243	21.95
614 Automobiles, Parts and Accessories	2,189	851,736	5.78	11,523.7	14,104.8	66,567.8	7.82	510.098	40,340	27.36
615 Machinery and Equipment for Industry, Commerce and Agriculture	360	1,395,378	5.22	14,623.4	16,393.6	76,366.7	5.47	97.732	51,985	19.46
616 Sawn Wood and Construction Materials	709	398,406	2.55	6,266.9	10,711.0	15,998.9	4.02	53.804	29,726	19.05
617 Hardware, Lead Products and Electrical Articles for Construction	1,712	712,670	3.89	9,928.7	14,357.2	38,618.6	5.42	299.660	45,001	24.56
618 Furniture and Electrical Items for Homes; Office Furniture and Equipment	7,358	358,388	2.84	13,970.8	18,199.7	39,713.8	11.08	848.618	40,573	32.18
619 Bulk Agricultural Products	46	1,492,457	2.89	6,458.6	12,271.4	18,673.9	1.25	8.635	64,925	12.58
620 Industrial Chemical Products	14	792,500	8.50	19,831.9	19,831.9	168,571.4	21.27	5.292	44,471	47.70
621 Combustibles	2,341	625,416	4.43	7,195.4	9,278.9	31,895.3	5.10	236.391	22,780	16.15
622 Textile Products except Confectionery	39	209,462	3.62	1,063.8	2,173.9 <sup>b</sup>	3,846.2	1.84	4.182	29,660	51.19
623 Minerals and Metals	18	1,602,111	2.22	10,500.0	11,351.4	23,333.3	1.46	1.294	32,350	4.49
624 Drugs and Cosmetics	4,946	413,178	3.64	7,886.0	11,565.3	28,707.4	6.95	439.675	24,420	21.51
626 Other	7,240	215,609	2.80	6,300.0	11,427.5	17,624.3	8.17	480.117	23,704	30.76
TOTAL	162,061	196,175	1.91	4,897.2	11,303.5	9,335.3	4.76	7,032.460	22,764	22.12

<sup>a</sup>Salary plus fringe benefits paid, as distinct from fringe benefits caused. The latter tends to be lower, for some (not obvious) reason.

<sup>b</sup>All very small establishments.

Source: Muestra de Comercio Interior 1967, op.cit. p. 20 and on.

Table 7.2  
Labor Productivity and Wages in Commerce, by Size of  
Establishment and Branch of Commerce

Retail								
Size of Establishment	Food and Beverages		General Merchandise		Clothing and Footwear		Automobiles, Repairs and Parts	
(Number of Workers)	<u>S-P+ΔI</u> Worker	Average Wage	<u>S-P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage
< 5	15,309	6,132.2	17,509	6,745.9	19,460	6,213.2	34,339	9,712.3
5- 9	24,817	10,819.3	31,623	11,380.2	26,542	8,876.2	35,802	9,424.4
10-19	19,991	7,119.9	29,453	9,242.7	18,751	9,854.1	43,951	16,338.4
20-49	17,696	8,831.6	24,934	8,878.4	38,767	17,817.1	53,700	14,609.8
50-74	17,978	19,117.3	35,327	11,409.0	7,299	5,424.2	41,128	18,867.2
75-99	22,860	11,648.3	39,904	13,622.8	35,583	14,314.4	30,676	10,144.5
≥ 100	35,865	19,284.8	30,125	10,028.9	21,073	8,337.8	30,261	20,281.8
Wholesale								
< 5	43,117	10,919.9	38,610	13,601.8	23,482	6,472.5	64,420	18,304.6
5- 9	83,145	9,980.1	65,955	19,581.1	44,270	13,471.3	51,816	9,947.2
10-19	51,692	14,371.6	51,162	18,743.6	32,682	11,673.3	113,254	22,405.3
20-49	65,779	17,708.0	71,856	15,406.8	56,067	10,966.4	79,978	22,419.3
50-74	28,794	18,702.4	28,932 <sup>a</sup>	13,542.4 <sup>a</sup>	43,105	19,707.1	55,675	21,941.6
75-99	39,560	15,739.8			23,987 <sup>a</sup>	7,571.4 <sup>a</sup>	33,493	19,595.6
≥ 100	55,625	29,699.9					87,610	32,069.4

Table 7.2  
 Labor Productivity and Wages in Commerce, by Size of  
 Establishment and Branch of Commerce

Size of Establishment	Furniture, Home and Office Furnishings		Fuels		Drugs and Cosmetics		Other Merchandise		Total Retail		Total Retail and Wholesale	
	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage	<u>S+P+ΔI</u> Worker	Average Wage
<u>Retail</u>												
< 5	2 694 2	10,069.8	1 985 2	6,212.9	2 130 5	7,970.3	1 801 4	8,199.4	1 732 21	720 25	18,446.4	7,510.9
5-9	3 338 2	12,867.3	1 598 1	7,666.3	2 461 2	7,956.0	2 608 0	10,172.3	2 761 12	996 94	32,873.3	10,621.3
10-19	4 876 2	17,203.8	2 506 8	9,028.1	2 524 4	11,819.5	2 135 0	12,274.4	3 146 83	1 209 49	37,638.3	13,153.9
20-49	3 985 2	20,821.7	2 794 6	9,471.8	4 197 2	18,308.4	4 537 4	14,716.2	3 862 56	1 559 52	45,282.3	15,967.8
50-74	6 875 5	23,968.3			1 793 5	14,210.2	4 862 0	22,110.4	2 820 01	1 495 01	28,736.5	15,005.9
75-99	6 038 1	22,284.9					2 142 0 <sup>a</sup>	10,637.9 <sup>a</sup>	3 453 61	1 451 64	41,438.0	15,804.0
≥ 100	6 973 0	26,907.8	6 448 8 <sup>a</sup>	34,830.6 <sup>a</sup>	3 199 5	15,016.9			3 683 27	1 457 82	50,989.6	18,029.9
<u>Wholesale</u>												
< 5	3 721 9	9,657.1	10 396 6	23,628.6	4 850 8	11,702.3	4 666 1	15,926.7	3 722 45	982 11		
5-9	4 793 8	16,438.0	40 621 8	39,232.3	19 233 8	21,822.5	3 247 2	22,106.6	5 556 95	1 302 66		
10-19	2 651 2	13,530.7	14 563 2	19,251.4	11 217 9	21,980.4	3 361 1	14,540.5	5 438 61	1 590 05		
20-49	8 865 3	22,482.8	8 118 8	21,474.3	6 684 6	26,273.6	3 572 5	19,570.6	5 775 65	1 664 05		
50-74	1 298 1 <sup>a</sup>	15,903.8 <sup>a</sup>			5 948 7	19,622.0	3 562 8	14,479.3	2 966 01	1 509 40		
75-99	16 643 0 <sup>a</sup>	38,908.6 <sup>a</sup>	22 032 9 <sup>a</sup>	31,607.6 <sup>a</sup>	4 425 9 <sup>a</sup>	26,246.9 <sup>a</sup>	3 593 2	24,061.4	5 687 45	1 872 52		
≥ 100	6 484 9	61,138.8	29 376 8 <sup>a</sup>	45,336.5 <sup>a</sup>	3 994 6	28,198.0	3 607 2	31,049.4	7 284 52	2 332 59		

<sup>a</sup> Less than three establishments.



TABLE 7.5  
Wages in Small Retail Establishments, 1954 and 1967  
Selected Branches of Commerce

Level of Sales (1967 pesos)	Food and Beverages		General Merchandise		Textile and Clothing		Automobiles and Accessories		Hardware and Articles for Construction Supplies		Furniture and Home Furnishings		Fuels		Other Merchandise	
	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices	1954 Prices	1967 Prices
<u>1954</u>																
< 18,725	450.3	1,656	510.7	1,877.8	700.0	2,543.9	666.7	2,451.5	1,841.7	6,771.9	674.6	2,480.5	418.3	1,538.1	601.9	2,213.2
18,725 to 93,625	746.4	2,745	822.6	3,024.7	926.7	3,407.5	1,269.5	4,667.95	1,432.2	5,266.2	1,121.8	4,124.9	1,040.96	3,827.6	1,189.4	4,373.4
< 93,625	696.75	2,562	780.0	2,868.1	892.7	3,282.5	1,187.3	4,365.7	1,501.4	5,520.6	1,044.9	3,842.1	920.1	3,383.2	1,100.7	4,047.3
93,625 to 183,850	977.9	3,596	1,254.0	4,611	1,697.1	6,240.2	1,797.5	6,609.4	2,463.4	9,057.9	1,430.2	5,258.8	1,172.1	4,309.8	1,535.4	5,645.7
183,850 to 374,500	1,271.1	4,674	1,459.5	5,366.6	1,527.0	5,614.8	4,947.9	18,193.4	2,479.1	9,115.7	1,876.7	6,900.6	1,320.5	4,855.5	1,878.5	6,907.2
<u>1967</u>																
93,625 to 374,500	1,119.97	4,118.1	1,361.8	5,007.3	1,595.4	5,866.3	3,903.7	14,353.9	2,473.1	9,093.6	1,673.8	6,154.6	1,258.8	4,628.6	1,735.4	6,381.1
< 100,000		4,951.4		7,689.8		4,624.4		5,336.5		5,432.95		12,157.1		6,008.6		5,002.2
100,000 to 299,999		5,380.4		5,365.1		5,959.3		7,556.2		11,000.0		8,843.0		4,449.9		8,752.5

Sources: The 1954 and 1967 commerce censuses.  
Wages in 1954 pesos were converted to 1967 pesos by the blue collar cost of living index (i.e., by multiplication by the factor 3.677).

TABLE 8  
 Characteristics of Wholesale Commerce by Branch, 1967

Branch of Commerce	Number of Establishments	Sales per Establishment	Workers per Establishment	Wages per paid worker	Wages/Sales	Value added	Value added/Worker	Value added/Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
611 Food and Beverages	3,423	1,819.87	4.2544	17.0560	.0283	784,862	53.8943	.1260
612 General	283	3,579.70	9.6996	17.0997	.0394	163,706	59.6379	.1616
613 Clothing and Footwear	246	1,684.00	8.2480	12,3492	.0521	76,551	37.7284	.1848
614 Automobiles, Parts and Accessories	227	6,451.61	17.7401	23.2076	.0616	324,211	80.5093	.2214
615 Machinery and Equipment for Industry, Commerce and Agriculture	626	1,663.08	7.1038	25.7320	.0963	305,191	68.6285	.2931
616 Sawn Wood and Construction Materials	1,812	779.70	3.9890	10.6334	.0378	226,339	31.3142	.1602
617 Hardware, Lead Products and Electrical Articles for Construction	151	3,842.69	11.9934	18.8060	.0531	105,550	58.2827	.1819
618 Furniture and Electrical Items for Homes; Office Furniture and Equipment	227	2,371.06	15.5771	31.6295	.1954	213,993	60.5184	.3976
619 Bulk Agricultural Products	275	2,694.91	4.6400	13.2835	.0176	84,234	66.0141	.1137
620 Industrial Chemical Products	81	3,363.98	8.7778	36.9788	.0896	78,509	110.4205	.2881
621 Combustibles	66	30,502.76	32.9848	37.9226	.0402	526,345	241.7754	.2614
622 Textile Products except Confectionery	295	3,955.44	9.8407	18.5342	.0429	161,822	55.7430	.1387
623 Minerals and Metals	90	2,287.50	7.3000	18.1615	.0453	40,880	62.2222	.1986
624 Drugs and Cosmetics	231	3,742.99	15.3333	24.4855	.0959	239,565	67.6355	.2771
626 Other	345	2,479.19	17.7768	24.9932	.1592	224,009	36.5252	.2619
TOTAL	8,378	2,245.54	6.8972	21.1296	.0539	3,555,767	61.5344	.1890

Source: Muestra de Comercio Interior 1967, op. cit., pp. 20 and on.

Trends in the labour force structure by branch of retail commerce and in wages are shown in Table 9a.<sup>1</sup> The declining importance of owners and family workers

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<sup>1</sup>Data for Bogota and Pasto appear in Table A-32.

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and the increasing importance of paid workers show up quite systematically; unfortunately, as discussed earlier, part of it is artificial so it is not clear how systematic the trends were in fact. The increase in wages per worker was general and, though the figures here no doubt exaggerate the extent to which workers in food and beverages gained on the other categories, there seems little doubt but that they did gain. In wholesale (Table 9b)

TABLE 9a

Job Category and Wage Levels by Branch of Retail Commerce,  
1954 and 1967

Branch	Percent of total occupied who are:			<u>1954</u>			<u>wages 1967</u> <u>wages 1954</u>
	owners	family workers	paid workers	wages/ paid worker	wages paid/ worker in 1967 pesos	wages/ estab- lishment	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
611	62.14	26.63	11.23	1,287.2	4691.8	224.9	1.09
612	37.47	18.40	44.13	2,256.2	8223.8	2,627.0	4.77
613	41.22	16.69	42.08	2,405.5	8768.0	2,399.5	4.19
614	17.74	2.83	79.43	4,145.4	15110.0	19,059.8	5.97
617	31.74	7.39	60.87	3,152.4	11490.5	6,055.3	4.49
618	22.22	6.00	71.77	3,704.9	13504.4	10,682.5	8.91
621	32.16	9.63	58.21	1,805.8	6582.2	2,879.0	4.73
626	34.30	11.13	54.56	2,460.3	8967.8	3,692.0	6.02
TOTAL	51.03	21.29	27.67	2,345.8	8550.4	1,227.9	3.57

1967

611	60.8	20.2	18.9		8540.2		1.93	1.820
612	29.5	11.9	58.5		9612.3		4.57	1.169
613	33.7	11.8	54.3		9334.4		5.01	1.065
614	15.3	2.9	81.7		14,104.8		4.91	0.933
615	9.7	1.0	89.2		16,393.6		5.47	
616	36.5	4.9	58.5		10,711.0		4.02	
617	23.3	7.5	69.1		14,357.2		5.42	1.249
618	17.7	5.4	76.7		18,199.7		11.08	1.348
619	35.3	12.0	52.6		12,271.4		1.25	
620	0.0	0.0	100.0		19,831.9		2.13	
621	17.5	4.9	77.5		9,238.9		5.10	1.395
622	27.6	23.4	48.9		2,173.9		1.84	
623	7.5	0.0	92.5		11,351.4		1.46	
624	24.4	7.2	68.2		11,565.3		6.95	
626	31.1	13.6	55.1		11,427.5		8.17	1.274
TOTAL	42.3	14.3	43.3		11,303.5		4.76	1.322

Sources and Methodology: Data are from the 1954 and 1967 commerce censuses, previously cited. For conversion of 1954 wage rates to 1967 pesos an average of the blue collar and white collar cost of living indices was used (value 3.645).

For the names of different branches see Table 7 or Table 8.

TABLE 9b

Colombia: Wholesale  
1954 and 1967

Branch	<u>1967</u>			Wages per paid worker (in 1967 pesos)	<u>Wages 67</u> <u>Wages 54</u>	<u>Wages</u> <u>Sales</u>
	Distribution of Labour Force By					
	Owners and Associates	Family Helpers	Paid Workers			
(1)	(2)	(3)	(4)	(5)	(6)	
611	.2114	.0779	.7108	17,056	1.494	.0283
612	.1279	.0211	.8510	17,100	1.032	.0394
613	.1198	.0192	.8610	12,349	.674	.0521
614	.0315	.0032	.9652	23,208	1.156	.0616
615	.0965	.0274	.8761	25,732	1.256	.0963
616	.2216	.0844	.6940	10,633		.0378
617	.0878	.0072	.9050	18,806	1.419	.0531
618	.0501	.0096	.9403	31,629	1.757	.1954
619	.1740	.0549	.7712	13,283		.0176
620	.0675	.0042	.9283	36,979		.0896
621	.0110	.0092	.9798	37,923	2.235	.0402
622	.0665	.0024	.9311	18,534		.0429
623	.1613	.0563	.7823	18,161		.0453
624	.0350	.0085	.9565	24,485		.0959
626	.0611	.0505	.8883	24,993	1.427	.1592
TOTAL	.1256	.0433	.8311	21,130	1.328	.0539

1954

Branch	(1)	(2)	(3)	<u>Wages per paid worker</u>		(6)
				(4)	(5)	
				(1954 prices)	(1967 prices)	
611	.2706	.0595	.6698	3,132	11,416	10.86
612	.1372	.0291	.8337	4,545	16,567	44.35
613	.1528	.0177	.8295	5,030	18,334	34.75
614	.0499	.0025	.9476	5,508	20,077	45.30
615	.0928	.0142	.8929	5,609	20,445	98.93
617	.2632	.0510	.6858	3,636	13,253	45.59
618	.1060	.0134	.8805	4,938	17,999	73.75
621	.0682	.0203	.9115	4,655	16,967	52.45
626	.0963	.0120	.8917	4,804	17,511	75.63
TOTAL	.1810	.0347	.7842	4,365	15,910	29.87

### Unemployment in Commerce

Commerce is usually thought of as a sector of low open unemployment, a characteristic related to the high share of own account activities. While this interpretation is borne out strongly by historical data for Bogota over the 1963-66 period (see Table 10a)<sup>2</sup> and more or less for sales workers (see Table 10b) the differential favouring commerce seems to be diminishing. Possibly this has been associated with the increasing proletarianization of the sector,<sup>1</sup> or possibly with the influx of people having finally caught up with

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<sup>1</sup>The level in Bogota has always been well above the national average in any case. In 1964, whereas the national level was 36.0, that in Bogota was 51.5, according to the population census.

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the opportunities in the sector. For the eight-city average it was still true in 1967 that the unemployment rate for sales staff was below average (Table A-25) for previous job holders, but it was above average for first-time job seekers, indicating the heavy pressure to enter this sector (Table A-26). A comparable breakdown for commerce itself does not appear to be available. DANE's 1970 study indicated for Colombia as a whole an unemployment rate of 10.8 in commerce, restaurants and hotels, compared with an overall average of 10.0. The male unemployment rate in this sector was below average 7.5 versus 8.8 and the female one above average (16.0 vs. 12.2). Commerce constitutes the bulk of this sector though its share in paid workers (those likely to be unemployed) is lower so it is not clear how much of an increase in commerce sector unemployment occurred between, say, 1965 and 1970; it seems highly probable that there was some increase.

### Who Are Employed in Commerce

Perhaps the most striking feature of the labour force in commerce is its relatively higher age than characterizes the non-agricultural labour force

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<sup>2</sup>The figure for April 1967 is hard to explain. Unfortunately, this is the last in the series.

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TABLE 10a

"Previous Worker" Unemployment Rates by Sector<sup>a</sup>:  
(percent)

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

<sup>a</sup> DANE's 1970 Encuesta de Hogares lumped people in commerce, restaurants and motels together so that division between commerce and services is different in this source from the others used here, where people working in restaurants and motels were included in the service sector. The 1970 unemployment rates are presented in DANE, Boletín Mensual de Estadística No. 238, page 63.

Table 10a continued:

Sources and Methodology: Figures for the period March 1963 through March 1966 for Bogota come from Rafael Isaza, "Occupacion y Desocupacion 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 for 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 10b

"Previous Worker" Unemployment Rates by Occupation  
(Percent)

Sample	Occupational Category						
	Manager/ Professional	Office Workers	Sales Workers	Transport Workers	Artisans/ Operators	Manual Workers	Service Workers
	<u>Eight Cities: 1967</u>						
1967	4.46	13.09	7.41	11.26	12.92	10.15	7.12
	<u>Bogota</u>						
April 1967	4.50	14.2	6.24	13.24	12.49	10.96	6.34
March 1966	7.40	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	1.8	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
	<u>Cali</u>						
March 1965	19.0	15.3	6.57	17.4	18.0	30.0	1.8

Sources and Methodology: The Bogota estimates, 1963-1966 are, as in Table 10a, 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 Cali figure is from the Source cited in Table 10a.

as a whole. Table 11 shows the striking variation in the share of the male labour force in commerce across age categories. For males under 45 years this share is 16.3%; for males over 64 it is 31%, and for the group 55-64 it would probably be around 27 or 28%. Unlike agriculture, where a similar relationship is observed, this is not due to a tendency for young people to "leave the sector" in search of greener pastures, but to a fairly continuous shift from other sectors into commerce over time. Since most people engaged in commerce are in family enterprises, this shift seems usually to be involved with the desire to have the economic independence characteristic of own employment.<sup>1</sup> The mobility into commerce seems, in summary, to be usually

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<sup>1</sup>The desire for such independence is, of course, noted in all countries, and is one of the reasons for the popularity of the commerce sector. (See, for example, Seymour Martin Lipset and Reinhard Bendix, Social Mobility in Industrial Society, Los Angeles, University of California Press, 1966 (paperback), Chap. VI).

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a positive movement for persons involved; as noted earlier, this position has on occasion been challenged, and it has been argued that excessive rural to urban migration, for example, fuels the spongy urban commerce sector.<sup>2</sup>

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<sup>2</sup>For a discussion of mobility among different occupational categories in Colombia, and a comparison with that in several other countries, see A. Berry, "Occupational and Sectoral Mobility in Colombia," mimeo, 1973.

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It is interesting to note that, unlike underdeveloped countries in some other parts of the world, in Colombia women do not form a particularly large proportion of the labour force in commerce.<sup>3</sup> (See Table 12). In 1964 they constituted

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<sup>3</sup>As noted earlier, the population censuses list many less family helpers than do the commerce censuses, perhaps because more of the very part time workers are captured in the latter. Possibly a higher share of these are women than of regular workers.

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TABLE 11

Share of Commerce on Total Labour Force as a Function of Age

<u>Sectors</u>	<u>Age Categories</u>								
	$\leq 44$			45 - 64			$\geq 65$		
	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>
Non-Agriculture	2,184,193	1,410,086	774,107	465,686	340,615	125,071	57,187	40,304	16,883
Commerce	323,553	238,492	85,061	101,714	80,869	20,845	15,253	12,501	2,752
<u>Commerce</u> Non-Agriculture	14.81	16.91	10.99	21.84	23.74	16.67	26.67	31.02	16.30

Source: 1964 Population Census, p. 132.

TABLE 12

Share of Active Persons Employed in Commerce, by Civil Status  
Eight Cities, 1967

	Single	Married	Widowed	Divorced	Total
Men	24.00	20.78	12.96	34.69	21.85
			23.30		
Women	15.19	25.34	25.00	14.68	17.94
			21.05		
Total	19.30	21.42		21.65	20.49

Source: CEDE, Encuestas de Empleo y Desempleo, op.cit., Apendice Estadistico

24.9%; while this share is greater than for the economy as a whole (20 percent) it is below that for the non-agricultural sector (34 percent) by a good margin. (The overwhelmingly important sector of activity for women, constituting over 1/2 of the total employment of women, is services; domestic service accounted in 1964 for about 40 percent of total female employment in the economy.)

The issue of whether rural to urban migrants--often alleged to be in difficult straits with respect to job acquisition--move quickly into the commerce sector has received considerable discussion in the literature. The evidence seems rather strongly against such a hypothesis. Overall figures on who is employed in commerce as between urban natives and immigrants to the city is not very revealing as many immigrants have long established urban residence. In Bogota (1964) about the same percent of the immigrant labour force (14.57) were in commerce as of native born persons (14.86). For immigrants from nearby regions--usually poorer than the average immigrant, the ratio was lower: 13.82 for Cundinamarca and 12.56 for Boyaca. More distant arrivals from places like Caldas (21.46) and Tolima (15.89) showed about average propensity to be in commerce. As between sexes, for men 13.56 of natives and 16.68 of immigrants were in the sector; for Boyaca male immigrants 13.66 percent were so engaged; for Caldas 22.73 were. For women, natives had a 17.81 ratio and immigrants a 10.95 ratio. No specific interpretation is obvious from these data, but one consistent hypothesis is that commerce is on average a middle level and middle income occupation; hence it is relatively unattractive to native born males--highest (income-wise) of the four groups distinguished here, relatively attractive to immigrant males and native women, and unattractive to immigrant women--the lowest income category.<sup>1</sup> For Bogota, information is

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<sup>1</sup>The low share of immigrant women is in part associated with their age structure, in all probability. It is unclear how much of the various differences observed could be explained in such ways, possibly a lot of it.

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available on the participation of natives and immigrants in commerce, by age. (See Table A-27). Useful information is available also in some of the barrio studies carried out in recent years; if surplus labour exists it should be found in these locales, and one might, accordingly, expect a high share of the residents to be involved in commerce. Tables 14a and 14b present information for barrios in Barranquilla and Bogota respectively. The Barranquilla data show a high participation in this sector; it is markedly higher in the best off (and longest established) of the three municipios--Carrizal. In Bogota, the data are not clear due to dissimilar classifications as between the samples and the population census, but it seems likely that participation in commerce is generally below average in the barrios studied. (See Table 14b).

Another possibly interesting datum relates to civil status and tendency to be employed in commerce. As Table 12 shows, among women, commerce is a much more important activity after marriage; for men the reverse is true.<sup>1</sup>

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<sup>1</sup>Note that in this and the previous discussion of natives and immigrants, the financial sector is lumped together with commerce, so some biases may creep in this way. In 1964 it accounted for 13% of employment in "commerce plus financial."

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No overall figures are available on educational levels within commerce, but Table 13 presents figures on educational levels of the labour force in selling activities; both for the nation and for Bogota, the evidence indicates a lower proportion of illiterates and university trained people, and a higher proportion in primary and academic secondary. Probably the share in "other", which includes various forms of technical education, is also below average, although this is difficult to ascertain due to the Census' not presenting separate figures for this category. In the country as a whole, Panel A indicates that men working in sales activities have a slightly lower educational background than typical for the non-agricultural labour force whereas

TABLE 13

Education and Commerce

Panel A: Educational Level of Sales People  
Compared with Total Non-Agricultural  
Labour Force: 1964

	Primary	Academic Secondary	Univer- sity	Other and Illiterate	Other	Illiterate
<u>1. Colombia</u>						
<u>Sales People</u>						
Men	66.75	21.18	1.10	10.95		
Women	67.43	11.52	0.15	20.89		
Total	66.92	18.72	0.87	13.49	≈	≈
<u>All Non-Agriculture</u>						
Men	66.43	18.58	3.44	11.55		
Women	57.50	10.97	0.87	30.65		
Total	63.37	15.98	2.57	18.08	≈	≈
<u>2. Bogota</u>						
<u>Sales People</u>						
Men	55.64	34.73	2.98	6.66		
Women	66.20	17.21	0.39	16.19		
Total	58.83	29.44	2.20	9.53		
<u>All Non-Agriculture</u>						
Men	60.62	24.53	7.31	7.54		
Women	59.20	15.33	2.04	23.42		
Total	60.10	21.19	5.40	13.30		

Panel B: Relative Wages of People in Commerce  
Compared with all Paid Workers,  
Bogota, 1963-66, By Educational Level

Illiterate	1.39 <sup>a</sup>	
Primary 1-3	1.72	} 1.48
Primary 5	1.24	
Academic Secondary 1-2	1.03	} 1.075
Academic Secondary 3-4	1.08	
Academic Secondary 6	1.114	
University 1-2	0.864	} 122.1 <sup>a</sup>
University 3-4	1.035	
University 5-6	1.765 <sup>a</sup>	

<sup>a</sup>Very high standard error because of small sample.

Table 13 (continued)

Sources: Panel A is from the 1964 population census. Panel B is based on figures presented in Marcelo Selowsky, "El efecto del Desempleo y el Crecimiento Sobre la Rentabilidad de la Inversion Educativa: una Aplicacion a Colombia," Revista de Planeacion y Desarrollo, Vol. 1, Julio 1969, No. 2, Cuadro XV-A to Cuadro XVIII-A.

TABLE 14a

Occupational Breakdown of Family Heads,  
Three Barranquilla Barrios

Occupation	Immigrants				Nonimmigrants (the 3 barrios) (5)	Atlantico Males, 1964 (6)
	Santo Domingo (1)	Carrizal (2)	El Bosque (3)	% (4)		
Personal Services	17.5	22.22	14.1	17.86	10.96	5.79
Salesmen, Commerce	17.5	28.57	18.75	22.02	19.18	11.38
Construction Workers	25.0	12.70	20.31	18.45	31.51	14.13
Chauffeurs and Mechanics	5.0	9.52	12.5	9.52	5.48	
Breadmakers, Shoemakers and Gardeners	7.5	3.17	6.25	5.36	9.59	
Marines, Stevedores		6.35	4.67	4.17	2.74	
Other Labourers	10.0	11.11	9.37	10.12	9.59	
Music, Sports		1.59	1.56	1.19		
Unemployed	15.0	4.76	7.81	8.33	9.59	
No answer	2.5			2.38	1.37	

Sources: Cols. (1) through (5) are based on data in Usandizaga Havens, Tres Barrios de Invasión op. cit., p. . Col. (6), which refers to Atlantico and to all men rather than family heads, is clearly not fully comparable. 99 thousand of 146.4 thousands of male workers are found on Barranquilla. Probably each of the figures in Col. (6) would be raised of regions other than Barranquilla could be excluded; the effect of excluding non-family heads is not clear.

Table 14a

Percent Distribution of Occupation of Family Head, Selected Urban Barrios, late 1960's and early 1970's

Occupation	Pirate Barrios			Public Sector Construction	Los Laches (whole labour force)	Invasion Barrios				Males, 1964 (whole labour force) (Bogota DE)	
	Alcala	Acacias	Alque- ria	Floresta (Cali)		Quindio (Bogota)	El Bosque <sup>c</sup>	Carri- zal <sup>c</sup> (Barranquilla)	Sto. Domingo <sup>f</sup>		Inqui- linos <sup>b</sup> (Bogota)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Workers in Construction (Bricklayers, Helpers, etc.)	17	33	23	18	15.0	≥ 28.8 <sup>f</sup>	23.8	17.8	26.0	13.7 (24.5)	10.90
Labourers, unspecified						18.6					
Artisans and Factory Workers	26	19	16	26	8.8	22.0	30.7 <sup>a</sup>	32.3 <sup>a</sup>	22.3 <sup>a</sup>	12.7 (23.1)	26.79
White Collar Employees	29	5	14	15	14.8	6.8 <sup>g</sup>	n.a.	n.a.	n.a.	15.3 (27.8)	46.24 <sup>h</sup>
Street Salesmen (including shoeshines)		2	4		3.1	?	n.a.	n.a.	n.a.	5.5 (10.0)	
Own Business (store, restaurant, etc.)	5	5	14	5	9.2	11.9	n.a.	n.a.	n.a.	1.8 (3.4)	
Total in Commerce, Sales	5	7	18	5	12.3	11.9	18.9	22.2	22.2		11.82
Transport Worker		10	4	10	6.1	(3.4)	n.a.	n.a.	n.a.		
Domestic servant		2			12.9					20.4	
Gardener											
Total Personal Services						(3.4)					
Own Business - Cottage-shop: (machine shop, electric shop, etc.)	2	2		3	3.2	n.a.	} 12.9 <sup>e</sup> 5.9 <sup>d</sup>	} 18.9 <sup>e</sup> 5.5 <sup>d</sup>	} 15.1 <sup>e</sup> 7.5 <sup>d</sup>		
Own Business (Shoe maker, clothing maker, hairdresser)	21	12	25	20							
Other		10		3	17.3					9.9	

<sup>a</sup> includes mechanics and also chauffeurs, it appears.

