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9. ABSTRACT

This paper reports the estimated distribution of income and incidence of taxation that prevailed in Colombia in 1970. Estimates are presented for the urban and rural sectors separately, though primary attention should focus on national totals. The estimates are based on data on the distribution of income and consumption patterns collected in several recent household budget surveys by the national statistical office (DANE) and on a variety of information on special topics (coffee, income taxes, transportation, special foreign exchange account, etc). The bottom two-thirds of the income distribution (among households) receives only about one-fourth of household income and the top one-eight accounts for roughly half of all income. In both the urban and rural sectors income is distributed quite unequally, but in both cases the inequality is less than for the nation as a whole. The Colombian tax system appears to exhibit a degree of progressivity ranging from rather mild to fairly strong, depending upon the assumed incidence of the corporation income tax and whether or not the coffee export duties are included in the analysis.

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THE INCIDENCE OF COLOMBIAN TAXES, 1970

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The Incidence of Colombian Taxes: 1970

1. Introduction

This study reports the estimated incidence of taxes levied by all levels of government in Colombia in 1970. Two previous attempts at estimating the incidence of taxation in Colombia found that Colombian taxes were roughly proportionate to income, or, at best, mildly progressive.[1] But these estimates of tax incidence were both based upon extremely crude estimates of the underlying distribution of income and patterns of consumption of taxed items.[2] Moreover, information on collections of direct taxes by income classes was inadequate indeed.[3]

It is probably true that the estimated pattern of effective tax rates (percentage of income paid in taxes) by income brackets is more accurate than the underlying estimate of the income distribution, as noted in the author's previous study for Colombia.[4] Nevertheless, the existence of new information on the distribution of

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[1] See Milton C. Taylor and Associates, _Fiscal Survey of Colombia_ (Baltimore: Johns Hopkins Press, 1965), pp. 226-27 and Charles E. McLure, Jr., "The Incidence of Taxation in Colombia," in Richard A. Musgrave and Malcolm Gillis, eds., _Fiscal Reform for Colombia: The Final Report and Staff Papers of the Colombian Commission on Tax Reform_ (Cambridge: Harvard Law School International Tax Program, 1971), pp. 256-61. As noted in the author's previous paper, methods of estimating the distribution of income and the incidence of taxation by income groups are sufficiently different to render exact comparisons of results virtually impossible.

[2] In the author's previous study the estimated income distribution was built-up from sketchy information about numbers of persons and total incomes attributable to various activities and more or less arbitrary distributions of the total income in each activity among the corresponding income recipients, rather than from information on the distribution of income _per se_. The estimate in Taylor, _op. cit._, seems to have built upon a somewhat more solid data base. In both cases the incidence of indirect taxes was estimated (sometimes with extrapolation) from patterns of consumption revealed by a household budget survey taken many years earlier.

[3] See McLure, _op. cit._, pp. 240-42 for a description of the many rather arbitrary manipulations that were performed upon these data in an attempt to learn something about the incidence of the personal income tax by income brackets. The manipulations described in section 3 below, while arbitrary, are rather easily defended by comparison with those in the earlier study.

[4] See McLure, _op. cit._, pp. 239-40 for a more complete statement of this argument.

income collected in the various household surveys of the national statistics office (DANE) should make it possible to estimate the distribution of income with considerably more accuracy than was previously possible.[1] This same survey data also facilitates the accurate estimation of the incidence of indirect taxes, and improved data on income tax collections has added considerably to our knowledge of the incidence of these increasingly important direct taxes.

The next section describes the data available in the DANE household surveys and the way in which they were used to estimate the underlying distribution of income in Colombia. Estimates are presented for both urban and rural sectors separately, as well as for the nation as a whole, though attention should probably focus upon the national totals. Adjustments to the estimated distribution are made in this section for the savings and (unshifted) profits taxes of corporations and for the implicit taxes on earnings from the export of coffee. The resulting distribution of income is then compared with several earlier estimates of the distribution of income in Colombia.