<sup>h</sup> Housewives, listed as a category in the original study are excluded here.

<sup>c</sup> From Planeacion, Informes internos. The methodology was not explained, but it appears that some arbitrary guesses as to the breakdown of broader categories were made.

in Bogota, although a substantially smaller share have university education, the percent with either academic secondary or university is higher than in other activities. For women the basic difference, both for Bogota and for the country, appears to be a substantially higher share having primary (as opposed to no education at all); probably a lower percent have other levels of education, and correspondingly a lower percent have post-primary education; but probably also a lower percent are illiterate, tending again to sustain the conclusion that commerce is a middle level activity in terms of educational background.

Panel B indicates that for a given level of education, incomes are higher in commerce than in other sectors, at least for Bogota, over the period 1963-66. Note that these figures refer only to wage earners.<sup>1</sup>

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<sup>1</sup>Marcelo Selowsky, "El efecto del Desempleo y el Crecimiento Sobre la Rentabilidad de la Inversion Educativa: una Aplicacion a Colombia," Revista de Planeacion y Desarrollo, Vol. 1, Julio 1969, No. 2, Cuadro XV-A to Cuadro XVIII-A.

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Of particular interest is the fact that commerce appears to fare especially well for levels up to mid-primary, and to provide about the same income as other categories for secondary and most of university.<sup>2</sup> If these data are

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<sup>2</sup>The very high figure for years 5 and 6 of university may well be a random result of a very small sample size. The same caution must be maintained with respect to the illiterate category, which was very small.

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accurate they would seem to suggest that commerce is growing fast at least in part as a result of a substantial "pull" effect.

Over Time Changes in Incomes Earned In the Commerce Sector

Some of the data presented above are at least not inconsistent with the hypothesis that commerce is acting as a reservoir for low productivity people; if this is so, one might expect little or no increase in average productivity per person, average income, and average wage--and if the situation were extreme enough--a decrease in some or all of these variables. Since there are always some well capitalized enterprises in the sector, tending to keep the averages up, one would specifically expect a rapid increase in the number of low paid workers and individuals employed in the sector; thus, even if there were no decrease in average income, there would at least be an increase in the inequality of income generated in the sector. One might expect this to occur principally in the retail sector, where less capital is required than at the wholesale level, and particularly for food and beverage shops, street salesmen, and so on. We consider now the extent to which these implications of the "reservoir" interpretation are in fact borne out.

Consider first what has happened to wages in commerce.<sup>1</sup> Taking figures at face value, they indicate for the commerce sector as a whole an increase

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<sup>1</sup>In this sector, where own account earnings are so difficult to measure, wage figures are more likely to have some measure of reliability.

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from an average annual income per paid worker in 1954 of 11.65 thousand 1967 pesos to 13.9 thousand in 1967, in other words an increase of 19.3 percent or a little over 1 percent per year. Allowing for some relative upward bias in 1967, a better estimate of the wage might be 13.79, implying a growth of 18.3 percent.<sup>2</sup> (Over this period average income per employed person in

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<sup>2</sup>The underestimate of wage employees is presumably greater in 1967, though it is unlikely to be great since that employment is concentrated at

the larger sizes. We assumed here that about 4,000 wage workers were missed in 1967 and that their wage was about two-thirds the average of establishments with less than five occupied workers.

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non-agriculture was, it appears, rising at just about this speed or a little slower.) It is of particular interest to ascertain what happened to the average wage paid to workers in establishments of given size in the two years. Some relevant information is presented in Diagram 4.

Although comparisons by size are made difficult by the lack of a common indicator of size for the two years, it appears that average wages paid by medium sized firms (whether measured by sales or by number of workers but corresponding, say, to the range 5-30 workers) have fallen, while rising for the smaller ones and for the largest ones. Presumably the increase in average wages paid has been largely independent of these movements, being a result primarily of the fact that a higher share of workers were in larger establishments in 1967 than in 1954, and that a monotonically positive relationship exists between establishment size and average wage paid. Diagram 4 illustrates the arguments; the three curves give average annual wage (including fringe benefits) as a function of firm size defined by the total number of workers. The 1967 census classified firms both by number of workers and by sales; when the classification by sales is used, so that the observations refer to the average number of workers and annual wage for firms with sales in a certain range, the curve differs somewhat from the corresponding curve based on the classification of firms directly by number of workers; it lies above the latter curve at the upper size range and below it in the lower range. This is to be expected since when firms are classified by sales the rank ordering is different from when they are classified by number of workers.<sup>1</sup>

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<sup>1</sup>In the former case firms of atypically high sales per person (and wages per person are undoubtedly related to this) come higher in the ranking;

the highest category includes a disproportionate number of such firms and few firms with atypically low sales per worker; in general then, for the higher firm sizes (defined by number of workers) sales per person and wages per person are higher with that classification; by the symmetrical argument the opposite is true at the bottom of the firm size distribution.

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This relationship is important since firms were not classified by number of workers at all in 1954; the only comparison possible between the two years is of the two curves involving classification by sales, and it must be hoped that the difference between these curves and the ones relating number of workers--measured directly--to annual wage is about the same for the two years. The two 1967 curves are not so far apart as to suggest negation of the conclusion that at least for middle sized firms (about 5 to 30 workers) wages were lower in 67 and that for small scale firms they were higher. For firms above 30 workers a comparison is not too plausible, since this is an open-ended category within which the distribution is not known.

The bottom categories in the two years are very important to our arguments here, and unfortunately the accuracy of information for them must be expected to be lower than for larger firms, partly because of their lack of accounting systems, partly because an unknown number of them are missed, and partly because the lack of information on the extent of part time work (presumably more prevalent here than for larger firms) makes the wage data hard to interpret. It seems likely that the number of wage earners missed in the 1967 Commerce Census would be in the neighborhood of 4 to 12 thousand probably closer to the bottom of this range (in Table 1, we assumed about 4 thousand); even if one assumed that 12,000 were missed, and that they all fell in the category of firms with sales less than 100,000 pesos, their inclusion would only reduce the average wage in this category from 5,554 to about 4,230, if their salary was one-half that of the paid workers in that category whose wages were reported.

With respect to the validity of this latter calculation, one of the only relevant pieces of information known to this author comes from the PIMUR study in Cali.

This study<sup>1</sup> presents separate data, within the food retailing sector,

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<sup>1</sup>Harold Riley, et al., Market Coordination and the Development of the Cauca Valley Region - Colombia, Research Report No. 5, Latin American Studies Center, Michigan State University, East Lansing, Latin American Studies Centre, 1970.

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across the types of establishment, from self-service through walking street salesmen.<sup>2</sup> (See Table 15).

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<sup>2</sup>More detailed information than that presented in the study just cited is found in PIMUR (Proyecto Integrado de Mercadeo Urbano Rural del Valle, Informe Tecnico No. 6, El Sistema de Distribucion Urbana de Viveres en Cali, various authors, Cali, 1970.

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It seems, overall, quite unlikely that the small establishment wage earners gained less than 20 percent in the period in question, and not impossible that they gained close to 50 percent.<sup>3</sup> It must be borne in mind,

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<sup>3</sup>It must be borne in mind that there was underenumeration of small establishments in 1967; if in fact the 1967 census was sufficiently "high productivity selective" in the small firms chosen, the higher small firm average wages indicated for 1967 could be a result of that bias; in that case wages could be concluded to be lower for almost all firm sizes in 1967 than in 1954, the exceptions being the large ones. But, if the considerations presented here are valid, the underenumeration of wage earners in the small establishments would not be serious enough to generate this reversal. The data are more consistent with the plausible hypothesis that the sector has had a decrease in the productivity differential between large and small firms over time.

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of course, that there is some evidence that wages in commerce were falling in the early 50s as the sector expanded rapidly, so increases from the 1954 base may not be particularly convincing. Meanwhile, for a fairly wide range of firm sizes (defined still by number of workers) it appears that average annual wages were higher in 1954 than in 1967 by anywhere from 10 to 15 percent.

TABLE 15  
 Monthly Rates of Return to Capital and Labour in Food Retailing,  
 Cali: 1969  
 (absolute values expressed in current pesos)

	Self Service	Personal Service					Public Market			
		Tiendas	Small Gran- eros	Large Gran- eros	Whole- salers/ Retai- lers	Banco de Carne	Fruit and Vegetable Stalls	Grain and Processed Feed Stalls	Beef Stalls	Ambu- lantes
1. Average Sales per Establishment	385,000	6,900	33,100	102,600	231,600	18,000	4,765	16,850	45,325	3,850
2. Gross profit/Sales	11.1	12.9	11.3	8.6	6.7		12.2	8.7	14.5	11.4
3. Value Added per Establishment <sup>a</sup>	30,832	693	2109	5998	11,143	(1,476)	439	1258	6125	392
				1295.4				1280		
4. Value Added/Sales	21.6	51.9	36.2	41.8	43.2		73.0	77.0	73.7	89.4
6. Salaries and fringes per establishment	21,300	160	655	1670	3575	(387)	--	12	873	--
				349				104.7		
7. Sales/Worker	24,062	3651	12,261	34,188	51,568			6083		
8. Salaries (and fringes) pesos/month, per worker	1,420									
				873				104.7 <sup>b</sup>		
9. Average number of workers: total	16 <sup>c</sup>	1.89 <sup>d</sup>	2.70 <sup>d</sup>	3.00 <sup>d</sup>	4.49 <sup>d</sup>			1.2		
10. Paid	15			0.4				0.1		
11. Not paid	1			1.5				1.1		
12. Value added per worker	1,927			682				1067		
13. Income to labour and capital with stores	30,532	623	1999	5343	10,343		424	1148	5710	392

Table 15 (continued)

<sup>a</sup>Defined as gross profit (sales minus purchases) minus rent, utilities, transport, delivery, depreciation, maintenance, and miscellaneous. As elsewhere, the figure for meat stalls was based on an interpolation of the relationship of value added/sales to total sales. Note that bad debt loss was not excluded in the calculation of value added; this is a matter of judgement.

<sup>b</sup>If only 1 worker.

<sup>c</sup>From data on pp. 42 and 64.

<sup>d</sup>First row divided by seventh--it is not fully clear that these data are consistent.

Sources and Methodology: The information is from Riley, et al., Market Coordination... op.cit., various pages. Data on average sales are taken from Tables 2.20 and 2.21 of the cited study (pp. 64-66). So are the figures for salaries and fringe benefits, gross profits, and value added. Information on the labour input by type of outlet is given in Table 2.10 (p. 42). Further information on average number of workers can be deduced from Sales per Establishment and Sales per Worker as shown in Table 2.23 (p. 68). Salaries per paid worker are calculated as total salaries divided by the estimate of total paid workers.

With respect to the public market workers, the average sales figures presented on page 42 do not correspond to those implicit in the sales by sub-category shown on page 66, and the numbers indicated in PIMUR, Informe Tec nico No. 6, p. 41; the former exclude non retail sales of these basically retail stores. Here we assume that, though the sales figure on page 42 did not include all sales, the estimate of 0.1 paid employees per outlet was correct.

Although these data are unfortunately not sufficiently cross classified to permit the estimation of wages in the smallest categories taken separately, it seems not implausible that in the smallest category they are about one-half that of the recorded figure for the category "less than 5 workers" in the census. Value added per "ambulante" was about 400 pesos per month in Cali in 1969, and that in the food and vegetable stalls in the public market was probably only little higher if at all (assuming exactly one worker per stall it would be 440). In the 1967 Commerce Census, the average monthly wage of individuals in the category less than 5 workers was probably about 400 pesos in Cali (assuming that the ratio "wages in establishments of less than 5 workers/wages in all establishments" was about the same in Cali as in Colombia as a whole). This would be equal to about 500 pesos per month in pesos of late 1969. Since wages are below value added per worker, this would seem consistent with the relationship just hypothesized.

Apart from the two commerce censuses, the information on wages in this sector is very spotty, and makes it difficult to effect over time comparisons. One of the few sources is Alan Udall's sample of wages mentioned in classified advertisements for clerks in large Bogota stores.<sup>1</sup>

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<sup>1</sup>See Udall, op.cit., p. . The possible biases in such a technique barely need recounting, and the erratic nature of the results suggests substantial statistical problems. It is interesting to observe, however, that between 1954 and 1967 an increase of about 20 percent is recorded, although the figure for 1967 is well below that for 63 and 65. In a separate estimate Udall concluded that monthly earnings of small store clerks were lower in 1954 than in 1936, but rose substantially between 54 and 62-3. (Chapter 2, Figure 6).

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One additional piece of relevant information is the income data from the CEDE employment studies for 1967; Table 16 compares the implicit annual income from commerce of the unemployment surveys with that of the commerce census.<sup>2</sup>

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<sup>2</sup>Biases must be allowed for in that the latter information is stated in annual terms and the former in monthly terms, and it is not clear what the appropriate blowup factor for the monthly data is to convert it to the annual terms. (i.e., it is not clear how representative various months are).

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Evidence from DANE's 1970 Encuesta de Hogares, taken in conjunction with the 1967 commerce census, would seem to suggest a deproletarianization over these years; since this might well be expected to accompany decreasing wages, particular attention attaches to wage data for these last years. Although the evidence available to date is inadequate to draw firm conclusions with respect to this latter period, it appears that the real wage has fallen for unskilled construction workers and remained about constant in agriculture and manufacturing. If both these pieces of information are valid, the coincidence of apparent income distribution trends and occupational structure trends within commerce

TABLE 16

Cede and Commerce Census Comparison, 1967

	Cede: Income of Occupied Persons in Commerce <sup>a</sup>			Commerce Census	
	Mean	Median	Median for All Occupied Persons	Wage Earners	Income/ Occupied Person <sup>a</sup>
	(1)	(2)	(3)	(4)	(5)
Barranquilla	13,464	≈ 8,580	8520	10,202	
Bogota	16,416	≈ 10,080	9156	13,657	
Cali	15,984	≈ 9,480	9636	11,018	
Bucaramanga	12,072	≈ 8,850	7632	10,988	
Manizales	13,164	≈ 6,840	5040	10,556	
Medellin	16,452	≈ 8,850	9036	12,584	
Popayan	11,892	6,000	5700	7,051 (check)	
Ibaque	13,680	≈ 7,350	7548	8,787	

a) Excluding unpaid family helpers

Sources and Methodology:

Columns 1 and 2 are from CEDE Encuestas Urbanas de Empleo y Desempleo, Appendice 1 Estalístico, Julio 1968. These variables had not been calculated in the source cited, and had to be estimated based on the distribution of income earners in commerce, presented by income categories. The same goes for column (3), which refers to the total labour force.

Columns 4 and 5 come from the 1967 Commerce Census. The wage statistics of column 4 are based on a simple calculation. For column 5, income was estimated as sales minus purchases plus increase in inventories over the period, minus an allowance for depreciation and other costs, based in part on the Michigan State University Study of food retailing in Cali. Unfortunately there are very few other statistics to go on for the commerce sector.

would be striking. The share of commerce, however, appears to have increased at a fairly systematic rate through the two boom periods and the stagnation period, suggesting that the share itself may not be so relevant, at least in this case, as occupational structure.

The only post 1967 information at hand seems to be that of the 1970 commerce sample which, however, was restricted to the larger firms. Any decrease in wages might more likely be expected to occur in the smaller ones. In any case, the large firm wage data suggest (Table 17) little or no change during these three years.<sup>1</sup>

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<sup>1</sup>The two average wage figures shown are identical. It is possible though that the 1970 are relatively underestimated from being based on September, and failing therefore to registrar the Christmas prima (a fringe benefit usually equal to one month's salary). Although the sales size categories used in 1970 did not correspond precisely to those of 1967, this should not cause a problem in the overall wage comparison.

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The presence of labor surplus might be expected to lead not so much to decreasing wages as to a decrease in the average earnings of self employed people in commerce (as opposed to hired laborers).<sup>2</sup> It would be expected at

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<sup>2</sup>This would especially be the case if minimum wage legislation or some comparable institution made payment of low wages difficult; since the demand for labor would be cut, more people would be forced into own-account activities and most of the low incomes would show up there.

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the same time to lead to an increase in the share of the sectoral labor force who are family helpers or self employed. As indicated earlier, there has over no extended period of time been any trend toward increasing use of unpaid family helpers nor increasing share of independent workers; rather the opposite has occurred. (See Table 1.) Income levels of the self employed are, unfortunately, hard to get at so more uncertainty must remain in this area than in the case of the paid workers. An attempt to estimate per capita earnings of employers and independent workers (taken together) from the 1954 and 1967 commerce census is not very revealing. Our evidence on the structure of costs in commerce is quite incomplete; the data of Table 18 are very crude.

TABLE 17

## Wage Changes by Size of Establishment, 1967-1970

Establishments (1)	Sales (thousands) (2)	Total Workers			Empleados Number (6)	Salesmen Number (7)	Retail		Workers Excluding Family Helpers (10)	Owners and Associates (11)	Paid Workers (12)	Implicit Wage of Paid Workers <sup>a</sup> (13)	Implicit Annual Wage of Paid Workers (1967 prices) (14)	Implicit Annual Wage of Paid Workers (1967 prices) Wholesale and Retail Together (15)	Annual Wage in 1967 (16)
		Total (3)	Men (4)	Women (5)			Total Wages (8)	Wages Person (9)							
230	64,062	3,804	2,215	1,589	2,122	1,239	5,985	1.5812	3,785	424	3,361	1.5322	15,097	20,759	15,477
162	116,478	4,594	3,105	1,489	2,600	1,682	7,510	1.6397	4,580	298	4,282	1.6097	15,861	16,418	17,895
115	181,556	7,489	4,947	2,542	4,013	3,317	14,077	1.8797	7,489	159	7,330	1.8684	18,410	21,058	21,981
46	149,932	5,593	3,850	2,743	3,289	3,168	12,203	1.8509	6,593	136	6,457	1.8400	18,120	21,295	29,864
42	365,602	8,493	4,784	3,709	5,068	3,181	17,847	2.1019	8,491	242	8,249	2.0850	20,544	21,672	22,043
595	871,631	30,973	18,901	12,072	17,092	12,587	57,622	1.8625	30,938	1,259	29,679	1.8412	18,142	20,235	20,239
<u>Wholesale</u>															
143	46,070	2,345	1,405	940	1,128	1,027	6,811	2.9132	2,338	183	2,155	3.0031	29,590		
257	191,008	5,206	3,966	1,240	3,197	1,571	8,645	1.6625	5,200	432	4,768	1.7171	16,919		
175	263,585	4,962	3,805	1,157	3,254	1,282	12,315	2.4899	4,946	410	4,536	2.5715	25,338		
66	207,064	4,184	3,074	1,110	2,945	1,126	11,066	2.6448	4,184	113	4,071	2.6723	26,331		
15	152,692	821	640	181	690	104	2,741	3.3509	818	24	794	3.3890	33,392		
656	860,419	17,518	12,890	4,628	11,214	5,110	41,578	2.3778	17,486	1,162	16,324	2.4399	24,041		

a) Calculated indirectly since, at the firm size level, wages of paid workers were not given separately from the category "wages of owners and associates." The figures in this column were estimated using the assumption that the ratio "imputed wage of owner/wage paid to employee" was the same for each firm size as for the category (wholesale or retail) as a whole. Some of the quirks in the results are presumably due to the incorrectness of this assumption. It does not lead to an error for the category as a whole, though.

b) Since the sample was based on establishments with annual sales of 3 million or more in 1967, the minimum for this category might tend to be around 400,000, though in a given month some firms would always lie below this.

Sources and Methodology for Table 17:

The source for September 1970 data are DANE, Muestra Comercial (no date, although the data refer to 1970).

The sample included only firms with sales of 300,000 and up in 1967, and in the department capitals (p. II). Further, for the first time, it presented data on "remunerations" of owners and associates, so that the total "salary" figure is not comparable to that of the earlier Commerce Census, where this concept was not introduced. While separate total wage and total worker figures were presented as between paid and unpaid for each of retail and wholesale, this was not done by size of sales; this is a further problem in effecting the comparison shown here. It appears, from comparison with the 1967 information, that the definition of owners and associates is similar. And the use of the same set of firms also facilitates the comparison (though not all were investigated in 1970).

TABLE 18a

Earnings of Proprietors, by Size of Retail Establishment: Colombia, 1967

(value figures in millions of pesos, except where indicated)

Number of Workers	Sales-Purchases	Sales-Purchases + Change in Inventory	Wage Payments	Assumed Ratio of Proprietary and Labor Income/Sales Purchases	Estimated Labor and Proprietary Income	Estimated Proprietary Income	Estimated Proprietary Income/Unpaid Persons (pesos)	Estimated Proprietary Income per Proprietor (pesos)	Assumed Distribution of Unpaid Family Helpers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
< 5	3163.0	3,360.8	263.2	85.0	2688.6	2425.4	15,400	21,130	42,691
5 - 9	942.5	1,135.4	290.2	80.0	754.0	463.8	38,610	44,121	1,500
10 -19	639.3	818.9	275.4	72.0	460.3	184.9	56,840	59,587	150
20 -49	770.0	824.0	308.13	70.0	539.0	230.9	146,600	14 6,000	
50 -74	201.8	171.4	82.36	67.0	135.2	52.8	92,790	92,790	
75 -99	169.4	180.9	74.89	64.0	108.4	33.5	42 4,050	42 4,050	
≥ 100	539.8	556.8	218.60	60.0	323.9	105.3	86 3,110	86 3,110	
TOTAL	6410.2	7,048.2	1,512.8	78.14	5009.4	3496.6	1 9,970	26,743	44,341

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Food and Beverage Retailing: Colombia

< 5	1937.3	1,880.0	79.17	88.0	1704.8	1625.6	14,790	19,960	28,453
5 - 9	227.7	242.2	59.52	82.0	186.7	127.2	29,880	32,560	350
10 -19	59.9	64.7	19.01	78.0	46.7	27.7	48,511	51,201	30
20 -49	42.2	46.4	17.47	74.0	31.2	13.7	21,373	21,373	
50 -74	50.0	5.6	3.75	70.0	35.0	31.3	26,9,870	26,9,870	
75 -99	59.9	62.1	30.94	67.0	40.1	9.2	15,3,333	15,3,333	
≥ 100	39.4	38.2	20.52	64.0	25.2	4.7	n.a.	n.a.	
TOTAL	2371.4	2,339.2	230.37	87.28	2069.7	1839.3	15,920	21,210	28,833

TABLE 18b

## Earnings of Proprietors by Size of Wholesale Establishment: Colombia, 1967

(Value figures in millions of pesos except where indicated)

Number of Workers	Sales-Purchases (1)	Sales-Purchases + Change in Inventory (2)	Wage Payments (3)	Assumed Ratio of Proprietary and Labour Income/Sales Purchase <sup>b</sup> (4)	Estimated Labour and Proprietary Income (5)	Estimated Proprietary Income (6)	Estimated Proprietary Income Unpaid Persons (7)	Estimated Proprietary Income Per Proprietor (8)	Assumed Distribution of Unpaid Family Helpers (9)
< 5	407.4	467.4	51,839	75.0	305.6	253.8	37,673	53,578	2,000
5 - 9	562.6	578.8	170,810	74.0	416.3	305.5	185,714	266,812	500
10 - 19	543.2	575.4	153,470	73.0	396.5	243.0	301,115	301,115	
20 - 49	760.1	760.7	225,312	72.0	547.3	322.0	731,818	731,818	
50 - 74	165.3	163.9	73,506	71.0	117.4	43.9	1,045,238	1,045,238	
75 - 99	167.8	149.0	51,372	70.0	117.5	66.1	-	-	
≥ 100	778.1	860.7	348,393	68.0 <sup>a</sup>	529.1	180.7	-	-	
Total	3,384.5	3,555.9	1,014,702	71.8	2,430.1	1,415.4	145,050	171,397	1,500

## Food and Beverages Only: Colombia

< 5	229.9	20,595
5 - 9	193.8	17,555
10 - 19	75.1	19,416
20 - 49	116.5	29,838
50 - 74	24.3	15,710
75 - 99	30.2	11,978
≥ 100	115.3	61,449
Total	785.1	176,541

(a) Based primarily on Muestra Comercial 1970 (see Sources and Methodology).

(b) Figures in this column subject to wide possible error. The ratio may not even be a decreasing function of size.

Sources and Methodology for Table 18

The information comes from DANE, Muestra de Comercio Interior, 1967 Bogotá, 1970.

The first element of the arbitrary enters in Column 4; the census itself provides no information on any other costs in commerce but labor, so the assumed ratio of proprietary and labor income to "sales minus purchases" has been based on the PIMUR studies on food retailing in Cali, and to a lesser extent upon DANE's 1970 publication Muestra Comercial. Only the former permits a cross classification of other costs by something like size of firm, but since the different types of retailing would not be expected to have the same value of this ratio, given number of workers, it is at best indicative; and it refers only to food. Nevertheless the decrease in this ratio with average size of establishment was strongly suggested by these data.

At the wholesale level, PIMUR's food retailing data in Cali indicated that the ratio in question was 63% for large specialized wholesalers, 47.9% for medium sized, and 55.3% for small; it was 54.1% for large wholesaler-retailers and 66.7% for small ones. (See Riley, et al., op. cit., p. 88). Meat wholesalers registered 88%, those for vegetables and fruits in the range 54.0 to 67.9. (Op. cit., p. 90.) DANE's Muestra Comercial indicated a ratio of total non-labor costs/sales-purchases of 29.60; of this 7.61 was rent and interest. For large Cali food wholesalers the ratio was 37.0 and for large wholesaler-retailers 18.0. In the 1970 Muestra Comercial for the category food, beverages and tobacco 12.74% of sales-purchases was "gastos" (which, however, appears to have excluded depreciation). At the retail level the figure for food and alcoholic beverages was 39.99%, i.e., consistent with our assumption in Table 18a. For all wholesale, the non-labor cost/sales-purchases is 29.59. Allowing for depreciation it might be 31-32%.

Incomes by Region

How have the 1954-1967 wage increases in commerce been distributed from a regional point of view? Table 19 suggests that particularly fast gainers were Boyaca, Nariño, Santander, and Magdalena; the crude figures tend to suggest a narrowing of cross-departmental gaps. The four lowest wage departments as of 1954 (leaving aside Choco) were Boyaca, Cauca, Nariño, and Magdalena; their unweighted average wage increase over the period was over 40% (41.9%); the four highest wage departments in 1954--Antioquia, Atlantico, Cundinamarca and Valle--registered as unweighted average gain of only 14.4%.<sup>1</sup>

No direct information is available on incomes of employers and self-employed persons at the departmental level though some rough indicators can be drawn from the 1967 data (see Table A-22).

There is a rough cross department relationship between high wages and high proprietary incomes;<sup>2</sup> no more would be expected since these estimates of proprietary incomes are crude even for the persons reported, and varying but substantial numbers of persons were not reported; their inclusion would pull down the average proprietary income figure, sometimes substantially. The figures indicate greater range in the proprietary income figures but

<sup>1</sup>While underenumeration probably varied considerable from department to department and differed as between the two censuses, the figures of Table A-19 do not suggest very serious underenumeration of wage workers in 1967 as compared to 1954. Probably the underenumeration of own account workers in 1967 was concentrated in less urbanized departments, but that is not a problem for wage rate comparisons.

<sup>2</sup>For example, of the five highest wage departments, three are among the five highest proprietary income departments; of the bottom five wage departments, only two are bottom proprietary income departments.

this may be partly artificial (due to differential underenumeration).<sup>1</sup>

A comparison of the rough estimates of income per unpaid worker in 1954 and 1967 suggests a systematic increase (Tables A-22 and A-22.7). These increases are presumably upward biased by more than the wage increases, since it is here that underenumeration in 1967 seems to have been particularly severe. But the reported increase is such that even after allowing for such a bias, the conclusion that proprietors gained in almost all departments is warranted.

<sup>1</sup>The national accounts (1967) imply a ratio "income generated in commerce-wages/proprietors" to average wage of about 2.7 (values of 34,500 and 12,800 respectively, after slight adjustment to the wage bill figure for unreported workers). The figures of Table A-22, together with the wage estimates referred to earlier, imply a ratio of 3.14 (values of 43,339 and 13,790). When the latter figures are lowered to allow for underenumeration, the two sets would seem consistent.

Wages and Incomes by Wholesale and Retail and By Size

Both overall, and by level of sales (or number of people) wholesale commerce is characterized by higher incomes than is retail. Wages are higher (see Tables A-2 and A-3) and so are proprietary incomes, as nearly as can be ascertained with the figures of Table 18.

Over the period 1954-1967 the average reported wage rose by about a third in each of wholesale and retail (see Tables 9a and 9b); the overall average rose by less due to the increased share of reported wage earners in retail commerce in 1967 (74% vs. 62% in 1954). Figures are insufficiently precise to guess whether proprietary incomes rose more rapidly for one group or the other.

Wages and Incomes by Type of Product

In terms of their importance in number of establishments and jobs created, four categories (by type of product) were the dominant ones in both 1954 and 1967. In the latter year, at the retail level, there were 118.7 thousand establishments selling less than 100,000 pesos per year; of these, 87.4 were food and beverages, 8.5 clothing and footwear, 6.9 general merchandise, and 4.8 "other merchandise."<sup>1</sup> In general it would appear that the labor surplus, if it is spilling into one or more of these categories, would be concentrated in (a) food and beverages, and to some extent in (b) "other merchandise" and (c) clothing and footwear. (The latter seems less probable). It is therefore of particular interest to see what happens to average incomes in these categories, in particular incomes and wages of firms with a given small number of workers. As observed earlier and shown in Table 9, the average wage in the food and beverage category registered by far the largest increase, even allowing for relatively greater underenumeration in 1967. General merchandise and "clothing and footwear" showed only 17 and 7% increases respectively; since these categories are less predominantly very small, the average gain is a less adequate indicator of income change for the small firms than in the case of food and beverages.

<sup>1</sup>General merchandise includes cloth and merchandise sold in bazaars, miscellaneous stores, etc.; this includes "large stores" although possibly these are primarily galleries where many different people sell. It cannot include many integrated large stores because sales figures are low. The "other merchandise" category includes jewelry, optical equipment, books and paper, toys, leather goods except shoes, and other unclassified merchandise.

Income Distribution in Commerce

The Average Income in the commerce sector appears to be somewhat above that for the labour force as a whole. In Table 16, where median incomes in commerce and in all sectors are presented for the eight cities studied by CEDE in 1967, Commerce tends to be not far from the overall figures; only in Bogota, Bucaramanga, and Manizales do the two medians differ by 10% or more, with commerce in each case having the higher figure. Since it seems likely that incomes are understated more in commerce than in some other sectors, these figures may well understate the actual differences. DANE, in its 1970 study, estimated an average income for persons in commerce, restaurants and hotels of about 30% above the overall average (including commerce) and therefore somewhat more than 30% above the rest of the economy; in the urban areas alone it estimated a differential of six percent. Very likely, commerce was underestimated here too relative to other sectors (see calculations elsewhere); it may be taken at least tentatively that the evidence suggests incomes in commerce to be somewhat above the average in urban sectors and well above the average for the economy as a whole. ¶ DANE, based on its 1970 survey calculated coefficients of concentration by sector; once again restaurants and hotels were lumped together with commerce; in this sector income was relatively more concentrated than in almost all of the others when rural and urban were lumped together, and somewhat more concentrated when reference was made only to urban areas, with a coefficient of concentration of .564 compared to .529 for the total urban sector and .582 for agricultural persons living in urban areas.<sup>1</sup> It is widely

<sup>1</sup>DANE, Boletín Mensual de Estadística, No. 237, April, 1971, p. 71.

believed on the basis of impressionistic evidence that some of Colombia's largest incomes have been based on commerce, and it is also obviously true that many relatively low income urban dwellers are found in that sector. So the relatively high degree of concentration is not implausible. Another way to check this, and to get some feel for the comparison with manufacturing, is to distinguish labour income, small scale capital or imputed labour income, and larger scale capital income. Table 20 presents a comparison between manufacturing (1964 information) and commerce (1967 information) in this respect. If the dividing line between small scale capital (including imputed labour) incomes and medium/larger scale ones is drawn at 6000 pesos (roughly the median income per member of the labour force in 1967), then the figures for the two sectors are similar--only 2-3% of gross value added in manufacturing and perhaps 4% in commerce correspond to this small proprietors' income.<sup>1</sup> Where a real difference emerges is with respect to proprietors' incomes in the 6,000 - 12,000 peso range; an estimated 8.6% of commerce based income goes to this group but only 2.1% of manufacturing based income.

<sup>1</sup>Note that our estimating technique (see Table 19) generates higher average incomes in commerce than those reported by CEDE's eight city survey in 1967; it would be expected, however, that the latter suffer from downward bias. Our estimate of average income is below that of the Central Bank's national accounts, i.e., it lies between two alternative independent estimates.

Table 19  
Average Wage in Commerce, By Department, 1954 and 1967  
(1967 pesos)

	1954			Blue Collar Cost of liv- ing index: <i>1967/1954</i>	1967			% Change 1954-67		
	Whole- sale	Retail	Total		Whole sale	Retail	Total	Whole- sale	Retail	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)			
Antioquia	16,964	8,829	11,734	3.617	20,596	11,780	14,108	21.41	33.42	20.23
Atlantico	15,732	9,078	12,372	3.640	18,557	13,825	15,275	17.96	52.29	23.46
Bolivar				3.650 <sup>a</sup>	18,170	8,890	12,327			
Bolivar + Sucre	13,578	7,446	9,804	3.650	17,613	8,556	11,686	29.72	14.91	19.20
Boyaca	10,228	4,943	6,181	3.600 <sup>h</sup>	26,898	9,081	15,010	62.98	83.71	42.84
Caldas				3.628	15,689	9,653	10,645			
Caldas + Quindio + Risaralda	13,064	6,803	8,976	3.628	14,081	9,173	10,324	20.09	41.89	18.59
Cauca	10,604	5,291	6,860	3.700 <sup>e</sup>	12,443	6,686	7,869	17.34	26.37	14.71
Cordoba					12,815	7,897	9,399			
Distrito Especial				3.650	26,037	13,139	16,635			
Cundinamarca				3.650	13,035	7,900	8,989			
Cundinamarca (including D.E.)	20,725	11,282	14,841	"	25,337	12,757	16,117	22.25	13.07	8.60
Choco	12,917	5,498	6,220	3.700 <sup>f</sup>	9,789	6,754	7,919	-24.22	22.84	27.32
El Cesar					19,628	9,563	13,693			
Guajira					9,679	8,392	8,536			
Huila	12,719	6,365	7,653	3.800 <sup>d</sup>	9,844	7,647	8,136	-22.60	20.14	6.31
Magdalena					18,148	8,868	10,542			
Magdalena + El Cesar	7,642	6,118	7,197	3.800 <sup>g</sup>	18,946	9,055	11,613	37.48	44.95	46.48
Meta					10,788	9,419	9,881			
Nariño	7,388	5,415	6,203	3.787	11,687	8,853	10,134	58.19	63.49	63.69
Norte de Santander	13,319	7,950	9,329	3.650 <sup>b</sup>	15,047	8,452	9,701	12.97	6.31	3.99
Quindio					12,596	7,878	8,807			
Risaralda					13,555	9,203	10,574			
Santander	11,441	6,689	8,410	4.020	24,225	10,825	15,813	11.74	61.83	88.03
Sucre					11,116	6,967	7,771			
Tolima	13,691	6,552	8,327	3.600 <sup>c</sup>	16,352	9,141	10,793	19.44	39.51	29.61
Valle	15,720	7,612	10,840	3.623	17,465	10,029	11,420	11.10	31.75	5.35

Notes for Table 19

<sup>a</sup>Neither food products at the retail level nor "fifteen important food products" indices differed by more than .020 from this figure, which is also close to that for Barranquilla (Atlantico).

<sup>b</sup>The food price indices cited in (a) were below this figure - 3.574 and 3.490 respectively but the high figure for Santander suggests these may be a little low.

<sup>c</sup>The two indices cited in (a) were 3.428 and 3.595.

<sup>d</sup>The two indices cited in (a) were 3.845 and 3.787.

<sup>e</sup>The two indices cited in (a) were 3.690 and 3.734.

<sup>f</sup>The retail food price index was 3.767; the wholesale index was 3.505.

<sup>g</sup>The two indices cited in (a) were 3.871 and 3.819.

<sup>h</sup>The two indices cited in (a) were 3.409 and 3.933.

Sources and Methodology for Table 19

For departments in which the capital city has a cost of living index over the period in question, it (specifically, the blue collar index) is used to convert the 1954 wages to 1967.

In the 1967 Commerce census a distinction is made between fringe benefits paid and fringe benefits caused; conceptually the latter is a better measure of wages, but here we follow DANE's own practice of favoring the former concept; normally the difference is not great.

Due to the excessive work involved, we have not attempted here to adjust the 1967 census by department for its various types of incompleteness; comparisons with Table A-16 do indicate which departments have probably received the greatest underenumeration in 1967, and correspondingly which ones tend to have overestimates of the increases in wages. Broadly speaking, those departments would appear to be Atlantico, Bolivar, Caldos, Cauca, Cordoba, Magdalena, and on lesser degree, Valle and Norte de Santander (see Table A-22.5).

Table 19.2

Proxies for "Inventory Productivity" in Commerce, by  
Type of Product and Number of Workers and Retail/Wholesale

Size of Establish- ment (No. of workers)	Food and Beverages		General Merchandise		Clothing and Footwear		Automobiles, Re- pairs and Parts	
	Sales/ Average Inven.	S-P+ΔI/ Average Inven.	Sales/ Average Inven.	S-P+ΔI/ Average Inven.	Sales/ Average Inven.	S-P+ΔI/ Average Inven.	Sales/ Average Inven.	S-P+ΔI/ Average Inven.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>RETAIL</u>								
< 5	15.3424	3.2006	3.3677	.5766	3.2413	.6548	3.0962	.7156
5-9	11.5886	2.0212	3.6885	.5335	3.8116	.5905	3.2725	.7148
10-19	19.2354	1.9836	2.6097	-.1433	4.4075	.7343	3.6030	.7155
20-49	16.8125	3.2263	5.3560	.6595	4.6680	1.1468	3.6070	.8683
50-74	13.6664	1.6017	8.3544	1.4897	3.3491	1.0695	2.9292	1.4245
75-99	18.1139	4.7691	5.8722	.4374	5.0148	1.2199	2.3329	.1070
≥ 100	17.7314	2.8053	6.8323	1.5151	11.4368	1.8671	4.3171	1.3797
Total Number of Workers	86,710		34,135		39,294		12,645	
<u>WHOLESALE</u>								
< 5	17.8556	1.5795	4.7442	.7280	5.1537	.9778	8.3124	1.4150
5-9	18.4775	1.9724	7.2402	.9302	6.6121	1.2452	3.6402	1.0878
10-19	22.3575	1.8854	7.4853	.9923	9.2701	1.6816	4.3019	.7429
20-49	7.0591	1.7452	10.8010	1.9999	6.5405	1.6474	4.8284	1.0055
50-74	20.3239	2.8959	7.7086	.4568	6.5125	1.2346	2.4949	.8612
75-99	8.3312	1.2471			2.7070	1.3775	2.3832	1.1637
≥ 100	25.2468	3.2069					5.4076	.9766
Total Number of Workers	14,563		2,745		2,029		4,027	
	Hardware and Elec- tric Items for Con- struction		Furniture and Elec- tric Items for Home and Office		Combustibles		Drugs and Cosmetics	
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<u>RETAIL</u>								
< 5	3.9954	.6674	5.2622	1.1961	23.7447	3.9016	3.7944	.7780
5-9	3.7316	.5558	4.7824	1.1078	29.3184	2.3606	4.4763	.9192
10-19	3.5952	1.0049	4.9051	1.4560	20.6892	3.6300	7.1647	1.0100
20-49	2.8898	.8539	4.7441	1.3583	45.7059	13.3432	6.2713	1.4152
50-74	3.1298	.4994	3.6334	1.8484			7.2909	
75-99			2.4460	1.2338				
≥ 100	3.0673	1.1194	4.1450	1.9439			6.7250	1.3649
Total Number of Workers	6,659		20,916		10,377		18,005	
<u>WHOLESALE</u>								
< 5	4.7730	.3522	4.1154	1.0400	14.4036	1.8680	6.0756	1.3149
5-9	4.3716	.8710	4.2849	1.0608	11.6144	1.8837	8.2913	2.9999
10-19	2.4217	.4516	7.4935	2.2695	5.2210	1.2324	11.2562	3.7304
20-49	4.6252	.8461	6.8686	3.0037	11.5434	1.2727	7.1572	1.6437
50-74	5.2460	.8975	2.7050	.9036			11.8095	2.8973
75-99	4.3184	.8947	6.1654	2.9225	12.8415	2.4566	9.7011	1.3284
			3.8008	1.9124			3.9371	1.3957
Total Number of Workers	1,811		3,536		2,177		3,542	

<sup>a</sup> S-P+ΔI represents sales-purchases plus inventory increase.

Source: Based on figures in Muestra de Comercio Interior, 1967.

TABLE 20

Functional Income Distribution: Manufacturing (1964)  
and Commerce (1967) Compared

(values in 1967 pesos)

	<u>Manufacturing (1964)</u>	<u>%</u>	<u>Commerce (1967)</u>	<u>%</u>
Labour Force	≈ 670,000	100.0	≈ 455,000	100.0
Paid Labour Force	≈ 349,000	52.09	≈ 186,000	40.88
Average Wage	14,380 <sup>h</sup>		13,800 <sup>j</sup>	
Wages Above 6,000 <sup>a</sup> Pesos (of 1967)	≈ 310,000 <sup>b</sup>	46.3	≈ 172,000 <sup>f</sup>	37.8
Wages Below 6,000 Pesos of 1967	≈ 39,000	5.8	≈ 14,000 <sup>f</sup>	3.1
Non-Paid Labour Force				
Own Account Workers				
Number	170,000	25.4	≈ 195,000	42.9
Average Income	≈ 8,000 <sup>c</sup>		10,000-11,000 <sup>k</sup>	
Number with Income > 6,000, say	10,000	13.4	125,000-145,000 <sup>m</sup>	27.5-31.9
Number with Income < 6,000, say	80,000	11.9	50,000- 70,000 <sup>m</sup>	11.0-15.4
Employers				
Number	34,500	5.15	≈ 50,000	13.2
Average Income	≈ 20,000-25,000 <sup>d</sup>		50,000-60,000 <sup>g</sup>	
Number with income < 6,000	≈ 2,000- 4,000 <sup>e</sup>	0.3-0.6	few if any	-
Number with income > 6,000	30,000-32,500	4.6-4.9	almost all	≈ 13.2
Income Shares				
Paid Labour	29.3		27.9 <sup>h</sup>	
Small Scale Imputed Labour and Capital	≈ 2.5		≈ 4.1	
Medium + Large Scale Capital, Depreciation, Interest and Rent	≈ 68.2		≈ 68	
Small and Medium Capital and Imputed Labour Income - (Incomes to 12,000 pesos)	≈ 4.6 %		≈ 12.7	

Table 20 - footnotes (continued)

- a) My estimate of the median annual income in 1967 was about 6,300 pesos (or about 4,666 1964 pesos).
- b) Estimated by including all workers in plants of five or more workers, except 5,000 from the category "5-9 workers" with average wage 6,000 1964 pesos plus 15,000 workers from small categories. (See A. Berry, "Relevance and Prospects ...," op. cit., p. 3.)
- c) Based on an estimate of gross value added per person of 8,500 ("The Relevance ...," op. cit., p. 3).
- d) A rough calculation suggests that 32,000 of 34,500 employees are involved in plants of < 5 workers and that their average income is about 16,500 1967 pesos. The income of the remaining 2,500 employers would have a much higher average.
- e) A rough guess based on the average cited in footnote (d).
- f) Guesses based on Table A-1.
- g) Based on the assumption that the highest proprietor incomes were those of employers, and that corporate profits in commerce establishments were 500 million to 1,000 million pesos in 1967. (1966 declared "liquid profits" of National Sociedades Anonimas were about 300 million - see Superintendencia de Sociedades Anonimas, Revista de la Superintendencia de Sociedades Anonimas 1966.) The total proprietor income estimate is from Table 18.
- h) From Berry, "The Relevance ...," op. cit., p. 3.
- j) See this study, p.
- k) Based on a calculated income of about 15,000 for 87,000 such workers implicitly in the commerce census and an assumed 8,000 (6,000) for the rest. Eight thousand is above what would be suggested by the Riley et al. study in Cali for food, but food would be below average. It seems unlikely the figure would be below 6,000.
- m) The range for these values is related to that for average income of independent workers.
- n) This figure does not accord with the national accounts share--21.7 in 1967. The total value added estimate was higher than that used here, partly through its not taking account of depreciation and partly, apparently, for other reasons.

Table 21

## Sales per Worker in Wholesale and Retail Commerce, by Product Sold

Branch of Commerce	Total			Wholesale Only		Retail Only	
	1967	1954 in '67 prices	1954	1967	1954 in '67 prices	1967	1954 in '67 prices
611 Food and Beverages	115,493	122,505	32,709	427,757	723,659	83,585	49,790
612 General	141,531	111,131	29,672	369,054	319,987	123,235	78,217
613 Clothing and Footwear	106,372	287,489	76,760	204,172	449,698	101,322	90,438
614 Automobiles, Parts and Accessories	199,674	312,115	83,335	363,674	431,608	147,445	206,396
615 Machinery and Equipment for Industry, Commerce and Agric.	243,943	189,621	50,629	234,110	189,621	267,201	
616 Sawn Wood and Construction Materials	170,586	92,633	24,733	195,464	92,633	156,061	
617 Hardware, Lead Products and Electrical Articles for Construction	212,554	211,460	56,460	320,401	238,504	183,224	160,074
618 Furniture and Electrical Items for Homes; Office fur- niture and Equipment	129,856	127,988	34,173	152,214	220,789	126,076	111,808
619 Bulk Agricultural Products	574,700			580,799		516,188	
620 Industrial Chemical Products	341,659			383,238		93,239	
621 Combustibles	276,985	110,202	29,424	924,750	102,984	141,090	83,217
622 Textile Products except Confectionery	386,013			401,948		57,937	
623 Minerals and Metals	336,747			313,356		720,954	
624 Drugs and Cosmetics	134,970	108,471	28,962	244,107	203,920	113,500	82,251
626 Other	91,569	116,408	31,081	139,462	221,048	77,068	84,936
TOTAL	138,003	132,104	35,272	325,572	429,241	102,911	68,179
Adjusted for Establishments missed	≈114,000 - 116,000	≈122,000 - 123,000	≈32,500 - 32,800	--	--	≈82.5 - 85.3	≈62.4 - 63.4
TOTAL SALES				18,813.1		37,125 - 38,385	
TOTAL V.A.				3,555.1		8,182.1 - 8,459.8	

Sources and Methodology for Table 21

The figures come from the 1954 and 1967 Commerce censuses respectively. There was some lack of coincidence between the two classifications, but in general, it appeared that the 1967 categories would be aggregated into those of 1951 and that all the important categories were essentially parallel.

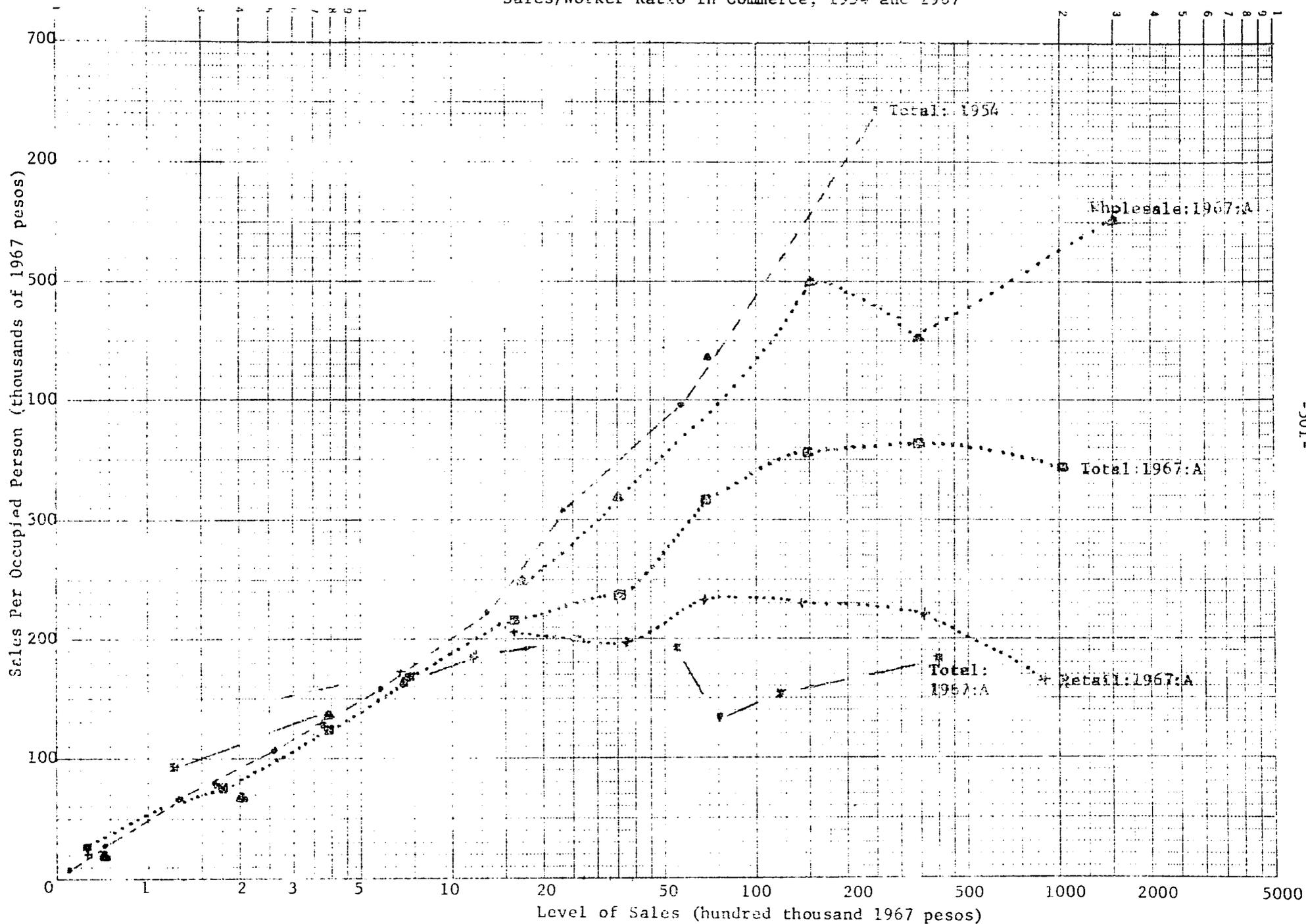
It has been hypothesized above that a higher share of the total labor force in commerce was missed by the 1967 census than by the 1954 one; this would imply (presumably) that average sales per person have risen less between the two years than indicated here; overall, according to these figures, they rose very little between the two years, a substantial increase in retail being partially offset by a substantial decrease in wholesale. Possibly the 1967 census was more complete at the wholesale level than the 1954 census, though the labor force recorded for wholesale did not rise faster than in retail. It is possible but not likely that there were, in fact, important structural changes such as to imply the substantial increases and decreases indicated by the figures.

In the last rows we make some guesses at sales per worker with allowance for the censal underreporting.

It is noteworthy that even if it be assumed that all of the unregistered labor force in each year are in small-scale retail, and that their sales per capita are relatively small compared even to the smallest size category registered, there seems to have been a substantial increase (here, about 30%) in average sales per person in retail; no bias associated with persons could reverse this conclusion. As noted above, the wholesale figures are hard to understand, especially in the light of what happened in retail.

DIAGRAM 5

Sales/Worker Ratio in Commerce, 1954 and 1967



Productivity in Commerce

The positive relationship between average wage and average size of establishment in commerce has been noted above, and represented in Diagram 1. What underlies the higher wages? To what extent is the phenomenon similar to that observed in the manufacturing sector? Is the implication that large commerce establishments are more efficient in their use of resources than small ones? All these questions must be resolved to get an adequate feel for both the way in which income distribution generation occurs in the sector, and the validity of the argument that there is much surplus labour pooled within it.

While as in other sectors of the economy different modes of production and different factor prices obviously characterize the different firm or establishment sizes within commerce (otherwise such great differences in labour productivity could hardly appear), it is, unfortunately, very difficult to get any feel for factor shares in most commerce establishments and hence compare this across sizes. Most establishments are small and the majority of the labour is not remunerated. At first sight, commerce has appeared to some analysts to be a case of domination of small firms by large ones, i.e., a case where the latter tend to have higher productivity of both factors. (Bhalla, for example, noted a general tendency to lower output/labour and lower output/inventory ratios for small firms than large ones.) Non-competition, for geographic and other reasons, means that no simple interpretation with respect to relative efficiency could be drawn were the basic statistical observation accurate. It is clear that economies of scale do exist in some forms of commerce and that these cannot be obtained in, for example, a very small town. There is no meaningful sense in which

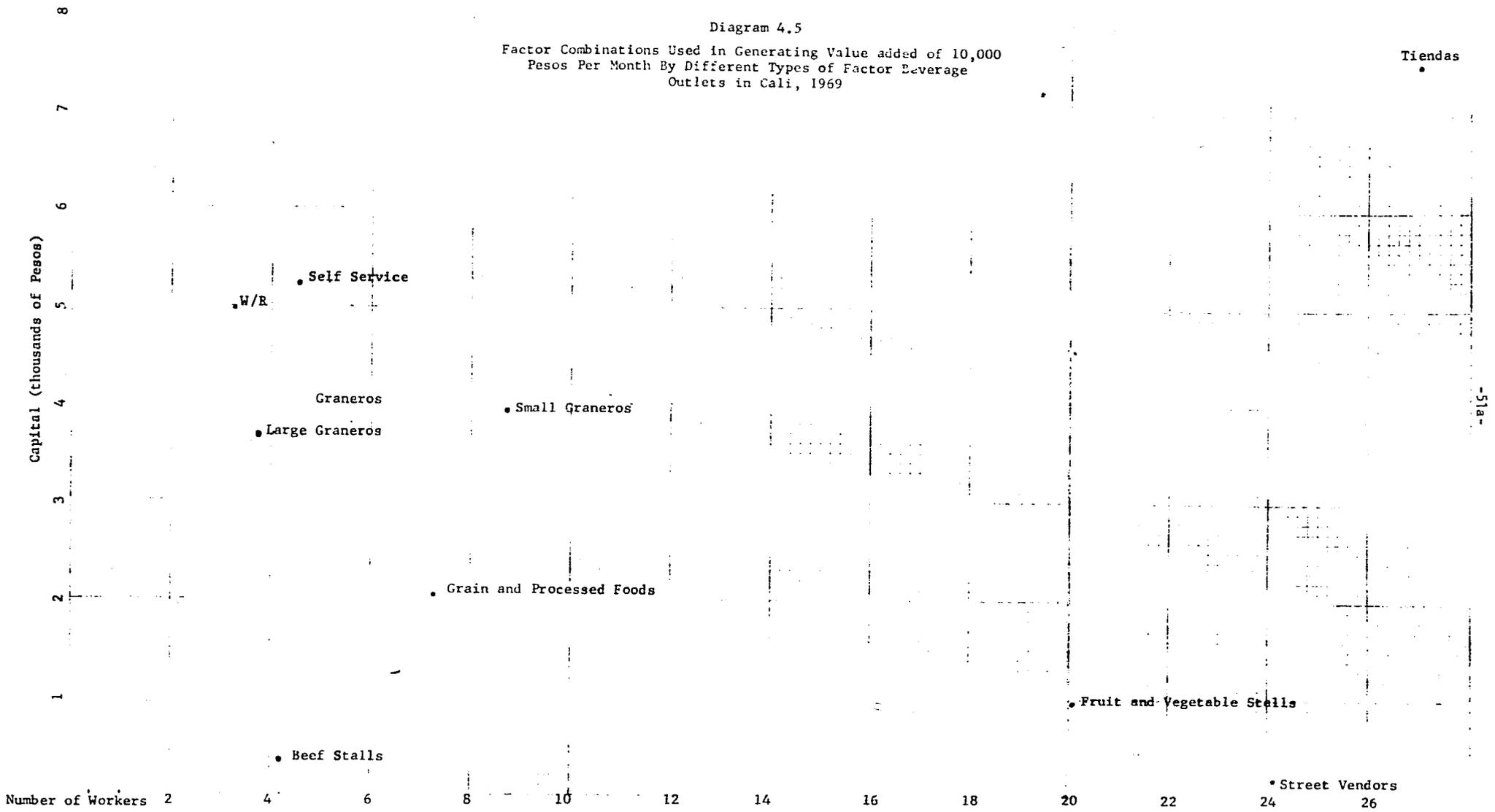


Diagram 6

Sales Per Person, By Size of Establishment,  
1954 and 1967

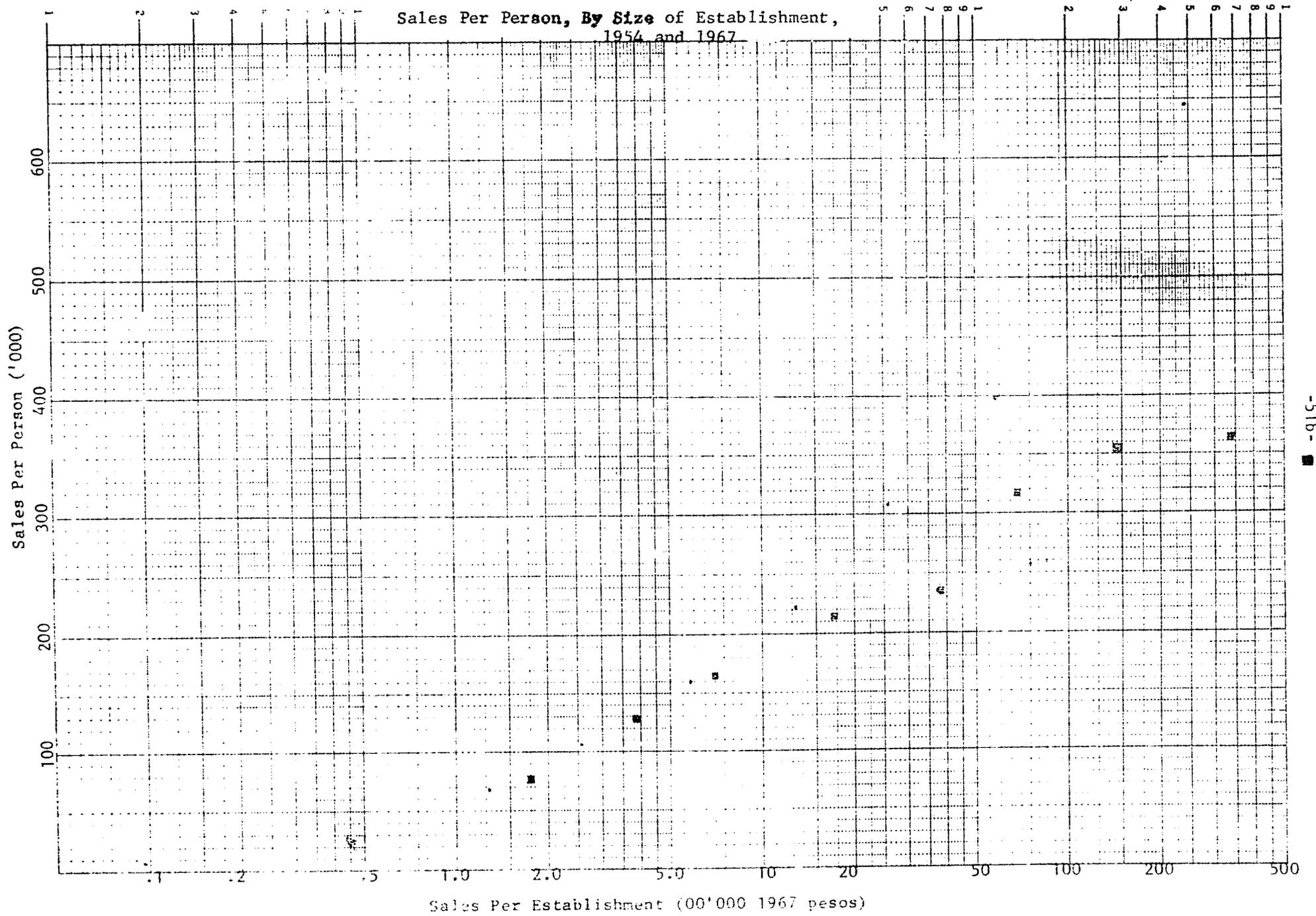
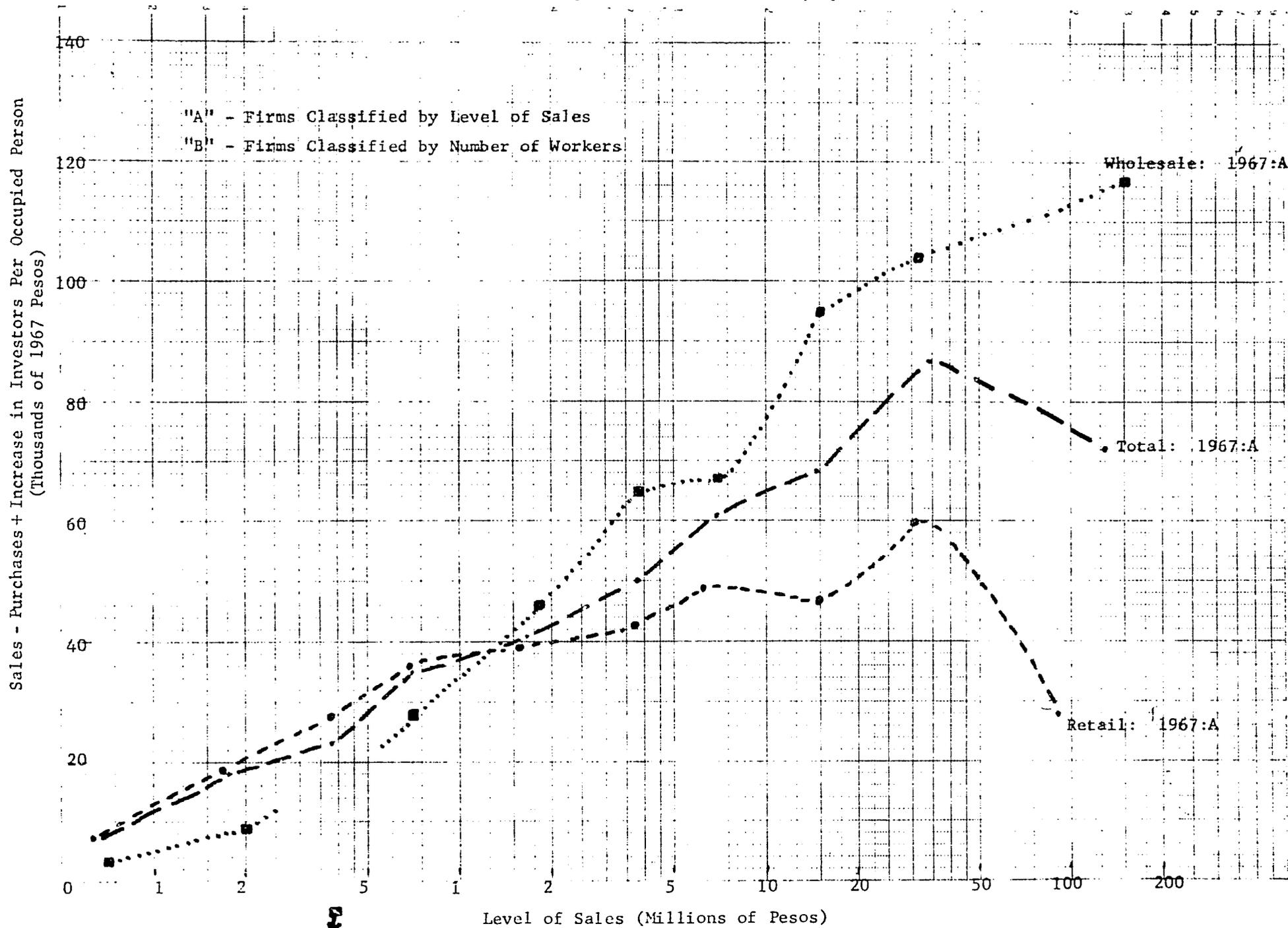


Diagram 7

"Sales - Purchases + Inventory Increase" Per Worker, By Level of Sales: 1967



the small town commerce establishment, constrained by market size, is less efficient than the larger city establishment; they simply produce different services. Only after ascertaining to what extent there is competition across size classes would it be possible to isolate firms for a relevant comparison.