Section 3 explains in detail the allocation of the various other important taxes of the three levels of government among the various income brackets, for the urban and rural sectors and for the nation as a whole. These allocations are based upon three alternative assumptions about the burden of the corporation income tax and two about the propriety of including the coffee export duties in the analysis. Comparison of the amounts of taxes allocated to each income bracket (in each sector and

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[1] Moreover, this survey data makes it feasible to attempt to estimate the distribution of income among households, rather than among economically active members of the population, whereas limitations on data restricted previous estimates to the distribution of income among individuals. (But for rural households there are problems even if the DANE data are used, as noted in section 2 below.) For most purposes, the distribution among households is more interesting than that among individuals.

the entire nation) with the amount of income estimated to fall in that income bracket results in estimates of the effective rates of taxation paid (as a percentage of income) by each group.

2. The Distribution of Income

The basic data on the distribution of income used in this study were collected by DANE in two of its household surveys.[1] The data for the urban and rural portions of the economy are described separately.

A. Urban Areas

A survey of 3,560 households taken in late 1970 provides the basic data for the estimation of the distribution of income in urban areas. It provides information on the distribution of household incomes among 14 income classes in seven large

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[1] The various DANE surveys are described in Polibio Córdova, La Encuesta Nacional de Hogares de Colombia (Bogotá: Departamento Administrativo Nacional de Estadística [DANE], 1971). Data for the distribution of income in rural areas are from Project EH-1 and is reported in Polibio Córdova, Distribución de Ingresos en Colombia (Bogotá: DANE, 1971). Data for urban areas are from project EH-2 and were provided in unpublished form by DANE.

In theory the concept of income used in these surveys is more or less what economists mean by income, that is:

El concepto de ingreso hace referencia a todo tipo de ingreso, es decir, ingreso monetarias y no monetarias recibidos por concepto del trabajo asalariado, del trabajo independiente, como remuneracion al capital y otro tipo de ingresos tales como pensiones de retiro, ayuda en dinero, ingresos por loterias, etc. Es conveniente aclarar que los ingresos declaradas por las personas tienen un mes como período de referencia y son ingresos personales percibidos antes del pago de impuestos. (Córdoba, Distribución de Ingreso en Colombia, p. 61).

Whether in fact the survey interviews actually took account of such non-monetary income as income in kind produced in the rural areas or provided to domestic servants in urban areas, etc., is inherently unknowable. Thus no attempt was made to adjust for any such possible omissions. (On the other hand, Miguel Urrutia, in "La Distribución de Ingresos en Colombia," (Bogotá: Banco de la Republica, xerox), pp. 5, 10, adjusted survey data for such omissions in the urban sector, though for the rural area he did not make similar adjustments, as the rural distribution series was derived from information on production, rather than from surveys.) Several adjustments of a different kind which must be made are described in part D of this section.

Colombian cities.[1]   The problem, then, is to "blow up" the information collected

for these seven large cities in such a way that it would be representative of urban

households in the entire country. Supposedly such an expansion of the sample from

the seven cities could be done on a statistically sound basis, but it had not been

done by DANE when this study was undertaken and it was well beyond the scope of the

present study. Thus a substantially less ambitious and less satisfactory approach

was followed. Basically, it was assumed that the pattern of income distribution pre-

vailing in each of the seven Colombian cities was broadly representative of that found

in the urban areas of certain regions, usually those closest to the city in question.

Thus the absolute number of households and the income found in a given income bracket

in a particular city were each multiplied by the ratio of the estimated number of

urban households in regions for which the city was taken to be representative to the

number of households in the city itself; see Table 1.[2]

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[1] These cities are listed in Table 1. These data were used, rather than
those from survey EH-1 because they pertain to household income, rather than to in-
come of economically active households. Although the data for the rural sector (de-
scribed below) are on an individual basis, and would have matched better the data
on individuals in urban areas taken from survey EH-1, the undetermined loss of con-
sistency involved in using data from survey EH-2 for the urban sector was deemed to
be a reasonable price to pay in order to be able to use household data for at least
the urban sector. Moreover, only survey EH-2 contains the information on consumption
patterns vital to the allocation of indirect taxes among income groups.

[2] This approach was suggested in broad terms, at least by implication, in
a memorandum from Polibio Córdova entitled, "Agregación de Municipios a las Ciudades
Investigadas en la Segunda Etapa de Encuesta de Hogares y Cálculo de Factores de
Expansión." That document describes a suggested assignment of regions to supposedly
representative cities and the calculation of the number of households in each re-
gion. The factors of expansion reported in Table 1 were calculated by the author in
the way shown there. One must be a bit nervous about this method, however. It
implies multiplying the results for the households actually sampled in the various
cities by expansion factors ranging from 412 to 2069, since the figures for the var-
ious cities were themselves based upon samples from the households in the cities.
Whether this is statistically defensible was not determined. A similar, but appar-
ently more sophisticated, approach was followed in Urrutia, op. cit.