Apart from this problem, it is still of interest to see how establishments do differ in factor productivity by size. Table 3 presented one body of relevant, rich data for food marketing in Cali and Diagram 5.5 plots the implicit isoquant traced out by the average factor combinations of the different types of commerce. The two commerce censuses present broader but less rich information.<sup>1</sup> Diagrams 5 and 6 present the relation between size and sales per worker, Diagram 7 presents the relation between size and "sales - purchases + inventory increase" per person. Sales/person clearly bears a positive relation to level of sales (curve "Total: 1967:A") though the relation with level of inputs is weaker (see curve "Total: 1967:B") where firms are classified by number of workers; were they classified by value of inputs at average market prices, the curve would presumably show a smaller positive slope than this one; a best guess would be that it would still reflect a positive sales/person relation

<sup>1</sup>Tables A-1, A-2, A-3, and A-5 give figures on average sales per person by firm sizes in the two years in question and in wholesale and retail. The relationships are plotted on Diagram 5.

with size up to about a level of sales = 1 million pesos. "Sales-Purchases + Inventory Increase" per person--a somewhat distant proxy for value added per person--shows a less positive relation to size than does sales per person alone. One problem in comparing labor productivity across sizes is the possible over-estimation of the number of full-man equivalents really working in the shops; frequently one person works a few days a week and another person the same.

Meanwhile Diagram 8 shows, separately for wholesale and retail, the relation between the sales/inventory ratio and total sales in 1954 and 1967.<sup>1</sup> As noted earlier, the average inventory/sales ratio apparently rose slightly in retail between the two years; Table 19.2 presents data on sales-inventory and "sales-purchases + inventory increase/inventory" ratios by product. But of prime interest is the explanation of the substantially more rapid increase in wages for the small-scale firms than for the larger ones and whether this is related to an increase in sales per person in the small size or to some other factor. For 1954, as evidenced in the diagrams for food, for example, it is clear that over a certain range of size the sales/inventory ratio rises. It is clear that there are problems of distinguishing cause and effect in that many aspects of these relationships may be due to basically different situations in which establishments of different size find themselves. It may be, for example, that where economies of scale are important, they are manifested in large firms and where not, not.

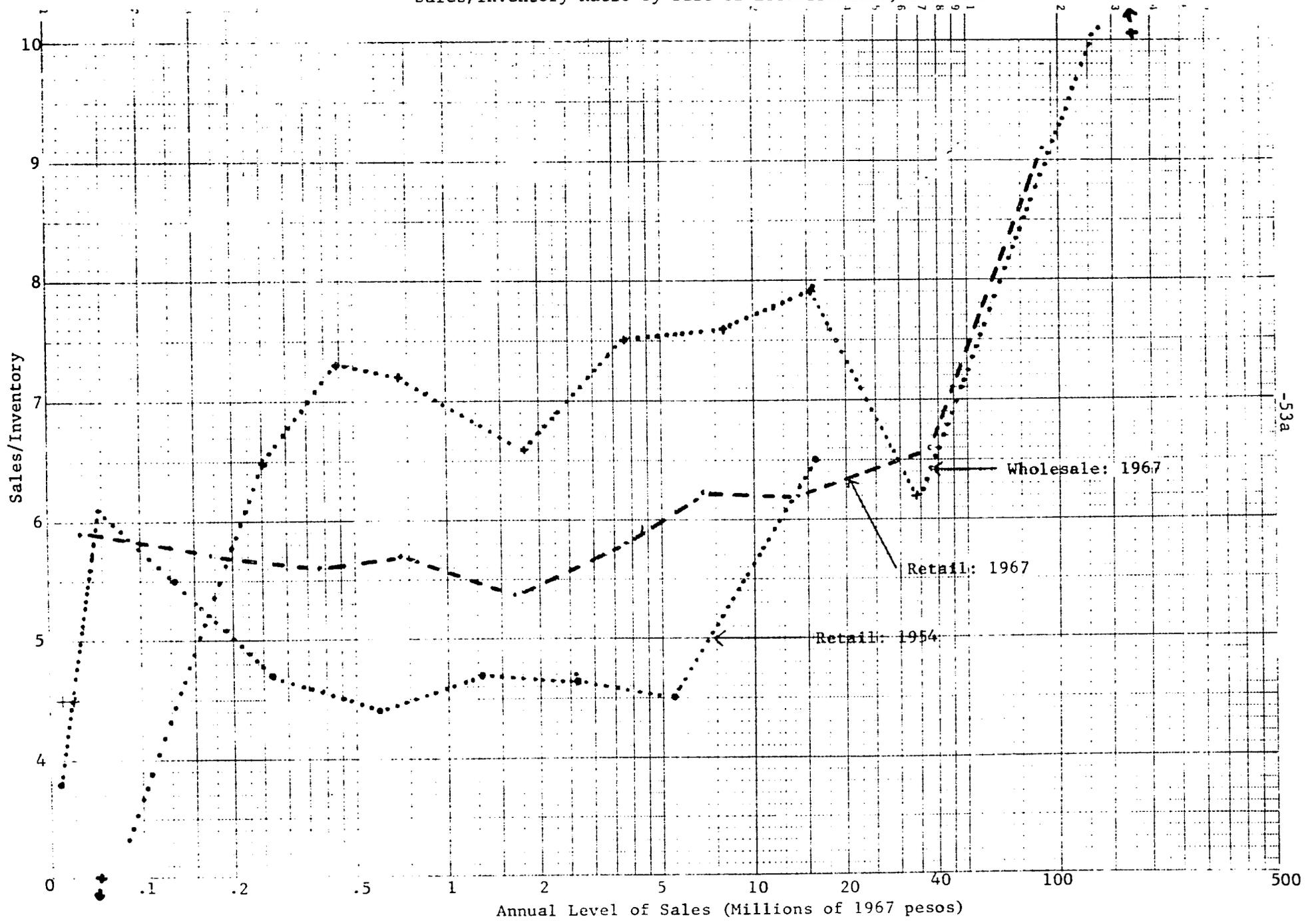
Diagram 9 shows the relation of "sales-purchases and increase of inventory/inventory" to size of establishment in 1967. Although the sets of observations for different size groups are different according to whether classification is by level of sales or by number of workers, the difference is not systematic. In the case of food (Diag. 10) that classification by level of sales gives a higher (lower) figure for the top (bottom) establishments than does classification by number of workers. (This is the expected bias).

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<sup>1</sup>Because of possible non-comparability in the coverage of wholesale in the two years, it is unwise to lump the two categories together.

Diagram 8

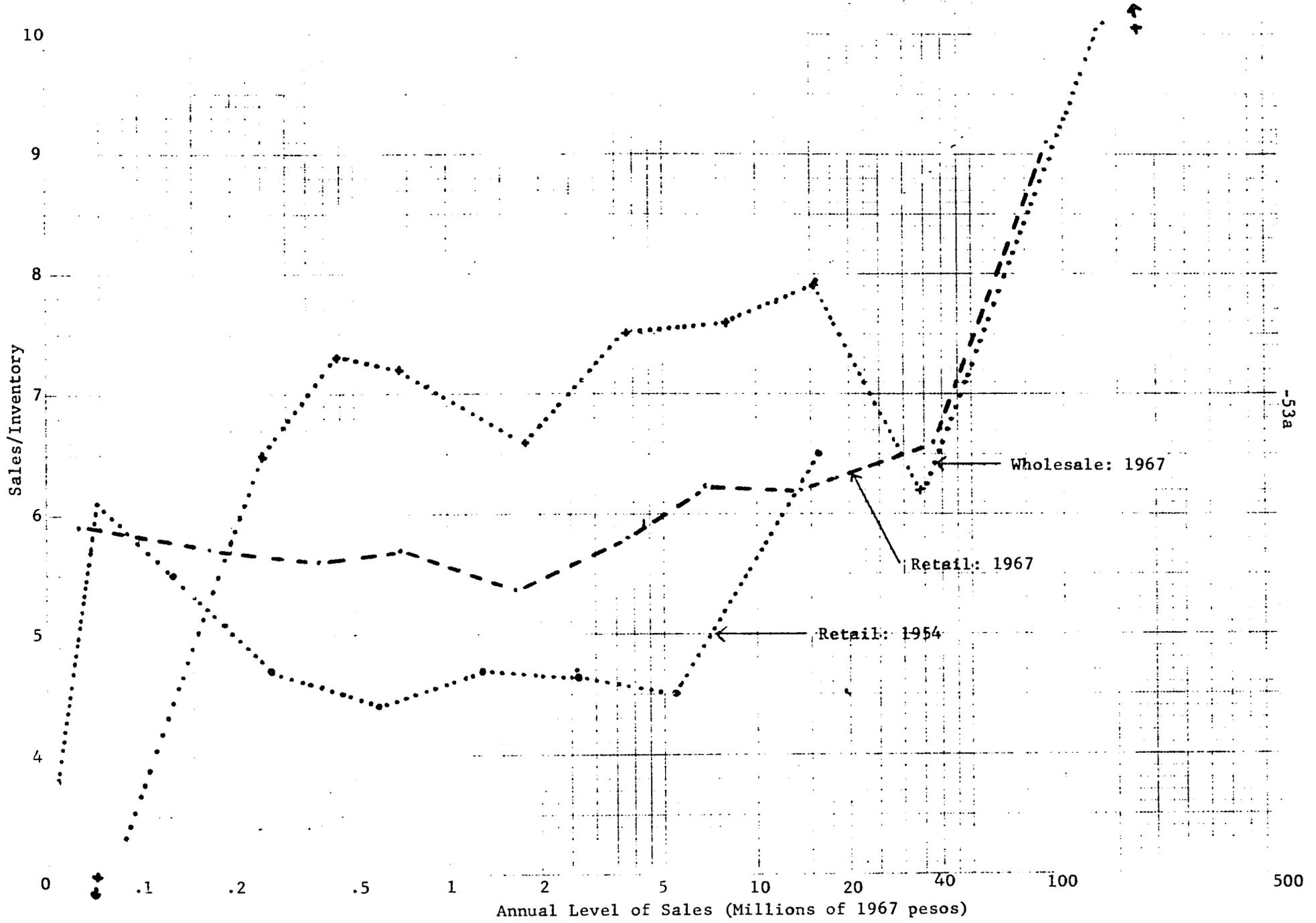
Sales/Inventory Ratio by Size of Establishment, 1954 and 1967



-53a

Diagram 8

Sales/Inventory Ratio by Size of Establishment, 1954 and 1967



-53a

Diagram 9

"Sales-Purchase + Inventory Increase"/Inventory in Retail Commerce, By Size of Establishment

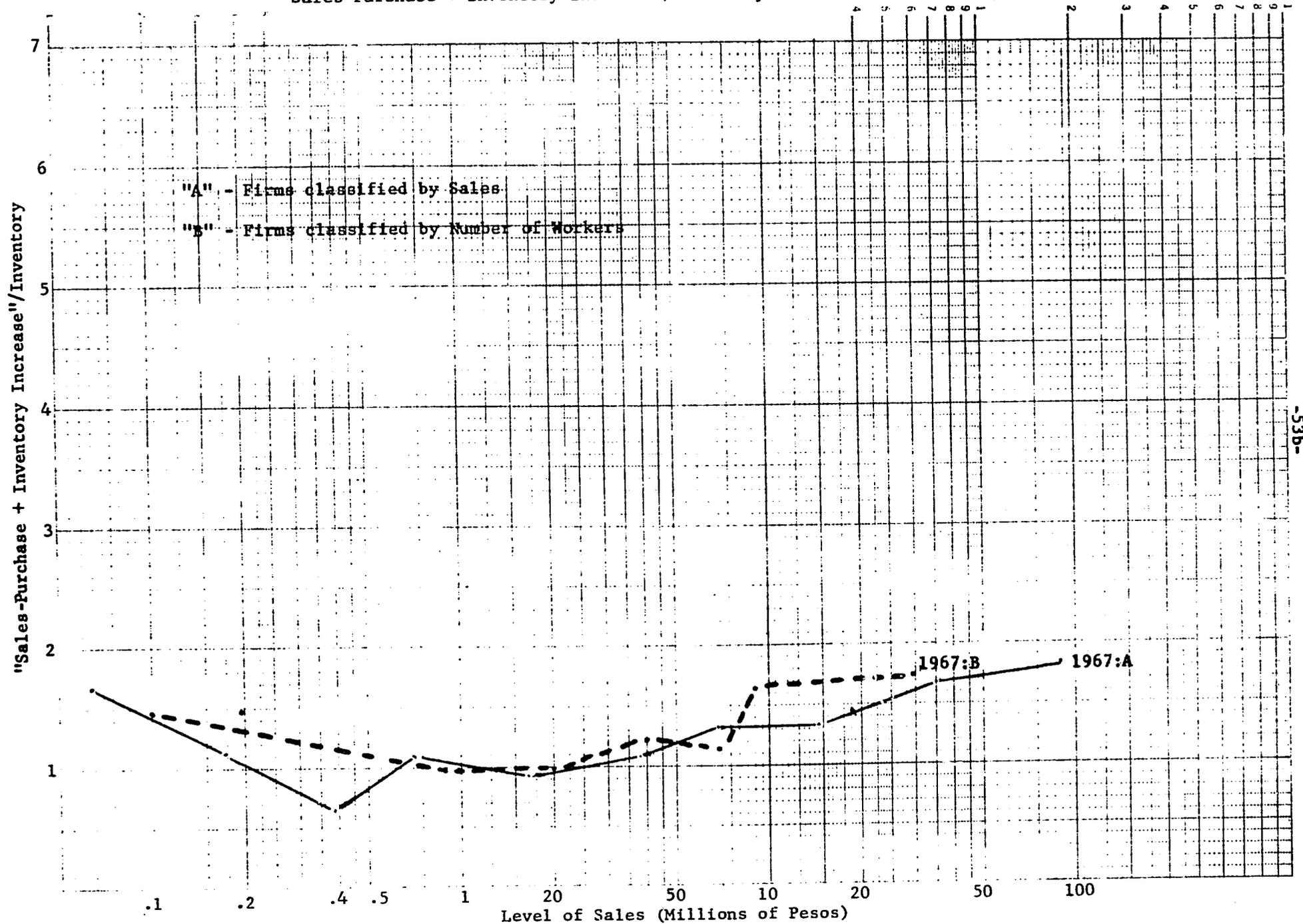
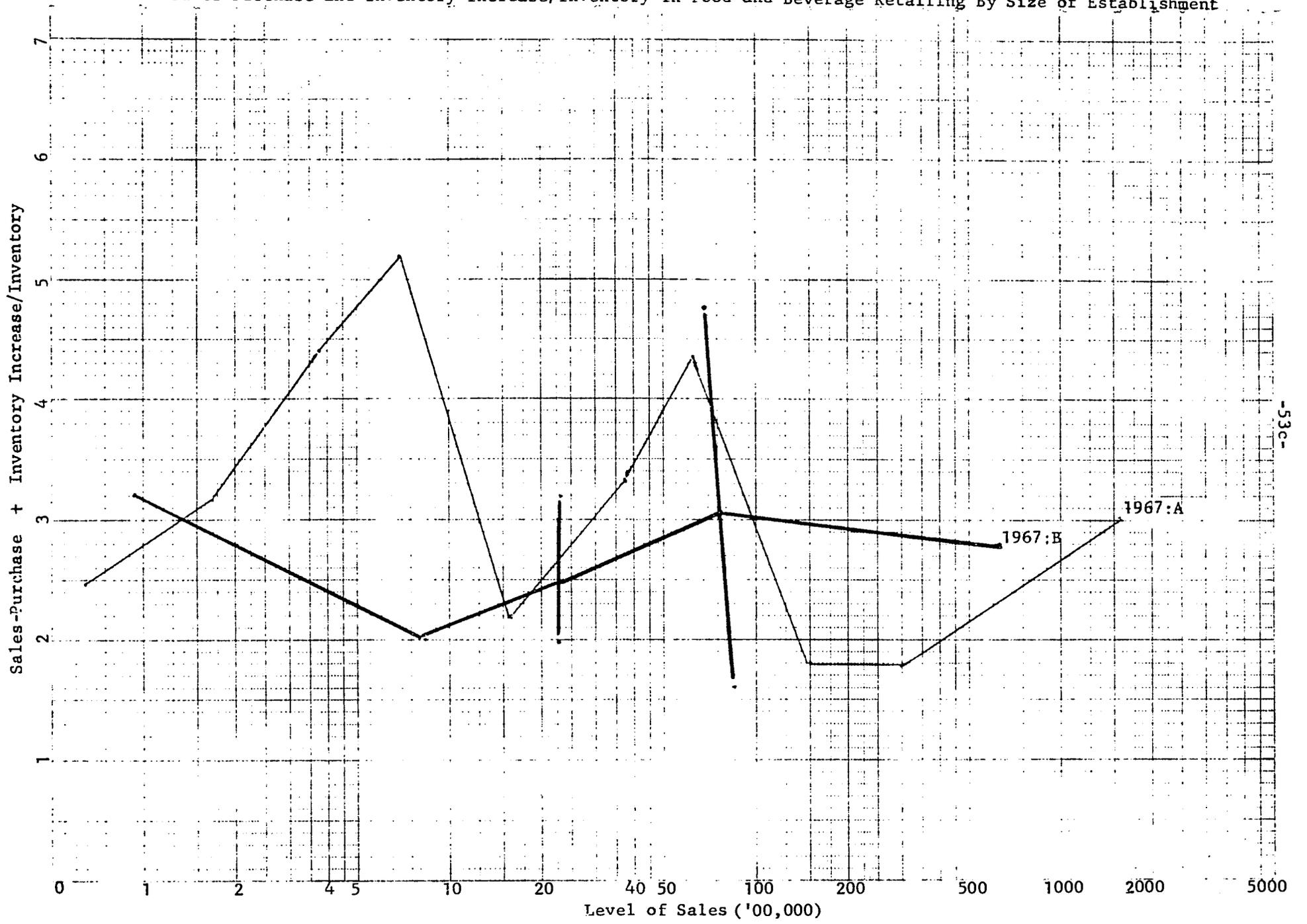


Diagram 10

"Sales-Purchase and Inventory Increase//Inventory in Food and Beverage Retailing By Size of Establishment



-53c-

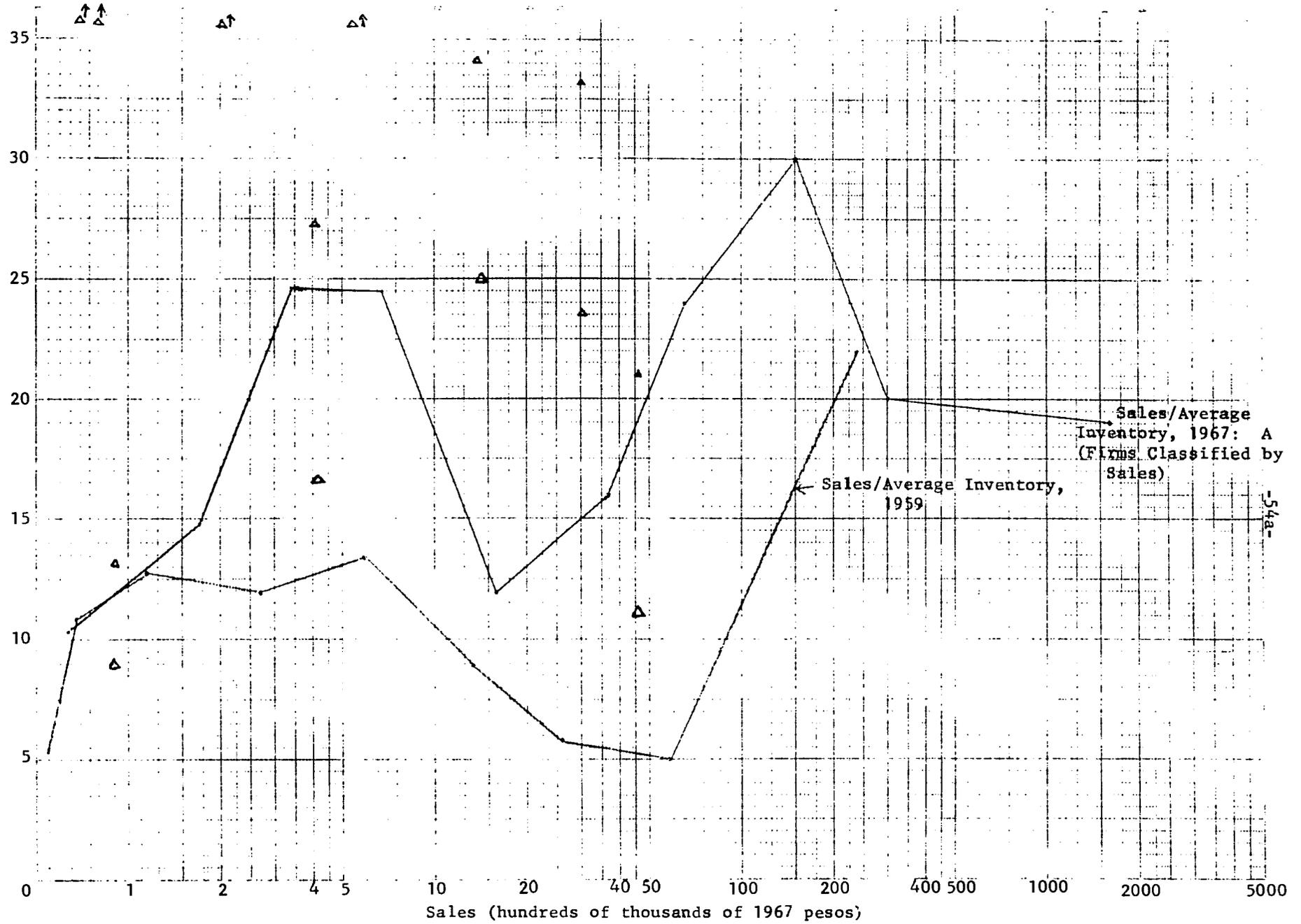
The 1954 census gives information on some components of capital stock in this industry, although not, unfortunately, by size of establishment. In any case, the overall figures (see Table A-12) suggest that in retail commerce machinery and buildings account for almost nothing in comparison to inventories (only about 3% of the total).<sup>1</sup> This is a little less true for wholesale, but still the share of inventory in reported capital (86%) is high. Unfortunately, as indicated in the PIMUR study in Cali (1969) inventory is not the dominant component of capital. As a result guesses as to capital productivity based on inventory productivity are likely to be dangerous. Consider Diagram 11 where 1954 and 1967 census data on sales/inventory in food retailing are plotted along with the PIMUR Cali data.

A consistency check between the commerce census data on the Sales/Inventory ratio and the Pimur data for Cali (see Diagram 11) gives us no assistance, but rather reduces confidence in the statistics in general. While there is, indeed, an interesting similarity in the sales/inventory ratio's relation to total sales between the 1954 and 1967 commerce censuses, these are basically inconsistent with the Pimur data as far as can be ascertained.\*

\* It is true, of course, that the Pimur data are not classified by size, and what we have done here is simply plot a point for a given category of retail establishments with their average level of sales and average sales/capital ratio. Proof of the inconsistency lies, however, in the fact that overall the sales/capital ratio tends to be higher in the Pimur data than in the sales/inventory ratio in the commerce census data, whereas the reverse situation should obtain.

One small source of error is the fact that we have not converted the Pimur data to 1967 pesos but rather left it in 1969 pesos; this involves only misplacing on the horizontal axis the sales/capital ratios.

Sales/Inventory and Sales/Capital Ratios by Level of Sales in Food and Beverages: 1954 and 1967 National and 1969 Cali



"A" - Firms Classified by Sales  
 "B" - Firms Classified by Number of Workers

Possibly the source lies with the fact that the Cali study does not seem to have collected direct information on inventories but rather to have based it on the frequency and volume of purchases. (op.cit., p. 65) The information on fixed capital, on the other hand, appears to have been obtained directly and in current replacement cost terms. (64) Unfortunately, in the Pimur data inventory estimates are not presented separately from other liquid assets. It does seem from the methodology, though, that the estimates of inventory should not be far off the track. One major--and unfortunately important--doubt with respect to the Pimur data relates to the very high value they place on fixed assets of tiendas. They note (p. 65) that no rental is charged to tiendas since these are located in the proprietor's houses, but it is then not clear what determines the value of the fixed assets. Possibly they are severely overestimated.

Productivity measures are perhaps more difficult in the service sectors than elsewhere. In commerce, sales is hardly the right measure if the service really changes,<sup>1</sup> and the prevalence of family labor along with wage labor makes the valid measurement of labor difficult. And the dissimilarity of product (e.g., the provision of commerce in small towns vs. large cities) almost makes such an exercise futile.

At a product by product level, retail sales per worker increased in all sectors (see Table 21) except automobiles, parts, etc.; (here a decrease may have been quite plausible if the real price of automobiles fell between 1954 and 1967 or if the degree of competition increased. The biggest increase (though presumably upward biased) was for food and beverages. The figures for wholesale trade (and hence, to a lesser extent for retail and wholesale combined) are quite erratic, suggesting data problems (e.g., differing degree of coverage as between the two years) of some sort.

<sup>1</sup>On this point see, for example, A. Bhalla, "A Disaggregative Approach to LDC's Tertiary Sector," Center Discussion Paper No. 88, June, 1970.

The 1967 census, unlike that of 1954, permits rough estimation of commerce margins, i.e., gross income of the establishments, since it indicates value of goods purchased, inventory at beginning and ending of year and sales. Accordingly, the estimation, at least roughly, of factor shares is possible. Wage payments are, of course, an increasing function of establishment size, natural given the low use of paid labour in the small firms (see, for example, Table 18). It is difficult to present any meaningful figures for labour and capital shares for small firms. Within food retailing, Tables 3 and 18 both suggest that the paid labour share in large establishments (approximately equal to the total labour share) is close to if not over 50 percent, say in the range 40-60 percent. For some small establishments the imputed labour share is clearly very high, e.g., the "ambulantes" and "fruit and vegetable vendors" represented in Table 3. When the output capital ratio reaches 10, even if the return to capital is 50 or 100 percent, the labour share is quite high. Information for other types of small establishments does not get us too far, but the relatively high value added/inventory ratios indicated (e.g., in Table 19.2) are consistent with a high labour share. If, for retail establishments of less than 5 workers, imputed proprietor labour income per proprietor (including labour of family) were twice that of paid labour, the labour share would be a little under 50 percent (excluding rent and interest from consideration). (See Table 18a) Such an estimate is highly speculative, of course.

Table 22

Sales, Value Added and Wages in Commerce: Comparisons Across Sources  
(values in millions of current pesos)

Year	Retail Sales	Retail Sales as a Percent of Value Added in Primary, Secondary, Transportation and Commerce Sectors		Commerce Value Added, Retail and Wholesale (National Accounts)	Value Added/ Sales	Value Added (my estimate)	Total Value of Sales Adjusted for Censal Underenumeration			Total Labor Share		Paid Labor Income	Comm-erce Market Prices (National Accounts)	Paid Labor Share of Gross Domestic Prod.at
		Est. A <sup>a</sup>	Est. B <sup>b</sup>				Total	Retail	Wholesale	EST.A	EST.B			
														14.93
														14.01
														13.99
														14.07
1954	3323.8	31.665 (10,496.9)	32.813 (10,129.6)	1,978.3	25.279 (7,825.9)	1,200 - 1,500	766,673- 772,639	652,335- 658,355	114,340	39.69 (49.78- 62.22)	22.08 <sup>d</sup> (29.12- 36.40)	266.1	253.0	13.45
														13.64
														14.19
														14.88
														14.04
														14.68
														14.78
														15.13
														16.56
														15.81
														14.77
														14.81
														13.62
1967	31,792.	47.016 (67,619.6)	50.350 (63,142.9)	13,878.5	27.424 (50,605.4)	11,872.6- 12,150.3 <sup>c</sup>						1,985.6	2,527.5	14.31 <sup>e</sup>

<sup>a</sup> Denominator is total gross domestic product minus government, personal services and rent on buildings.

<sup>b</sup> Denominator is total gross domestic product minus the items listed in (a) as well as financial services, electricity, etc. and communications.

( ) denotes absolute value of the denominator used in calculation of the ratio in question.

<sup>c</sup> Includes coffee; excluding coffee, 11,737.2 to 12,014.9.

<sup>d</sup> (See next page).

<sup>e</sup> The figure in the revised national accounts is 21.7%.

Table 22 (continued)

<sup>d</sup> Calculated by applying the actual paid wage to those receiving wages, something a little greater than the average wage (3,300 pesos) to the unpaid workers in those establishments with sales of 50,000 or more per year, and an average wage of 800 for the remaining 136,000 workers--this latter wage being a little higher than the average wage in the bottom two categories of food and beverage sales in retail. This calculation is designed to give a lower limit estimate, both in the sense that food and beverages tend to have the lowest wages at the small establishment level, and also in the sense that it is possible that the wage rate does not correspond to full time workers, and is therefore an underestimate of a valid imputed wage for some of the other workers. There is, however, no particular reason to believe that this is the direction of the bias, and it is true that the majority of these unpaid workers are in the retail food and beverage category on the basis of which the low wage figure was chosen. Overall, it would seem possible that the labor share, either pure or total, is not above 25 percent in this sector.

But this conclusion is dubious for two reasons. First, consideration of the sales/inventory ratio indicates (see Table A-13) that if the value added/sales ratio was 25 percent, as implicit in joint consideration of the national accounts value added and the commerce census sales figures for 1954, the income/inventory ratio would be over 250 percent; even allowing for the existence of other forms of capital, and for the fact that this is gross rather than net income, the implicit rate of return to capital is extremely high; since the labor share could not easily be more than 40 percent under the assumption that the national accounts value added estimate is correct, and since inventory is almost certain to be, say, 40-50 percent of total capital (?), the rate of return to capital would seem to have a lower limit of perhaps 65-70 percent; while this is not impossible it seems out of keeping with the competitive nature of a large part of the commerce sector.

Second, it seems unreasonable to assume a 25 percent earnings/sales ratio for wholesale commerce where according to the census, the turnover period is only about 4 days, i.e., the sales/inventory ratio is 87. (Note that in 1967 this ratio is only 7.7; the corresponding ratio in retail trade was only a little higher [5.8] and in 1954 [4.9]). Either the nature of wholesale trade has changed substantially or there was something wrong with the 1954 figures.

Estimates from the marketing study in Cali indicate margins which are much smaller than the 25 percent assumed implicitly in the national accounts for 1954 (a similar percent was implicitly assumed for 1967), and in fact almost all the commerce margin studies in the agricultural products field would find that at a single turnover the margin is typically less than 25 percent. Still, the implicit overall margin in 1967 (assuming no loss of goods, without allowance for inflation and using a crude formula) was 28 percent. Since the average period in stock was only about 2 months the presence of inflation would not lower this figure much. In wholesale the corresponding implicit margin was 23 percent.

In the context of 1967, where the implicit wholesale turnover was much less, the profits/capital ratio under varying labor shares and inventory/capital

ratio assumptions was more plausible than in 1954, though it was still high. Ascertaining whether these high figures really result from data problems or correspond to reality requires disaggregating; at the small food store level, it is not implausible that the average markup is somewhat high, though the observation from 1954 that the sales/inventory ratio was lower for smaller than large which suggests extremely high profit rates in the larger firms.

In short, while the national accounts implicit value added/sales ratio was around 27.4 in 1967 is borne out by the commerce census, the application of about the same ratio in 1954 seems dubious, given the strange characteristics of the wholesale figures; if one were to assume a sales/inventory ratio of 10 for wholesale in 1954, and apply the value added/sales ratio of .25 in each case, then the estimated value added in the sector would be 957.5; if the sales/inventory ratio in wholesale equals 30 (designed to give a similar retail sales/wholesale sales ratio to that of 1967), then the figure is 1218.0. In both cases it is far below the Central Bank estimate of 1978.3. Even though some sales were missed, such a difference could hardly be made up. The possibility that the inventory figures were wrong in 1954 rather than the sales figures cannot be disregarded out of hand, but it would still seem unlikely that a margin of 25% could correspond to a situation with such a high wholesale sales/retail sales ratio, relative to 1967. Very possibly commerce was less perfect at the earlier date, so it may have been both true (a) that the wholesale/retail ratio was substantially higher in 54 and (b) that the value added/sales ratio was also higher but it seems unlikely that the total value added would have been greater, for example, than, say, 1500, in other words, about 25% less than the national accounts estimate.

Differences in the inclusion of coffee could be playing a role. In 1954 this category accounted for about 30% of all wholesale sales, with very high sales/person. The sales figures (1251 millions) corresponded closely to the central banks estimates of value of coffee output at the producer level in 1954 (1413 millions: in 1953 it was 1063 millions). Coffee sales are much smaller in 1967, only 309 millions, i.e., about 4-5% of total wholesale sales. Value of coffee output at the producer level was estimated at 3419 millions (that of 1966 was 3210). Number of people engaged was 2313 in 1954, 1082 in 1967. If the 1967 figures are assumed to be the invalid ones, we may assume, say that the true figures would be sales of 3,300 in 1967, occupied persons of 2,800 and value added of 135.4 millions (instead of the 33.2 implicit in the census (p. 22)). The implicit value added/sales ratio in the 1967 figure is 4.10%. This seems quite low. But even if the coffee figure in 1954 were 10.0, while that in the rest of wholesale were 25 (the 1967 figure for wholesale), total value added would have been

$$(.25)6585.0 + (.10)(1250.8) = 1771.3 \text{ or only } 10.5\% \text{ below the national accounts estimate}$$

The sales/inventory ratio in non-coffee wholesale would still be extremely high unless the sales/inventory ratio was much higher than the highest figure which would seem possible in 1967--44.0 based on sales in 1967 to inventory at start of the year. Coffee, in short, does not account for the startling difference in turnover rates for the two years, and the application of a 25% value added/sales ratio for non-coffee wholesale sales in 1954 appears clearly to be too high.

When the sales/inventory ratio of 30 is applied to non-coffee wholesale (after assuming coffee's ratio was 90), along with a value added/sales ratio of .25, total value added in commerce comes to 8,309.5 (retail) + 125.1 (wholesale-coffee) + 2709.1 (wholesale-noncoffee) = 11,143.7.

In the table we assume low and high estimates of 1,200 and 1,500.

ECONOMIC GROWTH CENTER

YALE UNIVERSITY

Box 1987, Yale Station  
New Haven, Connecticut

STATISTICAL APPENDIX

to

Center Discussion Paper No. 178

R. Albert Berry

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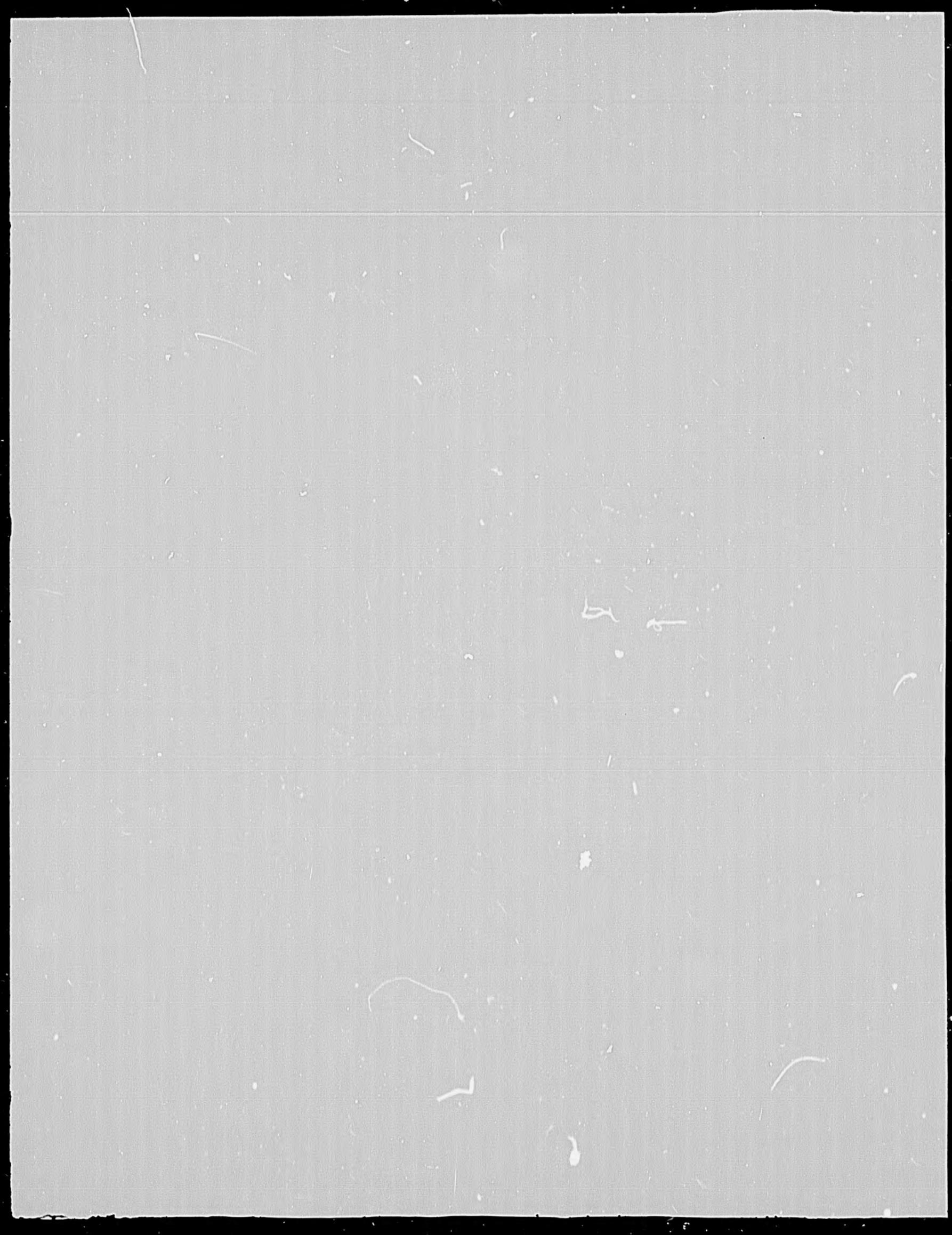


TABLE A-1

## Establishment Size Data for All Commerce: 1954

## Panel A

Sales (thousands of 1967 pesos)	Average Number of Workers Per Establishment	Sales ( '000)	Number of Establishments	Total Persons		Paid Workers		Remun- eration ( '000)	Remun- eration/ Person	Sales/ Occupied Person	Sales/ Establish- ment ( '000)
				#	%	#	%				
<18.7	1.354	305,175	32,289	43,709	19.70	1,132	13.91	2,291.0	2.024	6,982	3.5
18.7 - 93.6	1.564	1,778,665	39,756	62,159	28.02	5,918	7.28	19,805.5	3.347	28,615	44.7
93.6-187.2	1.886	1,816,103	14,057	26,514	11.95	7,517	9.24	37,655.3	5.009	68,496	129.2
187.2 - 374.5	2.453	2,005,897	7,722	18,942	8.537	8,593	10.565	53,972.0	6,281	105,897	259.8
374.5 - 936.3	3.661	3,251,254	5,568	20,385	9.188	13,483	16.577	128,322.6	9,517	159,492	583.9
936.3 - 1872.6	5.946	2,978,401	2,261	13,445	6.060	10,818	13.301	117,595.3	10,870	221,525	1,317.3
1872.6 - 3745.3	8.345	3,264,246	1,265	10,556	4.758	9,165	11.268	131,121.8	14,307	309,231	2,580.4
3745.3 - 9363.2	14.533	4,727,014	821	11,932	5.378	10,979	13.499	179,225.0	16,324	396,163	5,757.6
≥9363.2	37.344	9,183,524	381	14,228	6.413	13,732	16.883	277,537.6	20,211	645,454	24,103.7
Total	2.131	29,310,259	104,120	221,870	100.000	81,337	100.000	947,526.0	11,649	132,106	2815.0

## Panel B

1967

Sales (thousands of 1967 pesos)	Average Number of Workers Per Establishment	Number of Establishments	Sales ( '000)	Average Sales Establishment ( '000)	Total Persons	Paid Workers	Remuneration			Average Remuneration (Including Fringe Benefits)	Average Sales Per Occupied Person	
							Total	Salaries	Fringe Benefits			
< 100	1.079	121,004	3,496,232	28.9	130,601	13,031	77,781	72,252	5,529	5,554	5,969	26,770
100 - 299	2.227	25,417	4,430,530	174.3	56,594	20,539	143,315	130,088	13,307	6,334	6,982	78,779
300 - 499	3.029	7,308	2,810,732	384.6	22,139	11,647	100,275	84,268	16,007	7,235	8,610	126,958
500 - 999	4.275	7,910	5,603,182	708.4	33,814	23,081	231,120	206,847	24,273	8,961	10,013	165,705
1,000 - 2,999	7.750	6,215	10,393,787	1,672.4	48,169	40,871	503,982	424,209	79,773	10,379	12,331	215,778
3,000 - 4,999	16.136	1,105	4,198,808	3,799.8	17,830	16,723	258,815	212,551	46,264	12,710	15,477	235,490
5,000 - 9,999	21.554	876	6,003,219	6,852.9	18,881	17,893	320,198	261,773	58,425	14,629	17,895	317,950
10,000 - 24,999	41.335	499	7,342,631	14,714.6	20,626	20,134	442,575	351,915	90,660	17,478	21,981	355,989
25,000 - 49,999	92.216	74	2,533,429	34,235.1	6,972	6,920	206,660	157,736	48,924	22,794	29,864	363,372
≥ 50,000	380.862	29	3,792,837	103,786.2	11,045	11,031	243,157	189,224	53,933	17,153	22,043	343,400

Sources: The 1954 and 1967 commerce censuses.

Table A-2

Labour Force and Salary in Retail Commerce, by Number of Workers: 1967 (Unadjusted Commerce Census Figures)

No. of Workers	No. of Establishments	Labour Force				Workers /Firm	Wages and Fringe Benefits				Average Remuneration (including Fringe Benefits)	Sales '000	Sales/ Estab. '000	Sales/ Worker '000
		Total	Percent	Paid	Percent		Total '000	Wages '000	Fringe Benefits '000	Average Wage				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total	162.061	308.928	100	133.843	100	1.906	1,512.8				11,303	31,792.3	196.2	102.9
< 5 Persons	152.537	194.018	62.804	36.543	27.303	1.272	263.2				7,202	15,507.2	101.7	79.9
5-9 Persons	6.501	41.121	13.311	29.109	21.749	6.325	290.2				9,969	5,796.9	891.7	141.0
10-19 Persons	2.009	26.023	8.424	22.770	17.012	12.953	275.4				12,095	3,977.2	1,979.7	152.8
20-49 "	773	21.333	6.905	19.758	14.762	27.598	308.13				15,595	3,108.9	4,021.8	145.7
50-74 "	107	6.078	1.967	5.509	4.116	56.804	82.36				14,950	742.9	6,943.4	122.2
75-99 "	62	5.238	1.696	5.159	3.855	84.484	74.89				14,516	550.4	8,877.1	105.1
100 and up	72	15.117	4.893	14.995	11.203	209.958	218.60				14,578	2,108.7	29,287.2	139.5

Table A-3

Labour Force and Salary in Wholesale Commerce, by Number of Workers: 1967 (Unadjusted Commerce Census Figures)

No. of Workers	No. of Establishments	Labour Force				Workers/ Firm	Wages and Fringe Benefits				Average Remuneration (including Fringe Benefits)	Sales '000	Sales/ Estab. '000	Sales/ Worker '000
		Total	Percent	Paid	Percent		Total '000	Wages '000	Fringe Benefits '000	Average Wage				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total	8.378	57.770	100	48.030	100	6.895	1,014.7				21,126	17,108.7	2,042.1	296.2
< 5 Persons	5.732	11.611	20.099	4.879	10.158	2.026	51.8				10,617	3,555.9	620.4	306.3
5-9 Persons	1.404	9.534	16.503	7.889	16.425	6.791	110.8				14,045	3,579.2	2,549.3	375.4
10-19 "	727	9.577	16.578	8.780	18.280	13.173	153.5				17,483	3,161.8	4,349.1	330.1
20-49 "	385	11.334	19.706	10.944	22.786	29.569	225.3				20,587	3,218.6	8,360.1	282.7
50-74 "	61	3.530	6.110	3.488	7.262	57.869	73.5				21,072	549.7	9,010.8	155.7
75-99 "	29	2.342	4.054	2.274	4.735	80.759	51.4				22,603	599.6	20,676.6	256.0
100 and up	40	9.792	16.950	9.776	20.354	244.800	338.4				34,615	2,444.0	61,100.6	249.6



Table A-5

Labor Force and Salary in Commerce, by Number of Workers: 1967 (values in 1967 pesos)

No. of Workers	No. of Es- tablish- ments	Labor Force				Workers/ Firm	Wages and Fringe Benefits				Average Remunera- tion (in- cluding Fringe Benefits)	Sales '000	Sales/Estab . '000	Sales/Worker '000
		Total	Percent	Paid	Percent		Total '000	Wages '000	Fringe Benefits '000	Average Wage				
Total	170.439	366.698	100	181.873	100	2.151	2,527.514	2,090.787	436.727	11,495.9	13,897	48,901.0	286.9	13.34
< 5 Persons	158.269	205.629	56.075	41.422	22.775	1.299	315.049	289.262	25.787	6,983.3	7,606	19,063.1	120.4	92.7
5-9 Persons	7.905	50.655	13.814	36.998	20.343	6.408	401.020	339.605	61.514	9,175.3	10,839	9,376.1	1186.1	185.1
10-19 "	2.736	35.600	9.708	31.550	17.347	13.012	428.879	363.995	64.884	11,537.1	13,594	7,139.0	2609.3	200.5
20-49 "	1.158	32.717	8.922	30.702	16.881	28.253	533.447	437.195	96.252	14,240.0	17,375	6,327.5	5464.2	193.4
50-74 "	168	9.608	2.620	8.997	4.947	57.190	155.864	119.307	36.557	13,260.8	17,324	1,292.6	7694.0	134.5
75-99 "	91	7.580	2.067	7.433	4.087	83.297	126.263	103.499	22.764	13,924.3	16,987	1,150.0	12637.3	151.7
100 & up	112	24.909	6.793	24.771	13.620	222.402	556.992	483.023	128.969	17,682.9	22,889	4,552.7	40649.1	182.8

TABLE A-6

Commerce Labor Force Estimates by Size of Establishment<sup>1</sup>

	Independent Workers	Workers in Establishments of		TOTAL
		< 5 Persons	≥ 5 Persons	
	(1)	(2)	(3)	(4)
1938				
1951	101	42 <sup>d</sup>	40 <sup>d</sup>	183
1954	126 <sup>b</sup>	55	59 <sup>c</sup>	240
1964	194	68-88	100-120	382
1967	200 <sup>a</sup>	93	162	455
1970	235	(105) <sup>d</sup>	(200) <sup>d</sup>	540

<sup>a</sup>A little higher than the number estimated in Table 1.

<sup>b</sup>See Table 1.

<sup>c</sup>Based on the relationship in 1967 between the cutoff firm size in terms of number of workers corresponding to the category of firms "last sales category needed to imply the inclusion of the workers operating in establishments of 5 or more workers."

<sup>d</sup>Guess; based largely on extrapolation.

<sup>1</sup>Population census definitions of labor force employed.

Table A-6a  
Factor Proportions in Cali Food Retailing

	Sales- Purchases (Gross Profit)	Rent	Salaries and Fringes	Utilities, Transport + Deliveries + Maintenance + Miscellaneous	Gross Value Added	Net Value Added	Deprec.	Gross Profits (inc. Deprec. and Bad Debt Losses)	Bad Debt Loss	Profits Net of Deprec. and Bad Debt Losses
	(1)	(2)	(3)	(4)	(5) = (1)-(4)	6 = (5)-(7)	(7)	(8) = (2) - (3)	(9)	(10)
I. Self Service	42,735	4,120	21,300	6,330	36,405	34,952	1,453	10,985	300	9,232
II. Personal Service										
a) Tiendas	895	-	160	165	730	693	37	570	70	463
b) Small Graneros	3,741	985	655	585	3,156	3,094	62	1,516	110	1,344
c) Large Graneros	8,821	2,055	1,670	660	8,161	8,053	108	4,436	655	3,673
d) Wholesalers/Retailers	15,518	2,815	3,575	1,270	14,248	13,958	290	7,858	800	6,768
e) Banco de Carne										
III. Public Market										
a) Fruit and Vegetable Stalls	581	55	-	85	496	494	2	441	15	424
b) Grain and Processed Food Stalls	1,466	155	12	45	1,421	1,413	8	1,254	110	1,136
c) Beef Stalls	6,572	180	873	255	6,317	6,305	12	5,264	415	4,837
d) Ambulantes	439	16	-	31	408	408	-	392	-	392

Table A-6a(continued)

	Capital	Labor	<u>Capital Labor</u>	Paid Labor Share	<u>Gross Value Added Capital</u>	<u>Net Value Added Capital</u>	<u>Monthly Gross V. A. Worker</u>	<u>Monthly Net V. A. Worker</u>
	(11)	(12)	(13)	(14)= (3) (6)	(15)= (5)/(11) x 12	(16) (6)/(11) x 12	(17) (5)/(12)	(18) (6)/(12)
I. Self Service	219,706	16	13,732	60.94	1.988	1.909	2275	2184
II. Personal Service								
a) Tiendas	6,260	1.89	3,312	23.09	1.309	1.328	386	367
b) Small Graneros	14,636	2.70	5,421	21.17	2.588	2.537	1169	1146
c) Large Graneros	35,627	3.00	11,876	20.74	2.749	2.712	2720	2684
d) Wholesalers/Retailers	83,636	4.49	18,627	25.61	2.044	2.003	3173	3109
e) Banco de Carne	n.a.	2.30						
III. Public Market								
a) Fruit and Vegetable Stalls	558	1	558	-	10.667	10.624	496	494
b) Grain and Processed Food Stalls	3,453	±1.037	3,330	.85	4.938	4.911	1370	1363
c) Beef Stalls	2,557	±2.639	969	13.85	29.546	29.589	2394	2389
d) Ambulantes	89	1	89	-	55.011	55.011	408	408

Table A-6a (continued)

	Annual Rate of Return to Capital if Unpaid Workers have Imputed Wage Equal to:				
	.50 Actual Wage	.75 Actual Wage	1.0 Actual Wage	1.5 Actual Wage	2.0 Actual Wage
	(19)	(20)	(21)	(22)	(23)
I. Self Service		44.61	42.66	38.78	34.91
II. Personal Service					
a) Tiendas	≈ 0	neg.	neg.	neg.	neg.
b) Small Graneros	35.17	≈ 0	neg.	neg.	neg.
c) Large Graneros		65.44	46.04	7.21	neg.
d) Wholesalers/Retailers		58.64	52.86	20.16	8.61
e) Banco de Carne					
III. Public Market					
a) Fruit and Vegetable Stalls					
b) Grain and Processed Food Stalls					
c) Beef Stalls					
d) Ambulantes					

Source: Riley et al., op.cit., various pages.

Table A-7

## Structure of Commerce By Type of Goods Sold

1954				1967			
Sales		Wholesale Retail	Share of Retail Sales	Sales		Wholesale Retail	Share of Retail Sales
Wholesale	Retail			Wholesale	Retail		
2,537,531	1,443,391	1.7580	43.43	6,229,425	11,912,451	.5229	37.47
272,799	423,101	.6448	12.73	1,013,053	4,206,627	.2408	13.23
414,123	481,131	.8607	14.48	414,265	3,981,347	.1041	12.52
374,185	202,245	1.8502	6.08	1,464,515	1,864,442	.7855	5.86
227,933	--			1,041,087	502,338	2.0725	1.58
30,323	--			1,412,814	282,470	5.0016	0.89
260,390	91,977	2.8310	2.77	580,246	1,220,089	.4756	3.84
78,935	229,304	.3442	6.90	538,229	2,637,006	.2041	8.29
--	--			741,100	68,653	10.7949	0.22
--	--			272,482	11,095	24.5590	0.03
55,738	109,362	.5097	3.29	2,013,181	1,464,091	1.3750	4.61
--	--			1,166,855	8,169	142.8394	0.03
--	--			205,875	28,838	7.1390	0.09
125,011	183,551	.6811	5.52	864,627	2,043,568	.4231	6.43
125,063	159,790	.7827	4.81	855,320	1,561,012	.5479	4.91
4,502,031	3,323,852	1.3545	100.01	18,813,191	31,792,196	.5918	100.00

Sources and Methodology:

The data come from the two commerce censuses in question. It is somewhat reassuring to note that at this level there are not such dramatic changes in the composition of retail sales as to throw doubts on the validity of the whole comparison. The strangest aspects clearly lie on the wholesale level, suggesting either something wrong there in one of the years, or a problem of classification between wholesale and retail in one of the years.

Table A-7.5

## Monthly Income Statements - Personal Service Retailers

	Tiendas		Small Graneros		Large Graneros		Wholesaler/Retailer	
	\$	%	\$	%	\$	%		
Sales	6,936	100.0	33,105	100.0	102,565	100.0	231,605	100.0
Purchases	6,041	87.1	29,364	88.7	93,744	91.4	216,087	93.3
Gross Profit	895	12.9	3,741	11.3	8,821	8.6	15,518	6.7
Rent	-		985		2,055		2,815	
Utilities	100		300		530		800	
Salaries and Fringe Benefits	160		655		1,670		3,575	
Transport	60		240		110		135	
Deliveries	5		45		20		335	
Bad Debt Losses	70		110		655		800	
Depreciation	37		62		108		290	
TOTAL EXPENSES	432	6.2	2,397	7.2	5,148	5.0	8,750	3.8
Net Profit before taxes <sup>a</sup>	463	6.7	1,344	4.1	3,673	3.6	6,768	2.9
Imputed Return to investment <sup>b</sup>	157		366		891		2,091	
Return to labor and management	306		978		2,782		4,677	
CAPITAL INVESTMENT								
Liquid Assets <sup>c</sup>	1,810		7,136		22,627		49,096	
Fixed Assets	4,450		7,500		13,000		34,540	
TOTAL	6,260		14,636		35,627		83,636	

a. This should be considered as the return to capital and labor/management.

b. Calculated as 2.5% of total capital investment.

c. Includes inventory, cash, accounts receivable, less supplier credit.

Source: Riley, et al., p. 65.

TABLE A-8

## Monthly Income Statements - Public Market Retailers

	Fruit and Vegetable Stalls		Grain and Processed Stalls		Beef Stalls		Ambulantes	
	\$	%	\$	%	\$	%	\$	%
Sales	4,765	100.0	16,850	100.0	45,325	100.0	3,850	100.0
Purchases	<u>4,184</u>	<u>87.8</u>	<u>15,384</u>	<u>91.3</u>	<u>38,753</u>	<u>85.5</u>	<u>3,411</u>	<u>88.6</u>
Gross Profit	581	12.2	1,466	8.7	6,572	14.5	439	11.4
<u>EXPENSES</u>								
Rent	55		155		180		16	
Salaries and Fringe Benefits			12		873		-	
Transport	85		45		80		31	
Bad Debt Loss	15		110		415		-	
Depreciation	2		8		12		-	
Miscellaneous	-		-		175		-	
TOTAL EXPENSE	157	3.3	330	2.0	1,735	3.8	47	1.2
Net Profit (B/tax) <sup>a</sup>	424	8.9	1,136	6.7	4,837	10.7	392	10.2
Imputed Return on Investment <sup>b</sup>	14		86		64		2	
Return to Labor/Management <sup>d</sup>	410		1,050		4,773		390	
<u>CAPITAL INVESTMENT</u>								
Liquid Assets <sup>c</sup>	258		2,453		1,057		89	
Fixed Assets	<u>300</u>		<u>1,000</u>		<u>1,500</u>		<u>-</u>	
TOTAL	558		3,453		2,557		89	

<sup>a</sup>This should be considered as a return to capital and labor/management.

<sup>b</sup>Calculated as 2.5% of total capital investment.

<sup>c</sup>Includes: Inventory, Cash, Accounts receivable, less supplier credit.

Source: Riley, et al., p. 66.

TABLE A-9

## Capital Structure in Food Retailing - Cali

	<u>Total</u>	<u>Fixed</u>	<u>Liquid</u>			<u>Inventory</u>
			<u>Total</u>	<u>Inventory</u>	<u>Other<sup>a</sup></u>	<u>Total</u>
Self Service	219,706	175,000	44,706	93,446	-48,740	.425
Personal Service						
-beverage sales- Tiendas	6,260	4,450	1,810	950	860	.152
Small Graneros	14,636	7,500	7,500	5,912	1,024	.404
Large Graneros	35,627	13,000	22,627	18,648	3,979	.523
Wholesaler/Retailer	83,636	34,540	49,096	56,489	- 7,393	.675
Bancos de Carne	-	-	-	-	-	-
Public Market						
Fruit and Vegetable Stalls	558	300	258			
Grain and Processed Foods	3,453	1,000	2,453			
Beef Stalls	2,557	1,500	1,057			
Ambulantes	89	-	89			

<sup>a</sup>Cash, accounts receivable, less supplier credit.