TABLE 1: Calculation of Factors of Expansion

| City | Number of Households | | Expansion |
	Repres-ented by city (1)	In city itself (2)	Factor (1) ÷ (2) (3)
Barranquilla	350,786	105,294	3.3140
Bogotá	425,836	447,214	0.9522
Bucaramanga	328,910	55,870	5.8871
Cali	325,547	149,833	2.1794
Manizales	239,001	47,786	5.0015
Medellín	310,848	184,532	1.6845
Pasto	58,669	21,822	2.6885
TOTAL	2,040,597	1,012,352	2.0157

Source: See text and footnote 2, p. 4.

The results of this expansion is the estimated distribution of income among urban households reported in Table 2. The bottom half of urban households appear to receive just over one-sixth of income accruing to urban households and the top ten percent of households about three-eighths of urban income.[1]

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[1] As expected, this distribution of income among households is somewhat less unequal than the distribution among economically active persons in urban areas, as reported in survey EH-1; see columns (7) and (8) of Table 2. Moreover, both these distributions can usefully be compared with that calculated for the economically active urban population by Urrutia, op. cit., p. 15. The following table compares the three distributions at points where comparisons are particularly easy to make:

| Present Study: | | DANE Survey EH-1: | | Urrutia Study: | |
| Cumulative Percentage of | | Cumulative Percentage of | | Cumulative Percentage of | |
Households	Income	Economically Active Population	Income	Economically Active Population	Income
14.7	2.9	--	--	12.7	0.7
29.9	8.0	27.8	5.1	30.3	4.5
62.5	26.8	61.1	23.5	60.1	21.7
79.3	44.4	77.2	38.3	79.3	40.2
93.1	70.9	91.9	60.4	93.4	64.6

The two distributions for the economically active population in urban areas show generally similar patterns, though Urrutia's study finds a slightly more unequal distribution than is reported in survey EH-1. Both studies show the distribution among urban individuals to be somewhat less equal than the distribution among urban households.

TABLE 2: Estimated Distribution of Income among Urban Households and
Economically Active Persons,[a] 1970
(Number of households and persons in thousands; incomes in billions of pesos)

Income Bracket (Pesos per year)	Households				Cum. Percentage of:		Economically Active Persons[a] Cum. Percentage of:	
	Number of Households	Total Income	Percentage of: Households	Income	Households	Income	Persons	Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0 - 6,000	43.3	0.20	2.1	0.2	2.1	0.2	27.8	5.1
6,000 - 12,000	257.8	2.38	12.6	2.7	14.7	2.9	61.1	23.5
12,000 - 18,000	308.9	4.56	15.1	5.1	29.9	8.0	77.2	38.3
18,000 - 24,000	309.2	6.39	15.1	7.1	45.0	15.1	85.4	48.9
24,000 - 30,000	204.9	5.44	10.0	6.1	55.0	21.2	89.7	56.0
30,000 - 36,000	153.6	5.03	7.5	5.6	62.5	26.8	91.9	60.4
36,000 - 48,000	193.1	7.91	9.5	8.8	72.0	35.6	94.7	67.6
48,000 - 60,000	148.3	7.87	7.3	8.8	79.3	44.4	96.3	73.0
60,000 - 72,000	89.7	.5.87	4.4	6.6	83.6	51.0	97.3	77.1
72,000 - 84,000	74.9	5.76	3.7	6.4	87.2	57.4	97.8	79.9
84,000 - 120,000	121.0	12.10	5.9	13.5	93.1	70.9	98.8	86.0
120,000 - 180,000[b]	75.2	10.65	3.7	11.9	96.8	82.8	99.5	92.7
180,000 - 240,000[b]	38.1	6.51	1.9	7.3	98.7	90.1	99.7	95.2
Over 240,000	24.6	8.81	1.2	9.8	100.0	100.0	100.0	100.0
TOTAL[c]	2,042.6	89.52	100.0	100.0	--	--	--	--

[a] Included for comparison only.

[b] Bracket limit in original data is 174,000 pesos. The limit of 180,000 is used for consistency with those in other sources, but without interpolation.