<sup>b</sup>No figure presented in Reley et al., op. cit. The figure 4.12 for the sales/inventory ratio is suggested in the background report, PIMUR. Informe Tecnico No. 6, El Sistema .... op. cit., p. 139; it is used in estimating the inventory needed to sustain a certain increase in sales via supermarkets.

TABLE A-10

Evolution of Size Structure of Wholesale Establishments,  
1954 - 1967

Sales (thousands of 1967 pesos)	1954 (unadjusted)								1967 (unadjusted)							
	Establishments		Labor Force		Paid Workers		Sales		Establishments		Labor Force		Paid Workers		Sales	
	No.	%	No.	%	No.	%	Millions of 1967 Pesos	%	No.	%	No.	%	No.	%	Millions of 1967 Pesos	%
< 100	121	1.59	182	0.46	48	.16	11.94	.09	2,317	27.66	4,265	7.38	1,496	3.11	98.2	.52
100 to < 300	3,102	40.87	5,984	15.23	2,465	8.01	454.70	3.42	1,448	17.28	4,240	7.34	2,345	4.88	292.8	1.56
300 to < 500	661	8.71	1,931	4.92	1,310	4.25	284.45	2.14	623	7.44	1,818	3.15	1,074	2.24	241.8	1.29
500 to < 1,000	1,013	13.35	3,674	9.35	2,431	7.90	730.91	5.50	1,114	13.30	4,659	8.06	3,257	6.78	777.8	4.13
1,000 to < 3,000	1,552	20.45	8,841	22.51	7,167	23.28	2,825.63	21.28	1,529	18.25	10,732	18.57	9,024	18.79	2,703.9	14.37
3,000 to < 5,000	867	11.42	9,777	24.89	8,838	28.71	4,752.43	35.78	958	11.43	13,367	23.13	12,464	25.95	5,204.9	27.67
5,000 to < 10,000																
≥ 10,000	274	3.61	8,893	22.64	8,529	27.70	4,220.69	31.78	389	4.64	18,704	32.37	18,367	38.24	9,494.8	50.46
TOTAL	7,590		39,282		30,788		13,280.75		8,378		57,785		48,027		18,813.1	

Source: The 1967 figures are taken directly from the commerce census of that year. The 1954 figures are also unadjusted for under-numeration or other reporting errors, though to make them comparable to those of 1967 it was necessary to change the limits defining the sales categories; some errors undoubtedly cropped up in this process.

TABLE A-11  
Evolution of Size Structure of Retail Establishments  
1954 - 1967

Sales (thousands of 1967 pesos)	1954								1967							
	Establishments		Labor Force		Paid Workers		Sales		Establishments		Labor Force		Paid Workers		Sales	
	No.	%	No.	%	No.	%	Millions of 1967 Pesos	%	No.	%	No.	%	No.	%	Millions of 1967 Pesos	%
< 100	88,184	78.52	124,529	62.04	8,134	15.64	2,516.65	15.27	190,217- 194,849	79.38- 81.31	203,537- 208,537	51.24- 52.50	16,692- 17,026	11.72- 11.95	4,431.3- 5,048.4	13.09- 14.91
100 to < 300	16,687	14.86	34,114	17.00	11,590	22.29	2,796.0	16.96	26,217- 28,459	10.94- 11.88	57,360- 62,360	14.44- 15.70	20,009- 21,821	14.04- 15.32	4,529.1- 4,920.1	13.38- 14.53
300 to < 500	2,541	2.26	8,311	4.14	3,949	7.59	1,025.35	6.22	7,048	2.94	21,421	5.39	11,152	7.83	2,708.5	8.00
500 to < 1,000	3,175	2.83	12,440	6.20	9,116	17.53	2,027.74	12.30	6,796	2.84	29,155	7.34	19,624	13.91	4,825.4	14.25
1,000 to < 3,000	1,324	1.18	10,487	5.22	8,890	17.09	2,075.27	12.59	4,686	1.96	37,437	9.42	31,847	22.35	7,689.9	22.71
3,000 to < 10,000	344	.31	6,605	3.29	6,156	11.84	1,608.08	9.76	1,023	.43	23,344	5.88	22,152	15.55	4,997.1	14.76
≥ 10,000	52	.05	4,235	2.11	4,169	8.02	4,434.83	26.90	213	.09	19,939	5.02	19,718	13.84	4,175.0	12.33
TOTAL	112,307		200,721		52,004		16,483.92		239,637		397,215		142,470		33,860.4	

Sources and Methodology:

Basic sources<sup>as</sup> for Table A-10. Adjustments were made to the censal information, however, because of obvious underenumeration. For the guidelines used in this adjustment process, see Sources and Methodology to Table 5. Essentially the figures of this table constitute a residual between those of Table 5 and those of Table A-10.

Table A-12

Structure of Reported Capital Stock  
in Commerce, 1954

(Values in thousands of pesos)

	<u>Wholesale</u>	<u>Retail</u>
Inventory		
beginning of year	47,884	648,957
end of year	55,318	702,839
average	51,601	675,895
Machinery	4,710	12,173
Buildings	3,438	7,072
Total	59,749	69,5,140
<u>Inventory (average of year)</u>		
Total	86.36	97.23

Source: DANE, Censo de Comercio y Servicios, op. cit.

TABLE A-13

## Some Key Ratios in Commerce, 1954, and 1967

	<u>1954</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Total</u>
sales/inventory		87.25	4.918	10.771
gross income/sales ratio				24.25 <sup>c</sup>
gross income/inventory				2.70 <sup>c</sup>
gross income-wages/total capital				
lower limit <sup>a</sup>				43 %
upper limit <sup>b</sup>				142 %
if sales/inventory				
ratio in wholesale = 10, sales are		516,009	3323.8	3829.9
if 30, sales are		(1548,027)	3328.8	4871.8
implicit VA if VA/sales = .25				
(for all commerce)				957.5
				or
				1218.0

a) inventory/K = 40%  
labour share = 60%

b) inventory/K = 75%  
labour share = 30%

Sources and Methodology. As indicated in footnotes

TABLE A-13 (continued)

	<u>1967</u>		
	<u>Wholesale</u>	<u>Retail</u>	<u>Total</u>
sales/inventory	7.724	5.794	6.3875
Implicit Gross Commerce Margin, i.e.,			
sales/purchase - change in inventory	1.233	1.2827	
gross income/inventory	145.99 <sup>c</sup>	128.17 <sup>c</sup>	133.64 <sup>c</sup>
gross income/capital			
<u>income-wages</u>			
total capital			
lower limit	70.08	61.52	64.15
upper limit	103.81	91.14	95.03

<sup>c)</sup> Assuming national accounts estimate of income in commerce.

Table A-14  
 Commerce Margins\* by Level of Sales,

1967

Level of Sales (Thousands of pesos)	Retail		Wholesale	
	Margin	Number of Establishments	Margin	Number of Establishments
< 100	.3809	118,678	.1701	2,317
100 to < 200	.3065	23,971	.3371	1,448
300 to < 500	.2750	6,685	.1416	623
500 to < 1,000	.2697	6,796	.2014	1,114
1,000 to < 3,000	.2294	4,686	.2230	1,529
3,000 to < 5,000	.2793	642	.2482	463
5,000 to < 10,000	.2702	381	.2185	495
10,000 to < 25,000	.2567	185	.2304	314
25,000 to < 50,000	.3664	17	.2859	57
50,000 and up	.2616	11	.2631	18

\* Defined here as  $\frac{\text{Sales} + \text{Inventory Increase} - \text{Purchases}}{\text{Purchases}}$ .

A better definition (assuming that inventories are carried on the books at purchase price is)  $\frac{\text{Sales} - \text{Purchases} + \text{Increase in Inventories}}{\text{Purchases}}$ .

Source: DANE, Muestra de Comercio Interior 1967.

Table A-15

Occupational Structure in Wholesale and Retail Trade, 1954 and 1967

	Wholesale				Retail			
	Owners and Associates	Family Helpers	Paid Workers	TOTAL	Owners and Associates	Family Helpers	Paid Workers	TOTAL
1954								
Number	7112	1364	30,806	39,282	93,181	38,876	50,531	182,588
Percent	18.10	3.47	78.42	100.0	51.3	21.29	27.67	100.0
1957								
Number	7258	2500	48,027	57,785	130,744	44,341	133,843	308,928
Percent	12.5	4.3	83.1	100.0	42.3	14.3	43.3	100.0

Sources and Methodology -

The figures presented here come directly from the commerce censuses and therefore involve whatever biases the censuses had. The conclusion, suggested by these figures, that the share of all employees who were paid workers rose quite rapidly in retail trade may not be true, and certainly the increase indicated here is overestimated due to the incompleteness of the 1967 census; see in this connection, Table 1.

TABLE A-16

## Labour Force in Commerce by Department

(1964 Definitions of Departments)

Department	1951	Share of Classified Population %	1954			1964	Share of Classified Population	1967		
			Wholesale	Retail	Total			Wholesale	Retail	Total
Antioquia	21,050	4.40	4,389	18,540	22,929	44,690	6.78	9,645	41,137	50,782
Atlantico	16,785	12.44	4,027	11,322	15,349	25,551	13.22	3,242	12,851	16,093
Bolivar and Cordoba	(15,798	5.80) <sup>1</sup>	1,822	14,858	16,680	28,753	6.74	2,862	15,289	18,151
Bolivar <sup>a</sup>			1,511	9,272	10,783	20,143	7.53	2,265	11,052	13,317
Boyaca	5,092	2.05	588	7,208	7,796	10,361	3.45	1,192	12,107	13,299
Caldas (including Quindio and Risaralda)	17,175	4.95	3,553	14,618	18,171	36,830	9.00	3,430	20,282	23,712
Caldas Viejo								1,250	10,479	11,729
Cauca	4,462	3.35	446	4,099	4,545	7,376	3.94	363	2,808	3,171
Cordoba			311	5,586	5,897	8,610	5.41	597	4,237	4,834
Cundinamarca (including Bogota)	33,533	5.71	11,396	39,583	50,979	80,306	8.82	21,346	90,913	98,776
Bogota (Distrito Especial)						63,597	11.11	19,756	78,234	97,990
Choco	614	1.36	16	719	735			56	730	786
El Cesar								316	2,136	2,452
Guajira								314	3,675	3,989
Huila	2,796	2.86	323	4,482	4,805	6,071	4.92	858	4,708	5,566
Magdalena and El Cesar			1,916	6,270	8,186			677	6,892	7,569
Magdalena								316	4,756	5,072
Meta			129	1,811	1,940	3,264	5.66	538	2,941	3,479
Nariño	5,254	2.57	757	7,002	7,759	8,254	3.44	1,660	7,193	8,853
Norte de Santander			696	7,771	8,467	12,823	8.46	795	8,672	9,467
Quindio								542	4,609	5,151
Risaralda								1,638	5,194	6,832
Santander			1,830	10,580	12,410			3,631	19,902	23,533
Sucre								275	2,814	3,089
Tolima			1,113	9,328	10,441			1,710	15,145	16,855
Valle			6,201	23,080	29,281	56,309	10.63	4,695	38,158	42,853
Total			39,282	182,588	221,870					

<sup>a)</sup> Bolivar in 1964 = Bolivar and Sucre in 1967.

Sources: The 1951 and 1964 population censuses and the 1954 and 1967 commerce censuses.

TABLE A-17

Labor Force in Food and Beverage Commerce,  
By Department, 1954 and 1967

	1954			1967		
	Wholesale	Retail	Total	Wholesale	Retail	Total
Antioquia: Establishments	453	7,512	7,965	796	12,220	13,016
People	1,062	10,023	11,085	2,605	16,328	18,933
Atlantico	141	3,876	4,017	58	4,705	4,763
	742	7,002	7,744	252	6,038	6,290
Bolivar & Sucre	122	3,707	3,829	191	5,112	5,303
	509	5,661	6,170	984	6,230	7,214
Bolivar				168	4,001	4,169
				908	4,476	5,384
Boyaca	139	3,412	3,551	38	8,110	8,148
	274	4,983	5,257	717	8,174	8,891
Caldas, Risaralda & Quindio	515	5,349	5,864	421	8,670	9,091
	1,654	8,006	9,660	1,355	8,843	10,198
Caldas Viejo				272	4,873	5,145
				588	4,624	5,212
Cauca	139	1,733	1,872	30	1,082	1,112
	269	2,745	3,014	91	1,278	1,369
Cordoba	55	2,072	2,127	49	1,711	1,760
	140	3,981	4,121	336	2,662	2,998
Distrito Especial						
Cundinamarca (including Bogota)	1,015	12,391	13,406	661	21,115	21,776
	2,749	19,744	22,493	3,789	35,535	39,324
Bogota				484	16,287	16,771
				3,240	27,580	30,820
Choco	3	321	324	6	321	327
	4	586	590	39	523	562
El Cesar				30	1,005	1,035
				155	1,337	1,492
Guajira				59	434	493
				166	428	594
Huila	47	2,015	2,062	289	2,132	2,421
	184	3,018	3,202	449	2,648	3,097
Magdalena & El Cesar	69	2,853	2,922	78	3,274	3,352
	1,638	4,432	6,070	274	3,968	4,242
Magdalena				48	2,269	2,317
				119	2,631	2,750
Meta	35	894	929	73	830	903
	78	1,243	1,321	362	1,210	1,572
Nariño	82	3,077	3,159	136	2,890	3,026
	292	4,639	4,931	523	3,980	4,503
Notre de Santander	184	3,341	3,525	40	3,558	3,598
	317	5,063	5,380	140	4,350	4,490
Quindio				107	2,043	2,150
				323	2,361	2,684
Risaralda				42	1,754	1,796
				444	1,858	2,302
Santander	214	4,459	4,673	63	9,761	9,824
	719	6,879	7,598	643	11,516	12,159
Sucre				23	1,111	1,134
				76	1,754	1,830
Tolima	295	3,536	3,831	92	6,772	6,864
	689	6,139	6,828	547	7,796	8,343
Valle	549	8,823	9,372	300	16,065	16,365
	1,760	13,585	15,345	1,142	18,772	19,914
TOTAL Establishments	4,070	69,819	73,889	3,423	109,673	113,096
People	13,132	108,574	121,706	14,563	142,519	157,082



Table A-18  
Share of Commerce Sector in Total Labor Force,  
Selected Cities

City (Capitals of Departments)	Labor Force <sup>f</sup> 1951	Number and Share of Labor Force <sup>b</sup> in Commerce 1951	Total Labor Force 1964	Number and Share of Labor Force <sup>b</sup> in Commerce 1964	Share of Labor Force in Commerce, 1967 (CEDE Survey)		Commerce Census Labor Force Figures, 1967			Probable Municipal Labor Force in 1967	Probable 1967 Labor Force of Cabecera	Commerce Share Implici in Commerce Census
					Est. A <sup>c</sup>	Est. B <sup>d</sup>	Retail	Wholesale	Total			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Medellin	118,150	12,839 <sup>a</sup> (11,298) 9.56			17.05	19.73	26,211	8,325	34,536	246,922	236,526.6	14.601
Barranquilla	93,746	15,686 <sup>a</sup> (14,274) 15.23	137,000	15.19 <sup>e</sup>	18.43	22.02	11,480	3,139	14,619	153,391.7	152,533	9.584
Cartagena	34,853	5,526 <sup>a</sup> ( 5,084) 14.59					5,063	1,568	6,631	71,172.2	67,378.7	9.841
Tunja	8,821	916 (806) 9.14					1,230	250	1,480	20,237.1	11,881.2	12.457
Manizales	29,661	3,369 <sup>a</sup> ( 3,032) 10.22			14.72	17.61	4,284	936	5,220	66,311.5	56,782.5	9.193
Popayan	11,683	1,614 <sup>a</sup> ( 1,436) 12.30			17.31	19.89	1,540	317	1,857	26,997.0	20,625.7	9.003
Monteria							1,964	391	2,355	37,884.6	21,150.97	11.134
Bogota	263,100 <sup>b</sup>	30,560 <sup>a</sup> (24,730) 9.40	572,497 <sup>k</sup>	83,819 <sup>a</sup> (63,597) 11.11	15.43	17.91	78,234	19,756	97,990	625,429.6	623,303.1	15.721
Giradot							2,906	737	3,643			
Quibdo	2,677	208 <sup>a</sup>					173	56	229			
Valledupar							815	213	1,028			
Riohacha							171	41	212			
Neiva	12,062	1,170 <sup>a</sup> ( 1,030) 8.54					1,791	364	2,155	31,624.7	26,726.0	8.063
Santa Marta	10,981	1,696 ( 1,526) 13.90					1,630	192	1,822			
Villavicencio							1,581	306	1,887	21,044.0	16,307.0	11.572
Pasto	18,207	1,525 <sup>a</sup> ( 1,388) 7.62					2,456	915	3,371	38,293.9	28,004.3	12.037
Cucuta	23,627	2,294 <sup>a</sup> ( 2,088) <sup>g</sup> 8.84					4,557	717	5,274	55,423.7	48,905.9	10.784
Armenia							2,769	381	3,150			
Pereira							4,647	1,550	6,197			

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Armenia					2,769	381	3,150		
Pereira					4,647	1,550	6,197		
Bucaramanga	39,096	4,142 <sup>a</sup> (3,686) <sup>h</sup> 9.43	24.06	27.67	8,827	1,201	10,028		
Barrancabermeja					1,196	1,314	2,510		
Siracaque					1,086	186	1,272		
Ibague	19,810	2,371 <sup>a</sup> (2,134) 10.77	19.62	22.89	4,658	509	5,167		
Calí	95,782	12,070 <sup>a</sup> (10,500) <sup>j</sup> 10.96	15.4	18.01	18,185	3,135	21,320	236,123.1	228,826.9
San Andrés					3,046		3,046		
Total					190,500	46,499	236,999		

<sup>a</sup>Including finance, etc.

<sup>b</sup>The figure in parenthesis is the number of persons in commerce only (excluding financial services). The third figure is the commerce share.

<sup>c</sup>Persons occupied in commerce divided by total labor force (including all unemployed persons).

<sup>d</sup>Persons occupied or now employed but previously occupied in commerce divided by total labor force minus first time job seekers.

<sup>e</sup>Since Barranquilla dominates Atlántico economically it is possible to make a crude estimate of the probable commerce share in the Barranquilla labor force working off that for Atlántico. For Atlántico the figure is 13.22% in 1964, and Barranquilla corresponds to about 73% of the Department's labor force. In 1951 the non-Barranquilla cabecera region of the Department had a commerce share of about 6.09; if this were assumed to be 8% in 1964, the corresponding figure for Barranquilla is that shown--15.19.

<sup>f</sup>Data refer to cabecera of capital city.

<sup>g</sup>Assume that commerce is 91% of commerce plus other financial

<sup>h</sup>Assume that commerce is 89% of commerce plus other financial

<sup>j</sup>Assume that commerce is 87% of commerce plus other financial

<sup>k</sup>Distrito Especial, including "otras localidades" of the various cabeceras.

<sup>m</sup>Refers to whole municipio, not just the cabecera.

Sources and Methodology : Column (1) comes from the 1951 Departmental Volumes of the population census; the figures correspond to the cabecera of the capital city, (i.e., the rest of the municipio is excluded), the same being the case with respect of the figures in Column (2). At the city level it was not possible to obtain figures for "Commerce Only" so those estimated here (in parentheses) were based on estimation of the "Commerce Only/Commerce + Financial" ratio for the capital. Often this ratio was available for all cities in the Department and for other localities, so it was assumed to be higher in the capital than for all cities. The errors in these estimates are probably small. The 1967 figures shown in Columns (5) and (6) are based on data in CEDE, Encuestas Urbanas de Empleo y Desempleo, Apéndice Estadístico, op. cit. The 1967 figures of Columns (7)-(9) come from the commerce census of that year. Probable municipal labor force in 1967 Column 10 was calculated extrapolating the 1951-1964 growth rate through 1967; for this calculation the figure used was the total municipio population in 1951 and 1964. While it is not clear whether the commerce census defined a city as including "otras localidades", it seems unlikely.

TABLE A-19  
Wage Earners in Commerce, By Department  
Various Years

	1951	1954			1964	1967		
		Wholesale	Retail	Total		Wholesale	Retail	Total
Antioquia		3,266	5,876	9,194	18,687	7,927	22,099	30,026
Atlantico		3,530	3,599	7,129	8,708	2,986	6,757	9,743
Bolivar and Cordoba		1,401	2,792	4,193	6,951	2,265	4,487	6,752
Bolivar		1,219	1,952	3,171	4,745	1,747	3,309	5,056
Boyaca	1,050	357	1,166	1,523	2,375	962	1,929	2,891
Caldas		2,485	4,680	7,165	14,374	2,618	8,541	11,159
Cauca	709	261	623	884	1,701	219	847	1,066
Cordoba		182	840	1,022	2,206	518	1,178	1,696
Cundinamarca	15,459	9,283	15,348	24,631	37,021	18,856	51,753	70,609
Choco		11	102	113		38	61	99
Huila	702	231	907	1,138	1,808	404	1,412	1,816
Magdalena		1,768	731	2,499		484	1,388	1,872
Meta		78	301	379	1,028	415	816	1,231
Narino		667	1,000	1,667	1,612	1,261	1,485	2,746
Notre de Santander		403	1,163	1,566	3,040	631	2,701	3,332
Santander		1,323	2,333	3,656		3,257	5,492	8,749
Tolima		752	2,274	3,026		1,366	4,595	5,961
Valle		4,939	7,471	12,410	22,555	3,608	15,680	19,288
Recorded Total		30,806	50,531	81,337	136,533	48,027	133,843	181,870
Total Adjusted for Probable Underenumeration <sup>a</sup>	56,531			81,337	136,533			186,000

<sup>a</sup>See Table 1.

Table A-20

Proxies for "Inventory Productivity" in Commerce by Sales, Type of Product, and Retail/Wholesale

Amount of Sales (thousands of pesos)	Average Sales	Food and Beverages		General Merchandise		Clothing and Footwear	
		<u>Sales</u> Av. Inventory	<u>S - P + ΔI<sup>a</sup></u> Av. Inventory	<u>Sales</u> Av. Inventory	<u>S - P + ΔI</u> Av. Inventory	<u>Sales</u> Av. Inventory	<u>S - P + ΔI</u> Av. Inventory
< 100	27.23	10.24	2.475	<u>Retail</u>		3.002	0.788
100-299	168.65	14.79	3.178	2.620	0.574	2.883	0.446
300-499	372.82	24.61	4.391	3.213	0.579	3.038	0.585
500-999	685.23	24.51	5.203	3.676	0.467	2.966	0.589
1,000-2,999	1586.43	11.72	2.144	3.112	0.102	4.726	0.784
3,000-4,999	3763.92	15.97	3.342	4.019	0.568	4.688	1.036
5,000-9,999	6479.76	24.18	4.369	7.214	0.976	6.154	1.190
10,000-24,999	15008.88	29.99	1.789	7.104	1.280	7.101	1.455
25,000-49,999	30375.00	20.19	1.767	6.505	1.095		
≥ 50,000	16973.70	19.10	3.051	8.092	1.744	10.471	1.516
				<u>Wholesale</u>			
< 100		8.83	1.773	1.603	0.647	3.384	0.750
100-299		7.09	0.581	3.791	1.046	5.673	1.351
300-499		8.88	-5.504	3.928	0.486	2.813	5.261
500-999		10.80	1.313	3.291	0.487	5.972	1.341
1,000-2,999		16.16	1.980	5.232	0.932	7.180	1.660
3,000-4,999		15.92	2.369	7.077	0.912	7.714	1.481
5,000-9,999		16.94	2.769	8.020	1.464	7.228	1.427
10,000-24,999		17.54	2.680	12.066	1.186	7.207	1.211
25,000-49,999		45.85	7.446	19.662	4.149		
≥ 50,000		21.87	-0.270				

a. Sales minus purchases plus change in inventory

Source: DANE, Muestra de Comercio Interior, 1967, p. 27 and on.

Table A-20 (cont'd.)

Amount of Sales (thousands of pesos)	<u>Automobiles, Repairs and Parts</u>		<u>Hardware and Electrical Materials for Construction</u>		<u>Furniture, Accessories and Elec- trical Items for Home and Office</u>	
	<u>Sales</u>	<u>S - P + <math>\Delta I^a</math></u>	<u>Sales</u>	<u>S - P + <math>\Delta I</math></u>	<u>Sales</u>	<u>S - P + <math>\Delta I</math></u>
	<u>Av. Inventory</u>	<u>Av. Inventory</u>	<u>Av. Inventory</u>	<u>Av. Inventory</u>	<u>Av. Inventory</u>	<u>Av. Inventory</u>
	<u>Retail</u>					
< 100	1.645	0.492	3.444	0.927	4.071	1.185
100-299	2.869	0.741	3.401	0.788	3.719	0.956
300-499	2.506	0.696	2.830	0.375	4.439	1.309
500-999	2.580	0.554	3.264	0.476	4.109	0.950
1,000-2,999	3.558	0.717	3.296	0.837	5.819	1.455
3,000-4,999	3.630	0.857	4.370	0.742	5.203	1.500
5,000-9,999	3.515	0.830	4.449	1.059	5.438	1.519
10,000-24,999	4.604	1.349	2.896	0.630	3.497	1.415
25,000-49,999			3.067	1.119	3.518	2.008
≥ 50,000						
	<u>Wholesale</u>					
< 100	2.395	0.623	4.331	1.276	7.333	2.570
100-299	1.326	0.154	2.012	-0.452	18.734	9.842
300-499	6.417	2.000			4.428	1.584
500-999	2.834	1.039	3.709	0.521	2.971	0.692
1,000-2,999	4.628	1.122	3.852	0.821	6.302	2.261
3,000-4,999	4.479	1.271	4.175	0.388	2.659	0.669
5,000-9,999	3.924	1.112	3.025	0.598	5.053	1.147
10,100-24,999	3.626	0.718	4.964	0.976	5.737	3.004
25,000-49,999	6.930	1.240	5.331	1.021	4.627	2.251
≥ 50,000	20.437	1.972			13.928	4.135

Table A-20 (cont'd.)

Amount of Sales (thousands of pesos)	Combustibles		Drugs and Cosmetics		Other Merchandise		All Commerce	
	<u>Sales</u> Av. Inventory	<u>S - P + <math>\Delta I^a</math></u> Av. Inventory	<u>Sales</u> Av. Inventory	<u>S - P + <math>\Delta I</math></u> Av. Inventory	<u>Sales</u> Av. Inventory	<u>S - P + <math>\Delta I</math></u> Av. Inventory	<u>Sales</u> Av. Inventory	<u>S - P + <math>\Delta I</math></u> Av. Inventory
				<u>Retail</u>				
< 100	7.912	2.040	2.250	0.506	3.181	1.149	5.851	1.667
100-299	17.067	3.285	3.547	0.740	2.613	0.438	5.684	1.184
300-499	14.200	2.053	3.838	0.838	3.137	0.668	5.189	0.653
500-999	24.869	2.479	4.882	0.997	4.559	0.969	5.717	1.102
1,000-2,999	30.144	4.907	6.683	0.963	3.580	0.867	5.376	0.924
3,000-4,999	27.710	4.815	4.411	0.811	3.129	0.644	5.796	1.194
5,000-9,999	75.417	8.994	6.482	1.447	2.988	0.984	6.242	1.316
10,000-24,999	48.823	2.544	9.405	1.887	4.313	1.378	6.192	1.312
25,000-49,999	12.282	4.512	16.069	1.223			6.624	1.688
≥ 50,000							9.132	1.839
				<u>Wholesale</u>				
< 100			2.723	0.744	4.945	1.494	2.243	0.205
100-299	67.000	9.000	5.619	0.693	2.219	0.289	6.465	1.224
300-499			9.538	4.412	3.808	0.814	5.633	-1.576
500-999	25.726	6.577	4.689	0.975	7.766	2.450	7.211	1.147
1,000-2,999	10.308	1.521	6.065	1.360	4.873	1.010	6.655	1.169
3,000-4,999	11.040	1.225	6.874	1.918	5.747	1.377	7.501	1.380
5,000-9,999	21.816	1.169	8.000	2.554	5.877	0.870	7.633	1.444
10,000-24,999	12.095	1.861	9.678	2.377	6.245	1.226	7.935	1.440
25,000-49,999	5.253	1.066	9.263	1.728	2.994	0.696	6.245	1.254
≥ 50,000	13.090	4.067	3.833	1.586	6.764	2.060	13.704	2.746

Table A-21

"Sales - Purchases + Inventory Increase" Per Worker, By Level of Sales and By Wholesale-Retail  
(Values in Thousands of Pesos)

Amount of Sales (Thousands of pesos)	Retail		Av. Sales Per Establishment	Wholesale and Retail Together		Av. Sales/Establishment
	S - P + ΔI	$\frac{S - P + \Delta I}{\text{Worker}}$		S - P + ΔI	$\frac{S - P + \Delta I}{\text{Worker}}$	
< 100	968,258	7.664	28.630	983,429	7.530	28.893
100-299	1,003,873	19.159	172.616	1,082,885	19.138	174.300
300-499	569,517	28.026	384.277	525,686	23.745	384.610
500-999	1,050,504	36.032	710.035	1,182,245	34.963	708.367
1,000-2,999	1,460,744	39.019	1,641.032	1,957,729	40.643	1,672.371
3,000-4,999	541,192	43.846	3,803.184	897,065	50.312	3,799.826
5,000- 9,999	544,810	49.524	6,707.283	1,155,709	61.211	6,852.590
10,000-24,999	523,615	46.685	13,990.476	1,420,315	68.860	14,714.691
25,000-49,999	163,676	60.286	35,267.647	605,586	86.860	34,235.527
≥ 50,000	206,273	34.333	89,759.818	796,578	72.121	130,787.483
	Wholesale					
< 100	15,171	3.557	42.369			
100-299	80,012	18.870	202.180			
300-499	-43,831	-24.109	388.185			
500-999	131,741	28.277	698.190			
1,000-2,999	496,985	46.309	1,768.403			
3,000-4,999	355,873	64.857	3,795.171			
5,000-9,999	610,899	77.525	6,965.139			
10,000-24,999	896,700	95.292	15,141.379			
25,000-49,999	441,910	103.808	33,927.702			
≥ 50,000	590,305	117.194	155,859.944			

a. Sales minus purchases plus change in inventory.  
Source: DANE, Muestra de Comercio Interior, 1967.

Table A-21.5

Sales/Average Inventory by Level of Sales, Wholesale and Retail, 1954 and 1967

Level of Sales (1954 pesos)	1954	Level of Sales (thousands of 1967 pesos)	1967
<u>Retail</u>			
< 5,000	3.80215	< 100	5.85105
5,000 - 24,999	6.12276	100 - 200	5.68451
25,000 - 49,999	5.46592	300 - 499	5.62748
50,000 - 99,999	4.68534	500 - 999	5.71714
100,000 - 249,999	4.39427	1,000 - 2,999	5.37563
250,000 - 499,999	4.67354	3,000 - 4,999	5.79609
500,000 - 999,999	4.66078	5,000 - 9,999	6.24243
1,000,000 - 2,499,999	4.47391	10,000 - 24,999	6.19233
≥ 2,500,000	6.44954	25,000 - 49,999	6.62376
		≥ 50,000	9.13193
<u>Wholesale</u>			
< 50,000	37.74538	< 100	2.24346
50,000 - 99,999	58.12980	100 - 299	6.46539
100,000 - 249,999	59.81136	300 - 499	7.34548
250,000 - 499,999	54.51609	500 - 999	7.21092
500,000 - 999,999	66.55439	1,000 - 2,999	6.65463
1,000,000 - 2,499,999	31.82615	3,000 - 4,999	7.50146
≥ 2,500,000	27.98518	5,000 - 9,999	7.63052
		10,000 - 24,999	7.93514
		25,000 - 49,999	6.24518
		≥ 50,000	13.70452

Table A-22  
Incomes of Unpaid Workers, 1967, by Department  
(all Commerce)

Department	(Values Expressed in Thousands of pesos)				Proprietary Unpaid Worker	Proprietary Income per Proprietor
	Sales-Purchase + Change in Inventory	Estimated Value Added (1)x .8	Wage Payments	Proprietary Income <sup>a</sup>		
	(1)	(2)	(3)	(4)	(5)	(6)
Antioquia	1,446,113	1,156,890	423,597	733,293	35.329	46.229
Atlantico	529,910	423,928	148,828	275,100	43.323	71.306
Bolivar	332,080	265,664	53,550	212,114	36.049	44.997
Bolivar + Sucre	389,181	311,345	59,083	252,262	30,536	39.959
Boyaca	237,077	189,662	43,394	146,268	14.053	17.689
Caldas	507,680	406,144	53,310	352,834	52.497	67.800
Caldas + Quindio + Risaralda	1,014,007	811,206	115,207	695,999	55.445	72.963
Cauca	44,543	35,634	8,388	27,246	12.943	17.310
Cordoba	125,516	100,413	15,941	84,472	26.919	45.685
Distrito Especial	3,055,440	2,444,352	1,095,009	1,349,343	41.949	57.190
Cundinamarca	143,815	115,052	43,010	72,042	7.596	9.836
Choco	13,196	10,557	784	9,773	14.226	25.384
El Cesar	107,675	86,140	8,709	77,431	42.638	65.955
Guajira	204,016	163,213	14,050	149,163	63.663	106.774
Huila	132,155	105,724	14,775	90,949	24.253	33.747
Magdalena	104,753	83,802	13,030	70,772	18.235	26.057
Magdalena + El Cesar	212,428	169,942	21,739	148,203	26.014	38.098
Nariño	173,565	138,852	27,884	110,968	18.171	31.250
Norte de Santander	221,749	177,399	32,323	145,076	23.647	30.408
Quindio	197,380	157,904	17,719	140,185	44.659	56.732
Risaralda	308,947	247,158	44,178	202,980	75.373	108.895
Santander	867,515	694,012	138,352	555,660	37.585	51.180
Sucre	57,101	45,681	5,533	40,148	16.890	25.108
Tolima	378,841	303,073	64,338	238,735	21.914	25.479
Valle del Cauca	1,188,069	950,455	220,263	730,192	30.986	38.286

<sup>a</sup>This presumably overestimates proprietor incomes as it includes most of interest and rent payments as well as depreciation. Hopefully, however, it is more or less proportional to actual proprietary income.

Sources and Methodology: Data from DANE, Muestra de Comercio Interior, 1967. The estimate of value added (Col. 2) as 80% of sales - purchases + inventory change is a rough guess based on information from the PIMUR study and the national accounts.

Table A-22.5

## Incomes in Commerce, By Department, 1967

	Commerce Census Data		Estimated Missed Workers	Av. Wage in Food and Bev. Retailing	Per Capita Income of Persons Missed	Total Income of Persons Missed '000	Total Income ( '000)
	Number	Income '000					
	(1)	(2)	(3)	(4)	(5)	(6)=(3)(5)	(7)=(2) + (5)
Antioquia	50,782	1,156,890	987	8,006	8,006	7,902	1,164,792
Atlantico	16,093	423,928	12,207	11,500 <sup>e</sup>	23,000	280,761	704,689
Bolivar and Sucre	13,317	311,345	9,434	6,771	13,542	127,755	439,100
Bolivar		265,664		6,921			
Boyaca	13,299	189,662	258	5,036	5,036	1,299	190,961
Caldas (Quindio + Risaralda)	23,712	811,206	15,296	5,001	8,752	133,871	945,077
Caldas		406,144		4,938			
Cauca	3,171	35,634	4,953	2,974	5,948	29,460	65,094
Cordoba	4,834	100,413	4,903	5,233	10,466	51,315	151,728
Cundinamarca (In. Bogota)	112,259	2,559,404	4,824	9,002	7,350 <sup>d</sup>	35,461	2,594,865
Bogota	97,990	2,444,352	1,905	9,499	9,499	18,096	2,462,448
Rest of Cundinamarca	14,269	115,052	2,919	5,949	5,949	17,365	132,417
Huila	5,566	105,724	966	5,270	6,588	6,364	112,088
Magdalena and El Cesar	7,569	169,942	9,316	7,306	14,612	136,125	306,067
Magdalena		83,802		7,433			
Nariño	8,853	138,852	172	3,806	3,806	655	139,507
Norte de Santander	9,467	177,399	4,202	6,896	12,068	50,710	228,109
Santander	23,533	694,012	457	7,586	7,586	3,467	697,479
Tolima	16,855	303,073	328	5,870	5,870	1,925	304,998
Valle	42,853	950,455	18,403	8,054	14,095	259,390	1,209,845
Total of Departments	52,163		386,706				8,815,299
Choco	786	10,557		4,188			
Meta	3,479			8,727			
Other	10,285		5,846				

<sup>d</sup>Bogota and rest of Cundinamarca figures weighted by relative number of persons missed in the two zones.

<sup>e</sup>Average for "other merchandise" and "footwear and clothing." For some reason the food and beverage figure was an implausibly high 25,300.

Sources and Methodology: Column 1 is from Table 4, Column 11. Column 2 is from Table A-22, Column 2. Column 3 is calculated as the difference between estimated total commerce labor force and those captured in the commerce census (Column 1). The former figure comes from Table 4, Column 14.

In all departments except Atlantico the base for estimating income of unenumerated persons was the average wage in food and beverage retailing, as calculated on the basis of DANE, Muestra de Comercio Interior, 1967. However, for departments with a high share of the labor force missed it seemed implausible to assume that all were relatively low income persons, so the average wage in food and beverage retailing was used for departments where underenumeration was equal to or less than 10 percent of the total estimated commerce labor force, with the figure rising to twice the reported food and beverage retailing wage for departments with 40 percent missed. The per capital income of persons missed was then listed as Column 5.

Table A-22.7

Proprietary Incomes in 1954

	Estimated Total Income	Wage Bill	Proprietary Income	Proprietary Income per paid Worker	Unpaid Workers	Proprietary In- come per Unpaid Workers (1967 pesos (6)
	(1)	(2)	(3)	(4)	(5)	(6)
Antioquia	171,691	29,658.7	142,032.3	10,301.9	13,787	37,550
Atlantico	81,115	24,233.6	56,881.4	6,919.9	8,220	25,223
Bolivar	44,887	8,516.4	36,370.6	4,778.1	7,612	17,416
Boyaca	19,199	2,615.5	16,583.5	2,643.6	6,273	9,636
Caldas	232,466	17,724.9	214,741.1	19,511.3	11,006	71,119
Cauca	14,982	1,638.6	13,343.4	3,644.7	3,661	13,285
Cordoba	14,233	1,662.2	12,570.8	2,578.6	4,875	9,399
Bogota and Cundinamarca	334,100	100,152.7	233,947	8,879	26,348	32,364
Choco	2,511	190.0	2,321	3,731.5	622	13,601
Guajira						
Huila	19,253	2,292.4	16,960.6	4,625.2	3,667	16,859
Magdalena	30,906	4,732.7	26,173.3	4,602.3	5,687	16,775
Meta	5,543					
Nariño	15,363	2,731.2	12,631.8	2,073.5	6,092	7,558
Norte de Santander	32,784	4,003.0	27,781.0	4,170.6	6,901	15,202
Santander	53,660	7,647.0	46,013.0	5,256.2	8,754	19,159
Tolima	65,478	6,998.3	58,479.7	7,996.7	7,415	28,747
Valle	219,899	37,129.3	182,769.7	10,833.4	16,871	39,488
TOTAL		252,990.6			140,533	

## Sources and Methodology:

Column (1) is from Berry, "Changes in Regional Income Distribution in Colombia Over Recent Decades," mimeo, 1973. All the other information is directly from the 1954 Commerce census.

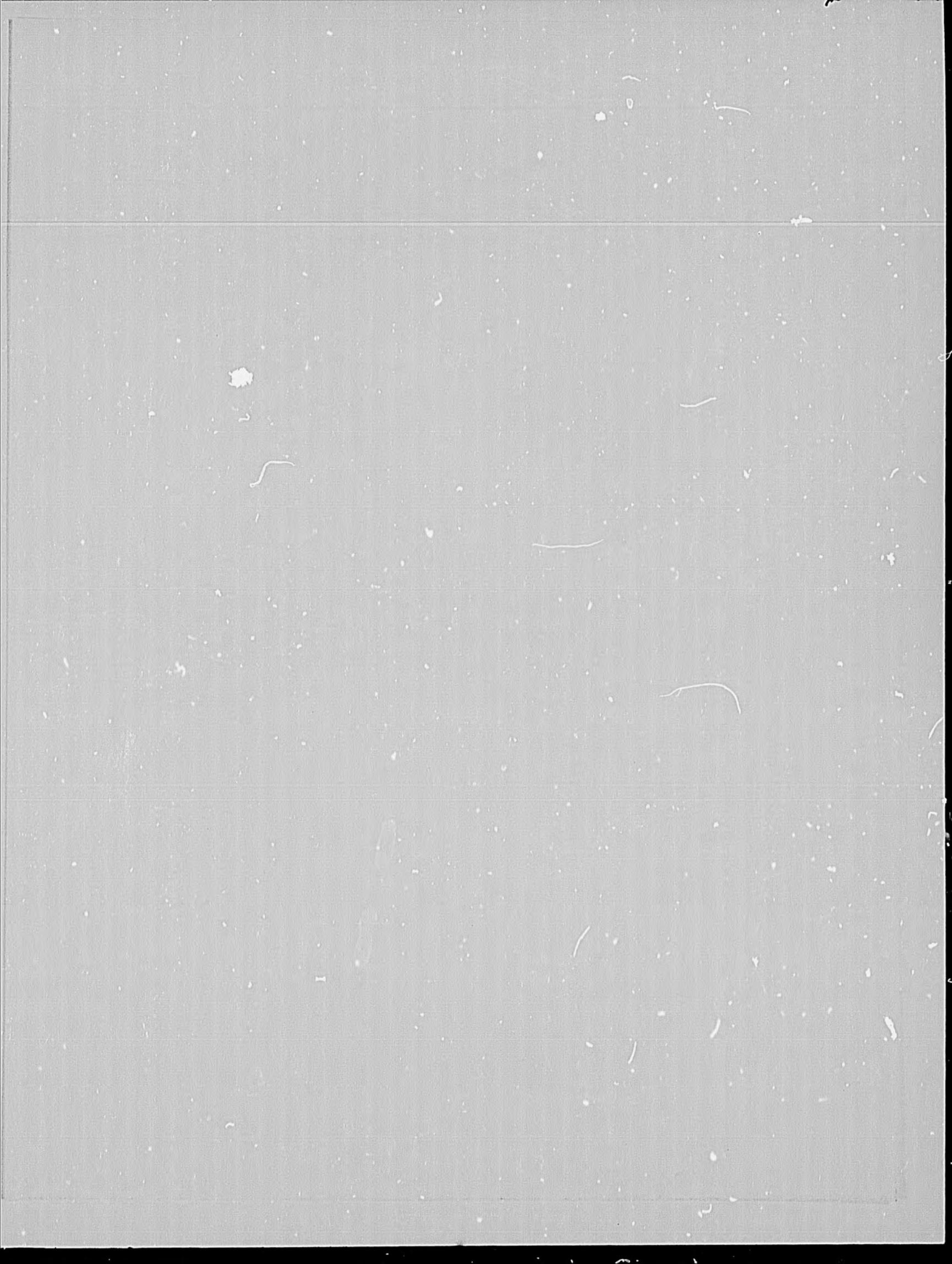


Table A-23

Functional Distribution of Income Generated in Commerce, by Retail and Wholesale  
(September 1970 data)

	Sales (1)	Purchases (2)	Wages paid to Employees <sup>a</sup> (3)	Wages paid to Owners and Associates (4)	Total Wages Paid and Imputed (5)	Other Current Costs (including interest and rents) (6)	Interest and Rents (7)
<u>Retail</u>							
Total	875,950	763,206	54,642	2,980	57,622	94,204	35,256
General Merchandise	181,643	157,894	12,454	774	13,228	13,763	2,193
Food and Alcoholic Beverages <sup>b</sup>	87,480	74,817	4,310	716	5,026	5,064	819
Clothing and Accessories <sup>c</sup>	21,417	19,233	1,379	23	1,402	2,088	459
Pharmacy	48,773	57,710	3,540	300	3,840	2,795	901
Furniture and Accessories for Home and Office	81,567	50,914	11,919	304	12,223	14,270	5,114
Articles of Porcelain, Glass and Metal	57,381	44,580	2,528	60	2,588	5,611	1,477
Automotive Vehicles and Motorcycles	341,511	325,186	11,539	684	12,323	40,450	19,283
Gas Stations	16,021	8,523	2,421	19	2,440	5,934	3,532
Other	40,158	24,349	4,452	99	4,551	4,229	1,477
Total (Excluding Motor Vehicles)	534,439	438,020	43,003	2,296	45,299	53,754	15,973

Source: DANE, Muestra Comercial (no date but published about 1972).

<sup>a</sup>Employees defined as including "empleados" and Vendedoras" (salespeople)

<sup>b</sup>Presumably includes also non-alcoholic beverages though this is not specified

<sup>c</sup>Presumably includes footwear though this is not specified.

<u>Wholesale</u>							
Total	873,350	629,637	39,828	1,749	41,577	68,308	17,586
Agricultural Products in Bulk	16,348	15,353	355	9	364	758	207
Minerals and Metals	24,000	8,697	638	-	638	1,822	173
Industrial Chemical Products	71,986	20,128	3,485	17	3,502	9,566	3,898
Sawn wood and Construction Materials; Cement	48,401	43,790	1,079	112	1,191	2,610	522
Machinery and Materials for Industry, Commerce and Agriculture	29,218	28,531	2,045	147	2,192	9,793	2,072
Automotive Vehicles and Accessories	29,461	7,686	2,296	113	2,409	4,208	1,153
Metal and Electric Goods	63,565	57,585	3,306	250	3,556	4,757	1,172
Food, Beverages and Tobacco	227,878	158,046	3,031	262	3,293	8,722	1,704
Textile Goods	113,301	96,901	3,426	365	3,791	4,736	1,683
Clothing and Accessories	61,507	47,081	7,879	147	8,026	4,719	850
Furniture and Accessories for the Home	12,140	6,257	1,268	-	1,268	1,225	249
Drugs and Cosmetics	77,314	78,880	4,417	15	4,432	6,055	986
Other	98,231	60,702	6,603	312	6,915	9,337	2,917

<sup>e</sup>Same assumptions as for Col. 8

<sup>f</sup>Excludes imputed wages, as presented in the Muestra.

<sup>d</sup>The own capital income is negative but since calculated value added is also negative, expressed as a share its sign is positive.

Implicit Wage and Profit Income if no change in inventory occurs and Col. (7) includes all costs (8)	Other Current Costs (including			Income Share Going to					
	Interest and rent	Interest and Rent	Value Added (including Interest and Rents) <sup>e</sup>	All Wages	Paid Wages	Imputed Wages	Rent	Interest	Own Capital <sup>f</sup>
	Sales-Purchases	Sales-Purchases		(12)	(13)	(14)	(15)	(16)	(17)
18,540	83.56	31.27	53,796	107.11	101.57	5.54	19.30	46.24	-72.65
9,986	57.95	9.23	12,179	108.61	102.25	6.36	12.75	5.25	-26.61
7,599	39.99	6.47	8,418	59.71	51.20	8.51	7.21	2.52	30.56
96	95.60	21.01	555	252.61	248.47	4.14	74.95	7.75	235.31 <sup>d</sup>
-11,732	-31.27	10.07	-10,831	35.45	-32.68	-2.77	-4.94	-3.38	-143.77
16,383	46.55	16.68	21,497	56.86	55.45	1.41	8.29	15.50	19.35
7,190	43.83	11.54	8,667	29.86	29.17	.69	5.04	11.99	53.11
-24,125	-247.78	118.12	-4,841	-254.55	-240.42	-14.13	-25.70	-372.65	652.90 <sup>d</sup>
1,564	79.14	47.10	5,096	47.88	47.51	.37	67.52	1.81	-17.21
11,580	26.75	9.34	13,057	34.85	34.09	.76	2.81	8.51	53.83
42,665	-	16.56	58,638	77.25	73.34	3.91	15.60	11.63	-0.57

175,405	28.03	23.70	192,991	21.54	29.17	.91	2.78	6.33	69.35
237	76.18	153.59	444	81.98	79.95	2.03	15.54	31.08	-28.60
13,481	11.91	4.73	13,654	4.67	4.67	0	.08	1.19	98.73
42,292	18.45	8.28	46,190	7.58	7.54	.04	2.87	5.57	91.52
2,001	56.60	59.52	2,523	47.21	42.77	4.44	8.05	12.68	59.89
-9,106	1,425.47	-24.07	-7,034	-31.16	-29.07	-2.09	-4.04	-25.42	131.55 <sup>d</sup>
17,567	19.32	13.71	18,720	12.87	12.27	.60	2.07	4.09	84.46
1,223	79.55	290.76	2,395	148.48	138.44	10.44	23.67	25.26	97.41 <sup>d</sup>
61,110	12.49	5.39	62,814	5.24	4.82	.42	.60	2.11	96.87
11,664	28.88	32.50	13,347	28.40	25.67	2.73	3.58	9.03	58.99
9,707	32.71	82.68	10,557	76.03	74.64	1.39	4.41	3.64	15.92
4,658	20.82	27.22	4,907	25.84	25.84	0	1.67	3.40	69.09
-7,621	-386.65	-58.16	-6,635	-66.80	-66.57	-.23	-5.28	-9.57	181.00
28,192	24.88	24.88	31,109	22.23	21.23	1.00	2.47	6.90	68.40

TABLE A-24

Indexes for Inventory Productivity in Retail Commerce, by Type of Commerce and Region

Region	Food and Beverages				Mercancias en General			
	<u>Sales</u> Av Inventory (1)	<u>S - P + ΔI</u> Av Inventory (2)	Persons Per Establishment (3)	<u>Sales Per</u> Establishment (4)	<u>Sales</u> Av Inventory (5)	<u>S - P + ΔI</u> Av Inventory (6)	Persons Per Establishment (7)	<u>Sales Per</u> Establishment (8)
Antioquia	19.86	4.09	1.34	145.75	5.87	1.07	5.54	766.10
Medellin	18.47	3.87	1.61	177.71	6.46	1.16	10.37	1493.67
Rest of Department	20.87	4.25	1.21	<u>1781-702</u> 12,220-3948	3.62	.71	1.63	178.22
Atlantico	25.68	4.96	1.28	130.50 121.05	5.43	1.07	5.68	813.20
Barranquilla	24.79	4.72	1.34	142.51	1.07	6.07	6.02	865.78
Rest of Department	35.58	7.61	1.10	55.72	7.71	2.04	.67	42.13
Bolivar	13.08	2.76	1.12	81.97	3.99	.85	3.58	506.07
Cartagena	15.62	2.68	1.10	74.24	4.58	.95	6.58	977.41
Rest of Department	11.05	2.83	1.15	92.88	3.12	.70	1.94	247.59
Boyaca	7.34	1.51	1.01	22.12	2.58	.48	1.34	72.80
Tunja	5.03	1.67	1.23	56.94	2.67	.46	2.61	363.31
Rest of Department	7.94	1.47	1.00	20.10	2.52	.50	1.24	49.70
Caldas	24.35	7.72	.95	152.04	2.84	.76	1.66	157.75
Manizales	32.27	10.72	1.08	238.52	3.13	.80	2.38	288.24
Rest of Department	19.00	5.70	.88	107.36	2.71	.74	1.49	127.29
Cauca	15.42	1.29	1.18	57.85	3.77	.55	1.85	112.44
Popayan	14.87	1.31	1.18	58.25	4.20	.55	3.44	488.69
Rest of Department	16.18	1.25	1.18	57.36	3.08	.54	1.56	42.44
Cordoba	9.50	2.42	1.56	87.83	3.73	.99	2.93	359.56
Monteria	14.89	3.45	1.78	194.98	4.40	1.14	4.53	786.81
Rest of Department	5.54	1.67	1.46	42.08	2.98	.83	2.30	191.01

TABLE A-24 (cont'd)

Proxies for Inventory Productivity in Retail Commerce, by Type of Commerce and Region

Region	Frendas de Vestir Y Calzado				T o t a l			
	Sales Av Inventory (9)	S - P + $\Delta$ I Av Inventory (10)	Persons Per Establishment (11)	Sales Per Establishment (12)	Sales Av Inventory (13)	S - P + $\Delta$ I Av Inventory (14)	Persons Per Establishment (15)	Sales Per Establishment (16)
Antioquia	4.67	1.11	3.79	445.19	6.73	1.46	2.31	272.23
Medellin	4.60	1.10	6.81	967.34	5.67	1.26	3.80	483.11
Rest of Department	4.99	1.11	1.97	129.71	11.73	2.31	1.36	139.50
Atlantico	7.50	1.38	4.21	754.59	7.26	1.59	2.10	254.67
Barranquilla	7.50	1.38	4.21	754.59	7.04	1.54	2.35	305.35
Rest of Department	-	-	-	-	22.27	4.76	1.11	55.27
Bolivar	3.76	.83	2.65	300.48	6.40	1.41	1.56	163.88
Cartagena	3.80	.84	2.72	317.66	6.46	1.37	1.66	174.07
Rest of Department	3.52	.79	2.39	231.73	6.32	1.47	1.42	150.06
Boyaca	2.75	.58	1.84	141.95	4.34	.95	1.17	49.29
Tunja	2.27	.51	1.93	170.42	3.42	.91	1.68	147.87
Rest of Department	3.04	.62	1.80	116.71	4.67	.96	1.13	41.78
Caldas	2.93	.52	2.89	297.46	5.81	1.77	1.44	188.89
Manizales	2.89	.55	3.54	384.23	6.08	2.00	1.84	314.87
Rest of Department	3.01	.45	2.28	215.95	5.53	1.53	1.26	129.42
Cauca	2.82	.65	2.08	115.53	3.24	.43	1.62	125.80
Popayan	3.42	.63	2.10	170.29	5.53	.76	1.82	163.63
Rest of Department	1.99	.68	2.07	65.03	1.89	.23	1.43	89.85
Cordoba	2.53	.59	2.88	195.80	4.97	1.31	1.89	145.98
Monteria	2.48	.55	3.24	197.44	5.63	1.40	2.53	299.93
Rest of Department	2.73	.74	1.65	190.12	3.85	1.17	1.55	64.22

Table A-24 (cont'd)

Region	Food and Beverages				Mercancias en General			
	Sales Av Inventory (1)	S - P + ΔI Av Inventory (2)	Persons Per Establishment (3)	Sales Per Establishment (4)	Sales Av Inventory (5)	S - P + ΔI Av Inventory (6)	Persons Per Establishment (7)	Sales Per Establishment (8)
Distrito Especial	14.96	2.83	1.69	133.69	3.54	.77	4.54	612.96
Bogotá	14.96	2.83	1.69	133.69	3.54	.77	4.54	612.96
Rest of Department	-	-	-	-	-	-	-	-
Cundinamarca	5.94	.03	1.65	139.03	3.22	.57	1.76	132.24
Girardot	16.17	2.70	1.44	102.38	3.71	.66	3.03	366.34
Rest of Department	5.39	-.11	1.70	147.43	2.83	.51	1.47	79.01
Chocó	4.79	1.06	1.63	58.61	3.10	.89	1.51	144.38
Quibdó	9.04	2.05	1.80	164.06	2.76	.66	1.21	143.71
Rest of Department	3.97	.87	1.61	45.71	3.65	1.27	1.87	145.21
El Cesar	12.86	2.33	1.33	82.55	2.21	.46	1.74	193.23
Valledupar	21.76	3.23	1.14	119.04	2.08	.46	1.71	247.57
Rest of Department	8.96	1.94	1.43	62.27	2.90	.46	1.77	106.77
Guajira	6.02	1.20	.99	185.52	3.36	.86	2.79	564.36
Riohacha	16.69	2.76	.67	171.79	3.07	1.03	1.11	116.81
Rest of Department	5.10	1.06	1.08	189.79	3.37	.85	2.99	617.10
Huila	12.34	2.28	1.24	77.61	4.26	.82	2.70	305.46
Neiva	18.44	3.96	1.40	162.52	4.05	.75	5.27	765.09
Rest of Department	8.84	1.31	1.19	47.80	5.03	1.03	1.62	110.65
Magdalena	11.71	2.28	1.26	59.95	3.87	.94	1.16	98.68
Santa Marta	12.19	2.20	1.39	84.14	3.64	.99	.88	124.12
Rest of Department	11.53	2.31	1.10	53.68	4.23	.86	1.39	77.88
Meta	10.52	2.26	1.46	84.17	3.49	.57	2.16	220.82
Villavicencio	14.06	2.90	1.54	112.85	4.05	.66	2.23	360.63
Rest of Department	6.73	1.58	1.37	53.62	2.75	.45	2.11	125.94
Nariño	11.03	2.57	1.38	73.73	3.37	.57	2.68	209.48
Pasto	21.15	4.76	1.19	168.99	4.45	.62	2.33	337.55
Rest of Department	5.06	1.28	1.46	30.86	3.01	.55	2.77	176.12

Prendas de Vestir Y Calzado				T o t a l			
<u>Sales</u> Av Inventory (9)	<u>S - P + ΔI</u> Av Inventory (10)	Persons Per Establishment (11)	Sales Per Establishment (12)	<u>Sales</u> Av Inventory (13)	<u>S - P + ΔI</u> Av Inventory (14)	Persons Per Establishment (15)	Sales Per Establishment (16)
3.69	.78	3.75	324.24	4.89	1.18	2.63	269.21
3.69	.78	3.75	324.24	4.89	1.18	2.63	269.21
-	-	-	-	-	-	-	-
2.85	.80	1.46	74.70	4.02	.39	1.78	149.87
2.83	.61	2.00	125.56	5.71	1.09	2.04	181.34
2.86	.94	1.27	57.18	4.83	.21	1.72	141.99
2.86	.64	2.07	90.22	3.87	.95	1.63	80.61
3.32	.75	2.29	160.57	3.98	.94	1.59	156.96
1.07	.22	1.85	14.46	3.77	.97	1.65	55.98
2.77	.87	1.67	90.23	5.25	1.11	1.51	116.81
2.96	.70	1.13	143.47	4.99	1.01	1.62	202.55
2.64	.98	1.88	69.70	5.73	1.29	1.46	69.11
2.89	.90	2.37	393.09	3.34	.95	2.15	385.07
2.43	.82	1.33	92.67	5.93	1.39	1.02	164.98
2.89	.90	2.39	397.04	3.27	.94	2.27	409.07
2.52	.53	2.46	208.49	5.18	1.22	1.63	138.38
2.77	.57	3.91	420.42	5.43	1.37	2.36	339.50
2.07	.51	2.07	151.63	4.79	.98	1.37	66.81
2.70	.63	1.97	126.21	4.96	1.18	1.38	85.77
2.71	.57	2.19	162.56	4.35	1.07	1.62	130.44
2.70	.71	1.79	97.32	5.58	1.28	1.28	67.31
3.08	.91	2.40	188.63	4.71	1.10	1.92	148.14
3.20	.67	2.88	437.81	5.32	1.17	2.14	218.69
2.84	1.45	2.19	78.53	3.68	.99	1.71	82.55
5.52	1.10	2.07	189.21	5.73	1.16	1.72	136.31
7.58	1.59	2.33	239.91	7.91	1.64	1.71	232.71
3.64	.65	1.79	134.69	4.10	.80	1.73	85.51

Table A-24 (cont'd)

Region	Food and Beverages				Mercancias en General			
	Sales Av Inventory (1)	S - P + ΔI Av Inventory (2)	Persons Per Establishment (3)	Sales Per Establishment (4)	Sales Av Inventory (5)	S - P + ΔI Av Inventory (6)	Persons Per Establishment (7)	Sales Per Establishment (8)
Norte de Santander	19.72	4.58	1.22	104.59	3.74	.77	2.58	319.51
Cúcuta	17.95	2.52	1.29	127.87	4.44	.76	4.45	848.06
Rest of Department	21.18	6.28	1.19	92.85	2.18	.81	1.75	83.54
Quindío	19.00	4.62	1.16	145.30	5.12	1.01	1.44	211.99
Armenia	20.25	4.43	1.21	151.71	6.54	1.09	2.15	383.04
Rest of Department	17.87	4.80	1.10	139.24	3.24	.91	.96	96.58
Risaralda	19.20	3.67	1.06	74.85	4.82	1.21	3.72	437.67
Pereira	16.94	3.84	1.05	54.63	5.19	1.32	4.32	540.27
Rest of Department	24.54	3.27	1.13	189.44	2.83	.61	2.06	152.90
Santander	24.58	4.72	1.18	100.23	2.75	.66	1.64	117.97
Bucaramanga	25.24	4.70	1.08	117.23	3.21	.68	1.92	191.57
Rest of Department	24.10	4.73	1.24	90.40	2.25	.65	1.47	73.94
Sucre	13.54	3.12	1.58	78.19	2.94	.58	2.37	249.01
Sincedejo	11.07	2.30	1.68	184.65	2.38	.45	3.73	413.04
Rest of Department	18.07	4.63	1.55	47.43	5.25	1.15	1.49	142.66
Tolima	10.24	2.04	1.15	65.21	4.18	.57	1.87	212.35
Ibagué	9.74	1.65	1.36	91.46	4.22	.51	5.19	807.06
Rest of Department	10.42	2.18	1.10	59.27	4.14	.62	1.42	131.56
Valle de Cauca	20.38	3.95	1.17	130.65	5.08	.86	3.86	470.16
Cali	25.34	3.92	1.03	112.95	5.67	.96	10.12	1214.10
Rest of Department	18.25	3.97	1.27	144.12	4.63	.77	2.42	298.21

Prendas de Vestir Y Calzado				T o t a l			
<u>Sales</u> Av Inventory (9)	<u>S - P + ΔI</u> Av Inventory (10)	Persons Per Establishment (11)	Sales Per Establishment (12)	<u>Sales</u> Av Inventory (13)	<u>S - P + ΔI</u> Av Inventory (14)	Persons Per Establishment (15)	Sales Per Establishment (16)
2.77	.44	1.81	221.45	5.40	1.14	1.62	160.14
2.95	.45	1.93	269.39	4.70	.81	2.06	247.72
2.13	.44	1.54	118.69	7.38	2.05	1.32	98.17
3.42	.98	2.51	193.30	7.30	1.83	1.49	181.88
4.19	1.15	3.84	338.27	7.05	1.67	1.80	237.79
2.36	.75	1.61	95.15	7.81	2.16	1.18	126.69
4.66	1.33	3.37	396.38	6.41	1.76	2.00	231.52
5.26	1.50	3.46	411.64	6.26	1.81	2.10	236.60
2.79	.77	2.94	324.97	7.61	1.40	1.44	201.87
4.57	.72	2.44	251.37	6.92	1.38	1.51	156.25
6.52	.92	2.84	452.63	6.77	1.30	1.71	222.12
2.00	.45	2.11	86.13	7.11	1.48	1.39	113.70
3.19	.82	2.21	173.74	5.04	1.16	1.85	134.56
2.69	.67	2.19	248.84	4.14	.89	2.40	292.53
4.52	1.25	2.23	117.09	8.46	2.14	1.62	67.50
3.01	.56	2.11	137.22	6.18	1.38	1.61	128.72
4.98	.78	3.62	403.99	6.13	1.47	2.54	242.86
1.91	.44	1.73	69.90	6.21	1.33	1.39	101.06
5.16	1.09	2.50	251.34	8.29	1.67	1.75	206.99
5.35	.99	3.10	370.60	7.76	1.46	1.97	244.56
4.87	1.25	2.05	160.71	8.89	1.91	1.59	179.46

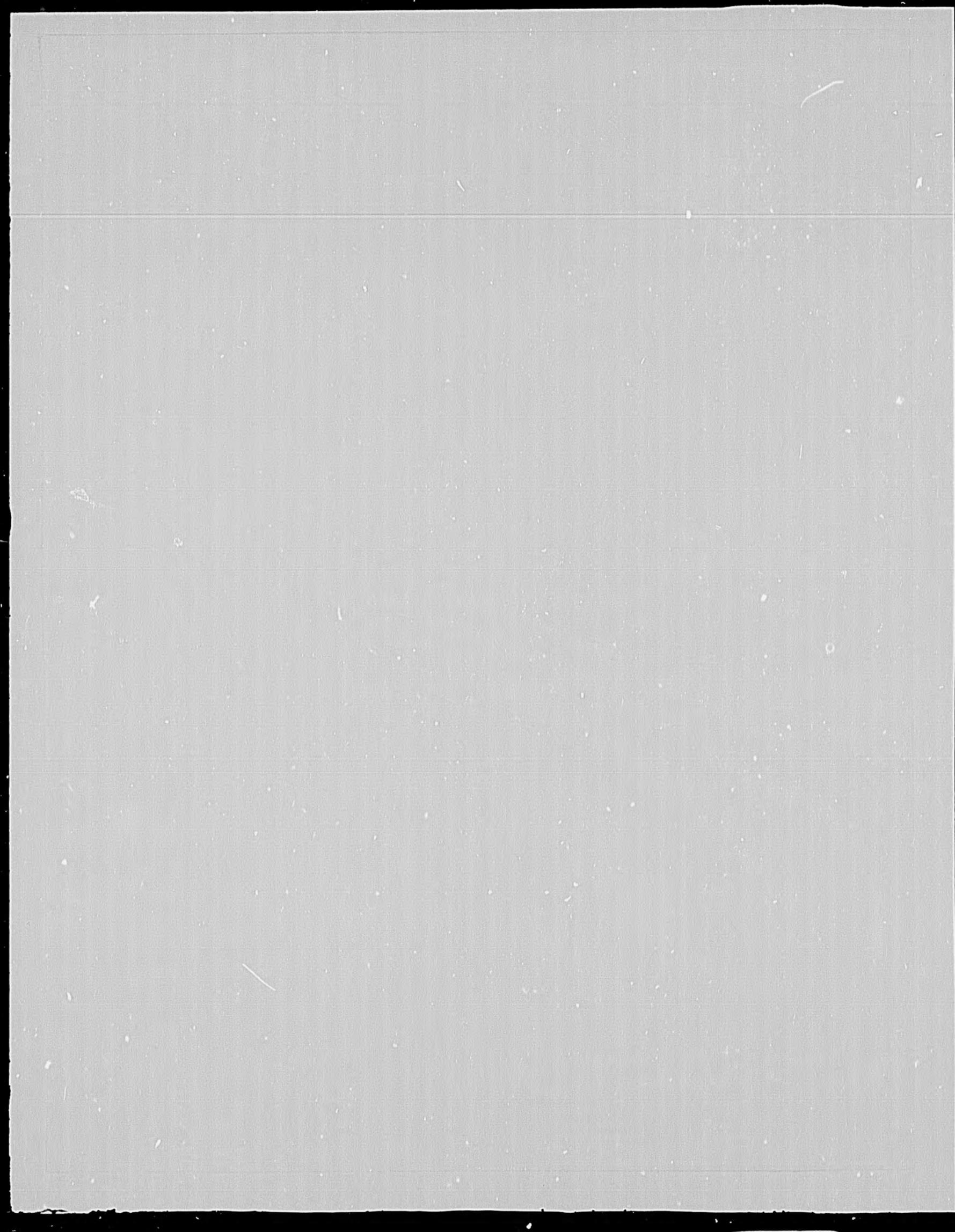


TABLE A-25

## 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-26

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

<u>Occupation Group</u> <sup>1</sup>	<u>Previous Job Holder</u>	<u>First-Time Job Seeker</u>	<u>Total</u>	<u>Employed Labour Force</u>
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

<sup>1</sup>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-27a

## Habitual Occupational Distribution of Males in Bogota (March 1962)

by Age and Immigrant - Native Breakdown

(Percentages)

Habitual Occupation	Less than 15		Age 15 - 29		30 - 49		≥ 50		Total	
	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives
Professionals, Technicians, etc.	0	0	6.380	6.060	11.642	14.098	15.244	11.224	10.238	9.709
Managers, Directors, etc.	0	0	3.051	2.273	5.672	7.213	8.536	14.286	5.143	5.583
Office Workers, etc.	11.538	4.762	18.446	15.151	15.323	12.459	13.414	9.184	15.952	13.107
Salesmen, etc.	7.692	14.292	9.292	6.313	11.144	7.541	15.244	15.306	11.095	8.131
Agricultural Workers	11.538	4.762	2.912	1.010	3.781	1.311	8.536	3.061	4.286	1.456
Miners	0	0	.139	0	.199	.328	0	1.020	0.143	0.243
Transport Workers	0	4.762	7.628	5.050	9.453	9.508	6.402	11.224	9.238	7.403
Artisans, Factory Operators and similar other Manual Workers	42.308	47.619	39.388	53.787	30.746	39.671	24.390	30.612	32.762	45.388
Service Workers	3.846	9.524	4.715	4.293	3.980	3.606	3.049	1.020	4.048	3.762
Members of Armed Forces	23.077	14.286	3.467	4.798	2.985	2.623	2.744	3.061	3.476	4.005
Unidentified Occupations	0	0	4.438	.505	4.577	1.311	2.134	0	4.048	0.728
No Information	0	0	.139	0	.498	.328	0	0	0.286	0.121
	0	0	0	.758	0	0	.305	0	0.286	0.364

Source: Urrutia and Castellanos, op. cit., Cuadras 38 and 39.

TABLE A-27b

Habitual Occupation Distribution of Females in Bogota (March 1962),  
by Age and Immigrant-Native Breakdown

Habitual Occupation	Less than 15		15 - 30		30 - 49		≥ 50		Total	
	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives	Immigrants	Natives
Professionals, Technicians, etc.	0	5.263	4.434	6.426	8.490	9.524	4.0	10.0	7.255	7.255
Managers, Directors, etc.	0	0	0.261	0.803	.531	3.810	4.0	0	.595	1.555
Office Workers, etc.	1.0	0	17.734	38.554	11.938	19.048	3.0	10.0	13.903	30.574
Salesmen, etc.	1.0	5.263	4.434	9.638	10.347	16.191	20.0	0	6.989	10.882
Agricultural Workers	0	0	0.261	0	.265	0	.265	0	.223	0
Miners	0	0	0	0	0	0	0	0	0	0
Transport Workers	0	0	.130	0	0	0	0	0	.074	0
Artisans, Factory Operatives and Similar	0	10.526	10.823	20.883	15.918	24.762	12.0	50.0	11.599	22.023
Other Manual Workers	1.0	0	1.434	2.811	4.245	2.857	1.0	0	2.156	2.850
Service Workers	94.0	73.684	59.693	20.883	47.223	21.905	55.0	30.0	58.365	24.096
Armed Forces	0	0	0	0	0	0	0	0	0	0
Unidentified	2.0	5.263	0.130	0	.531	1.905	1.0	0	.223	0.777
Other	0	0	0	0	.531	0	0	0	.372	0

## Characteristics of Retail Commerce, 1967, by Department

Department	Persons	Paid Workers	Total Wages	Fringes	Sales	Value	Value Added	Value Added	Wages
	Establishment	All Workers	Paid	Total Wages	Person	Added Proxy <sup>a</sup>	Proxy <sup>a</sup> Sales	Proxy <sup>a</sup> Person	Paid Worker
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			( <sup>'000</sup> )			( <sup>'000</sup> )			
Antioquia	2.305	53.720	260,331	15.74	118,106	1,051,109	21.63	2,551	11,780
Atlantico	2.101	25.580	93,416	12.58	121,239	340,306	21.84	26,481	13,825
Bolivar	1.559	33.200	24,314	12.26	105,134	190,101	21.95	23,076	8,890
Bolivar and Sucre	1.624	29.940	28,313	11.85	96,872	236,949	22.13	21,439	8,556
Boyaca	1.172	15,933	17,518	9.17	42,044	111,189	21.84	9,184	9,081
Caldas	1.442	33.937	40,398	16.69	130,972	418,346	30.48	39,922	9,653
Caldas and Quindio and Risaralda	1.564	42.111	78,344	14.72	125,119	725,246	28.58	35,758	9,173
Cauca	1.621	30.164	5,663	9.39	77,596	28,665	13.16	10,208	6,686
Cordoba	1.892	27.803	9,303	15.05	77,176	86,477	26.45	20,410	7,897
Distrito Especial	2.634	61.331	630,454	15.76	102,226	1,925,478	24.08	24,612	13,139
Cundinamarca	1.781	29.742	29,792	8.82	84,149	83,599	7.84	6,594	7,900
Chocó	1.633	8.356	412	13.83	49,358	8,896	24.69	12,186	6,754
El Cesar	1.515	17.556	3,586	14.17	77,106	34,825	21.14	16,304	9,563
Guajira	2.150	39.782	12,269	11.17	179,073	187,603	28.51	51,048	8,392
Huila	1.628	29.992	10,798	13.31	85,001	93,961	23.48	19,958	7,647
Magdalena	1.379	21,299	8,983	13.39	62,220	70,137	23.70	14,747	8,868
Magdalena and El Cesar	1.418	20,139	12,569	13.61	66,830	104,962	22.79	15,230	9,055
Meta	1.917	27.746	7,686	10.93	77,266	53,212	23.42	18,093	9,419
Nariño	1.725	20.645	13,147	11.36	79,021	115,294	20.28	16,029	8,853
Notre de Santander	1.624	31.146	22,828	12.40	98,628	179,828	21.03	20,737	8,452
Quindio	1.486	35.062	12,731	9.37	122,412	141,387	25.06	30,676	7,878
Risaralda	2.001	52.753	25,215	14.29	115,713	165,513	27.54	31,866	9,202
Santander	1.514	27.595	59,452	12.97	103,192	409,443	19.94	20,573	10,825
Sucre	1.851	20.398	3,999	9.33	72,685	46,848	22.90	16,648	6,967
Tolima	1.613	30,340	42,001	13.79	79,801	270,418	22.37	17,855	9,141
Valle	1.750	41,092	157,250	17.53	118,277	907,662	20.11	23,787	10,029
TOTAL	1.906	43.325	1512,888	14.96	102,911	7032,462	21.91	22,764	11,303

<sup>a</sup>Sales minus purchases plus change in inventories. This is an overestimate of value added.

Table A-29  
Characteristics of Wholesale Commerce, 1967, By Department

Department	Persons/ Estab- lishment	Paid Work- ers/All Workers	Total Wages Paid	Fringes/ Total Wages	Sales/ Person	Value Added Proxy <sup>a</sup>	Value Added Proxy <sup>a</sup> / Sales	Value Add- ed Proxy <sup>a</sup> / Person	Wages/ Paid Worker
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Antioquia	6.4732	82.188	163,266	18.21	301,455	395,004	13.59	40,954	20,596
Atlantico	9.5073	92.103	55,412	27.06	265,851	189,604	22.00	58,484	18,557
Bolivar	6.2975	80.854	29,236	37.72	339,106	141,979	21.04	71,346	18,170
Bolivar and Sucre	5.8077	77.130	30,770	36.72	326,561	152,232	20.58	67,211	17,613
Boyaca	6.8902	80.705	25,876	31.47	259,380	125,888	40.72	105,611	26,898
Caldas	2.8409	65.840	12,912	14.75	433,189	89,334	16.50	71,467	15,689
Caldas + Quindio + Risaralda	4.3090	76.327	36,863	16.19	452,389	288,761	18.61	84,187	14,081
Cauca	5.7619	60.331	2,725	15.60	354,628	15,878	12.33	43,741	12,443
Cordoba	7.0235	86.767	6,638	16.93	300,003	39,039	21.80	65,392	12,815
Distrito Especial	12.4644	90.312	464,555	20.81	283,861	1,129,962	20.15	57,196	26,037
Cundinamarca	3.8313	63.774	13,218	14.65	344,944	60,216	10.98	37,872	13,035
Choco	5.6000	67.857	372	08.60	675,982	4,300	11.36	76,786	9,789
El Cesar	5.6429	82.595	5,123	19.52	960,674	72,850	24.00	230,538	19,628
Guajira	3.8293	58.599	1,781	05.61	217,073	16,413	24.08	52,277	9,679
Huila	2.0380	47.086	3,977	17.37	275,772	38,194	16.14	44,515	9,844
Magdalena	3.8817	61.773	4,047	17.91	404,634	34,616	23.70	95,889	18,148
Magdalena + El Cesar	4.5436	71.492	9,170	18.81	664,174	107,466	23.90	158,739	18,946
Meta	5.3267	77.138	4,477	11.46	214,238	3,543	03.07	6,585	10,788
Nariño	4,7839	75.964	14,737	17.70	213,328	58,271	16.45	35,103	11,687
Norte de Santander	5.8456	79.371	9,495	13.72	415,246	41,921	12.70	52,731	15,047
Quindio	3.8714	73.063	4,988	14.88	585,349	55,993	17.65	103,308	12,596
Risaralda	7.5833	85.409	18,963	17.52	423,046	143,434	20.70	87,566	13,555
Santander	10.3447	89.700	78,900	21.30	380,793	458,072	33.13	126,156	24,225
Sucre	3.7162	50.182	1,534	17.60	235,782	10,253	15.81	37,284	11,116
Tolima	4.2432	79.883	22,337	23.12	402,026	108,423	15.77	63,405	16,352
Valle del Cauca	5.3413	76.848	63,013	16.37	440,980	280,407	13.54	59,725	17,465
Total	6.897	83.113	1014,790	20.79	325,570	3,555,800	18.90	61,535	21,130

<sup>a</sup>Purchases minus Sales plus increase in inventory

Source: DANE, Muestra de Comercio Interior 1967, p. 45,55.

TABLE A-30a

Characteristics of Retail Commerce by Branch: Bogota, 1967  
(Absolute Values in Thousands of Pesos)

Branch of Commerce	No. of Establishments	Sales per Establishment	Workers per Establishment	Wages per Paid Worker	Wages/Sales	Value Added Proxy <sup>a</sup>	Value Added Proxy <sup>a</sup> /Workers	Value Added Proxy <sup>a</sup> /Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
611	16,287	133.69	1.69	9.499	.0444	412,413	14.953	.1894
612	2,021	612.96	4.54	10.360	.0592	268,404	29.279	.2167
613	2,904	324.24	3.75	9.973	.0741	198,072	18.168	.2104
614	749	955.41	6.80	14.787	.0854	198,051	38.894	.2768
615	52	464.73	9.85	11.994	.2442	4,991	9.748	.2065
616	177	188.29	2.23	8.075	.0482	7,363	18.640	.2209
617	369	1,001.61	4.84	15.065	.0569	70,713	39.593	.1913
618	4,141	204.51	1.96	21.990	.1684	333,634	41.068	.3940
619	22	705.55	2.36	4.714	.0085	1,794	34.500	.1156
620	14	792.50	8.50	19.837	.2127	5,292	44.471	.4770
621	320	1,039.51	6.02	13.801	.0681	68,213	35.380	.2051
622	10	333.70	2.00	-	0	1,675	83.750	.5019
623	17	1,475.59	1.82	11.828	.0137	1,071	34.548	.0427
624	641	1,105.67	8.73	16.504	.1152	160,888	28.745	.2270
626	1,983	279.24	3.49	12.024	.0927	192,901	27.840	.3484
TOTAL	29,707	269.21	2.63	13.139	.0788	1,925,478	24.612	.2408

<sup>a</sup>Sales minus purchases plus increase in inventories.

TABLE A-30b

Characteristics of Wholesale Commerce by Branch: Bogota, 1967  
(Absolute Values in Thousands of Pesos)

Branch of Commerce	No. of Establishments	Sales per Establishment	Workers per Establishment	Wages per Paid Worker	Wages/Sales	Value Added Proxy <sup>a</sup>	Value Added Proxy <sup>a</sup> /Workers	Value Added Proxy <sup>a</sup> /Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
611	484	2,551.19	6.69	23.776	.0505	177,872	54.894	.1441
612	102	2,550.86	7.68	22.349	.0565	59,157	75.552	.2274
613	33	3,081.12	9.76	19.963	.0579	13,876	43.093	.1365
614	82	10,054.79	27.33	25.826	.0685	168,218	75.064	.2040
615	92	5,054.96	20.73	32.357	.1301	152,222	79.823	.3273
616	354	1,535.97	5.97	11.244	.0360	55,950	26.479	.1029
617	28	4,140.89	16.61	19.794	.0739	19,919	42.837	.1718
618	106	2,132.36	18.78	34.653	.2907	116,069	58.297	.5135
619	5	15,823.20	8.00	26.550	.0134	9,707	242.675	.1227
620	18	6,590.72	13.89	42.212	.0840	25,319	101.276	.2134
621	4	137,544.50	79.00	45.633	.0262	78,570	248.639	.1428
622	33	6,033.45	13.06	21.621	.0441	24,992	57.986	.1255
623	27	4,238.22	12.41	18.310	.0480	17,865	53.328	.1561
624	22	11,119.59	43.45	28.521	.1098	77,988	81.577	.3188
626	195	2,717.77	22.39	26.706	.1966	132,235	30.287	.2495
TOTAL	1,585	3,538.15	12.46	26.037	.0828	1,129,962	57.196	.2015

<sup>a</sup>Sales minus purchases plus increase in inventories.

TABLE A-31a

Characteristics of Retail Commerce by Branch: Pasto, 1967  
(Absolute Values in Thousands of Pesos)

Branch of Commerce	No. of Establishments	Sales per Establishment	Workers per Establishment	Wages per Paid Worker	Wages/Sales	Value Added Proxy <sup>a</sup>	Value Added Proxy <sup>a</sup> /Workers	Value Added Proxy <sup>a</sup> /Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
611	897	168.99	1.19	5.161	.0019	34,138	31.934	.2252
612	87	337.56	2.33	6.106	.0216	4,081	20.103	.1390
613	180	239.90	2.33	3.289	.0142	9,048	21.594	.2095
614	33	754.67	4.82	13.438	.0701	3,457	21.742	.1388
615	2	3,792.50	3.50	12.000	.0695	1,627	232.429	.2145
616	3	5,020.00	11.00	14.750	.0313	1,858	56.303	.1234
617	2	1,594.50	13.00	23.526	.1402	771	29.654	.2418
618	55	374.87	3.31	18.133	.0923	6,510	35.769	.3157
621	44	429.02	2.89	7.139	.0299	2,542	20.016	.1347
624	52	144.38	1.92	5.556	.0400	1,751	17.510	.2332
626	84	154.73	1.56	9.628	.0319	3,741	28.557	.2878
TOTAL	1,439	232.71	1.71	9.164	.0223	69,526	28.309	.2076

<sup>a</sup>Sales minus purchases plus increase in inventories

TABLE A-31b

Characteristics of Wholesale Commerce by Branch: Pasto, 1967  
(Absolute Values in Thousands of Pesos)

Branch of Commerce	No. of Establishments	Sales per Establishment	Workers per Establishment	Wages per Paid Worker	Wages/Sales	Value Added Proxy <sup>a</sup>	Value Added Proxy <sup>a</sup> / Workers	Value Added Proxy <sup>a</sup> / Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
611	89	867.90	2.94	15.219	.0333	14,425	55.057	.1867
612	9	5,042.44	8.78	21.970	.0320	4,500	56.962	.0992
613	2	5,112.50	12.50	19.800	.0484	1,412	56.480	.1381
614	6	1,949.67	9.33	11.259	.0520	2,412	43.071	.2062
615	6	935.67	6.17	21.516	.1188	1,677	45.324	.2987
616	33	919.79	5.15	11.483	.0446	8,887	52.277	.2928
617	1	20,614.00	97.00	16.835	.0792	3,556	36.660	.1725
618	3	774.00	31.67	5.685	.2252	820	8.632	.3531
621	3	2,959.00	3.00	35.778	.0363	813	90.333	.0916
624	6	3,753.33	14.17	15.131	.0564	3,157	37.141	.1402
TOTAL	158	1,486.41	5.79	14.640	.0464	41,659	45.529	.1774

<sup>a</sup>Sales minus purchases plus increase in inventories.

TABLE A-32a

Job Category and Wage Levels by Branch of Retail Commerce: Bogota  
1967

Branch of Commerce	Distribution of Labour Force			Wages per Paid Worker in 1967	Wages/ Sales
	Owners and Associates	Family Helpers	Paid Workers		
611	.4596	.1715	.3688	9.499	.0444
612	.1472	.0811	.7718	10.360	.0592
613	.2594	.0990	.6416	9.973	.0741
614	.1781	.0098	.8121	14.787	.0854
615	.0391	0	.9609	11.994	.2442
616	.4962	0	.5038	8.075	.0482
617	.2044	.0140	.7816	15.065	.0569
618	.1436	.0580	.7984	21.990	.1684
619	.4231	.0385	.5385	4.714	.0085
620	0	0	1.0000	19.832	.2127
621	.1120	.0368	.8511	13.801	.0681
622	.5000	.5000	0	-	0
623	.0645	0	.9355	11.828	.0137
624	.1142	.0018	.8840	16.504	.1152
626	.2630	.1212	.6158	12.024	.0927
TOTAL	.2840	.1027	.6133	13.139	.0788

TABLE A-32b

Job Category and Wage Levels by Branch of Retail Commerce: Pasto  
1967

Branch of Commerce	Distribution of Labour Force			Wages per Paid Worker in 1967	Wages/ Sales
	Owners and Associates	Family Helpers	Paid Workers		
611	.7315	.2161	.0524	5.161	.0019
612	.3842	.1034	.5123	6.106	.0216
613	.3890	.1647	.4463	3.289	.0142
614	.1132	.0692	.8176	13.438	.0701
615	.1429	0	.8571	12.000	.0093
616	.0303	0	.9697	14.750	.0313
617	.2692	0	.7308	23.526	.1402
618	.3132	.1099	.5769	18.133	.0923
621	.2913	.0866	.6220	7.139	.0299
624	.4500	.0100	.5400	5.556	.0400
626	.4733	.1985	.3282	9.628	.0319
TOTAL	.5094	.1588	.3318	9.164	.0223

Table A-33

Data on Non Labour Costs in Retail Food and Beverage Outlets,  
Cali, 1969, and National, Sept. 1970

## PANEL A: CALI, 1969

<u>Type of Outlet</u>	<u>Proprietary<sup>a</sup> Income/ Sales- Purchases</u>	<u>Prop. Income and Labour In- come/Sales- Purchases</u>	<u>Gross Val- ue Added/ Sales- Purchases</u>	<u>Net Val- ue Added/ Sales- Purchases</u>
Self-service	21.60	71.44	85.19	81.79
Personal Service				
Tiendas	51.73	69.61	81.56	77.43
Small Graneros	35.93	53.43	84.36	82.71
Large Graneros	41.64	60.57	92.52	91.29
Wholesale/Retail	43.61	66.65	91.82	89.95
Public Market				
Fruit and Veg. Stalls	72.98	72.98	85.37	85.03
Grain and Processed Food Stalls	77.49	78.31	96.93	96.38
Beef Stalls	73.60	86.88	96.12	95.94
Ambulantes	89.29	89.29	92.94	92.94

<sup>a</sup>Net of depreciation and bad debt losses.

PANEL B: NATIONAL, LARGE FOOD AND BEVERAGE STORES  
SEPT., 1970

<u>Retail:</u>	<u>% of Gross Value Added<sup>b</sup></u>	<u>% of Sales- Purchases</u>
Wages	51.20	34.04
Rent, interest	9.73	6.47
Proprietary income	39.07	25.97
Gross value added	100.00	66.48
Workers/establishment	38.76	46.00

<sup>b</sup>Where gross value added is defined as sales minus purchases minus other listed costs apart from wages, rent, and interest. One bias in the figures is their failure to take into account change in inventory.

Sources: Panel A is from Riley et al., op.cit., various pages. Panel B is from DANE, Muestra Comercial 1970.

TABLE A-35

Wage Data From Classified Advertisements: Means, Standard  
Deviations, and Sample Sizes

Unit: 1937 Pesos Per Month

Year	Number of Months Sampled	Domestic Servants			Clerks in Large Stores			Unskilled Factory Workers		
		$\bar{X}$	S	N	$\bar{X}$	S	N	$\bar{X}$	S	N
1945	5	11.2	3.18	12	17.1	6.18	10	-	-	-
1948	11	11.0	5.21	7	33.7	9.34	6	-	-	-
1951	11	6.7	.69	5	28.5	5.65	19	33.4	3.08	31
1954	9	10.1	2.65	12	35.8	14.5	14	33.9	3.31	73
1958	3	10.3	3.60	6	28.8	7.28	10	26.7	2.75	21
1960	3	15.4	4.37	21	38.4	10.04	17	30.4	6.04	72
1962	1	15.2	3.29	12	43.1	17.94	3	34.7	2.96	27
1963	1	14.0	3.12	23	63.2	13.00	8	38.5	2.01	12
1964	3	12.1	2.12	54	44.1	5.59	6	33.8	2.51	34
1965	1	15.9	3.93	33	57.6	8.91	55	36.8	6.10	16
1966	1	15.1	1.87	31	46.9	7.66	9	32.0	4.06	13
1967	1	15.3	2.64	20	43.5	4.74	7	27.8	2.14	13

Source: Compiled by Alan Udall from El Tiempo, Bogota

Key:  $\bar{X}$  = sample mean, S = estimated standard error, N = number of observations

TABLE A-38

## Percent Occupational Distribution in Commerce, by Department

1964							
	Total	Employer	Independent Workers	Family Helpers	Non-Manual Workers	Manual Workers	No Information
Antioquia	(44,690)	9.87 (4,412)	45.99 (20,555)	2.27 (1,013)	35.10 (15,605)	6.72 (3,002)	.05 ( 23)
Atlantico	(25,551)	6.56 (1,677)	55.06 (14,069)	3.05 (781)	29.26 (11,477)	4.82 (1,231)	1.24 (316)
Boliva	(20,143)	7.37 (1,484)	63.78 (12,848)	4.87 (981)	20.52 ( 4,133)	3.04 ( 612)	.42 ( 85)
Boyaca	(10,361)	13.76 (1,426)	57.20 ( 5,926)	5.87 (608)	21.01 ( 2,177)	1.91 ( 198)	0.25 ( 26)
Caldas	(36,830)	9.77 (3,600)	47.66 (17,553)	2.45 (903)	33.80 (12,449)	5.23 (1,925)	1.09 (400)
Cauca	( 7,376)	8.85 ( 653)	62.73 ( 4,627)	4.96 (366)	19.77 ( 1,458)	3.29 ( 243)	.39 ( 29)
Cordoba	( 8,679)	10.13 ( 872)	59.58 ( 5,130)	4.58 (394)	23.67 ( 2,038)	1.95 ( 168)	.09 ( 8)
Cundinamarca (excluding Bogota)	(16,709)	18.14 (2,029)	54.99 ( 9,189)	5.25 (878)	23.65 ( 3,952)	3.48 ( 581)	.48 ( 80)
Bogota	(63,597)	9.90 (6,298)	35.96 (22,872)	2.22 (1,409)	46.89 (29,820)	4.20 (2,668)	.83 (530)
Huila	( 6,071)	12.29 (746)	50.95 ( 3,093)	6.61 (401)	25.14 ( 1,526)	4.65 ( 282)	.38 ( 23)
Magdalena							
Narino	( 8,254)	6.83 (564)	66.05 ( 5,452)	7.44 (614)	14.80 (1,222)	4.72 ( 390)	.15 ( 12)
Norte de Santander	(12,823)	10.00 (1,282)	62.00 ( 7,950)	3.81 (489)	20.82 (2,670)	2.89 ( 370)	.48 ( 62)
Santander							
Tolima							
Valle	(30,468)	1.80 (547)	19.40 ( 5,910)	.51 (155)	6.66 (2,028)	68.02 (20,725)	3.62 (1,103)
Total							