[c] Column totals may not add to totals due to rounding.

Sources: Columns (1) and (2): unpublished records of DANE and expansion factors in Table 1.
Columns (7) and (8): Polibio Córdova, Distribución de Ingresos en Colombia (Bogotá: DANE, 1971), p. 88.

B. Rural Areas

As unsatisfactory as the data on the distribution of income among urban households in the entire country may be, those for the rural sector are significantly worse, if only in one respect. This is that they refer to the distribution of income among the economically active rural population, rather than among rural households. Rather than simply combine the distribution among rural individuals with that for the urban population, it was decided to try to adjust the rural distribution to put it more nearly on a household basis. This was done using three alternative approaches. In the first the incomes of women in each income group were simply added to the incomes earned by men in the group; see columns (1)-(4) of Table 3. This approach is unsatisfactory in two respects. First, an undetermined number of households would be pushed into higher income brackets by the presence of a second income recipient.[1] Second, many of the male members of the economically active population, especially those in the lowest income brackets, are unpaid family employees.[2] Ideally these employees (but not their income) would be omitted from the count for purposes of converting the income distribution to a household basis. Thus under the second approach 360,000 economically active males were subtracted from the number of persons in the very lowest (0-6,000 pesos per year) income bracket; see column (5) of Table 3.[3] Of course, for these two approaches, the income brackets given in Table

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[1] Moreover, average income in the income class could be pushed outside the bracket limits. In fact, however, women constituted but 13.2% of the economically active rural population and earned but 9.3% of the income, so this was not a major problem; see Córdova, Distribución de Ingresos en Colombia, p. 85.

[2] There were roughly 1,685,000 economically active males, but only 1,200,000-1,320,000 heads of households. (The discrepancy between the number of heads of households reported in ibid., pp. 93 and 95 is not explained. Neither figure compares very favorably with the 1,509,000 rural households in the country reported in the memorandum "Agregación de Municipios. . ." op. cit.)

[3] On a priori grounds we would expect most unpaid family employees to be clustered in this income bracket. Inspection of columns (1) and (6) of Table 3 suggests that this is in fact the case. It appears that there are roughly 360,000 economically active males in this income class who are not heads of households.

TABLE 3: Estimated Distribution of Income among Rural Households, 1970
(Number of persons and households in thousands; income in billions of pesos)

Income bracket[a] (Pesos per year)	ESTIMATE #1				ESTIMATE #2	ESTIMATE #3 (Preferred)			
	Number Economically Active Males (1)	Income[b] (2)	Cumulative Percentage of: Households (3)	Income (4)	Cumulative Percentage of Households[c] (5)	Number of Heads of Households[a] (6)	Income[a] (7)	Cumulative Percentage of: Households[a] (8)	Income[a] (9)
0 - 6,000	956.3	3.48	56.8	25.7	45.1	595.7	1.79	45.1	13.2
6,000 - 12,000	540.4	5.20	88.9	64.1	85.9	421.3	3.80	77.0	41.2
12,000 - 18,000	107.8	1.82	95.3	77.6	94.0	217.9	3.92	93.5	70.1
18,000 - 24,000	35.4	0.81	97.4	83.6	96.7	↓	↓	↓	↓
24,000 - 30,000	16.8	0.47	98.4	87.1	98.0	67.3	2.38	98.6	87.6
30,000 - 36,000	5.1	0.18	98.7	88.4	98.4	↓	↓	↓	↓
36,000 - 48,000	6.7	0.28	99.1	90.5	98.9	↓	↓	↓	↓
48,000 - 60,000	3.4	0.18	99.3	91.9	99.2	9.3	0.92	99.3	94.4
60,000 - 72,000	5.1	0.27	99.6	93.9	99.6	↓	↓	↓	↓
72,000 - 84,000	1.7	0.14	99.7	94.9	99.7	↓	↓	↓	↓
84,000 - 120,000	--	0.31	--	97.2	--	1.3	0.31	99.4	96.7
120,000 - 180,000	--	0.10	--	99.9	--	↓	↓	↓	↓
180,000 - 240,000	--	--	--[d]	100.0	--[d]	1.3	0.37	99.5[d]	99.4[d]
Over 240,000	1.7	0.27	99.8[d]	100.0	99.8[d]	1.3			
TOTAL	1683.6	13.54	--	--	--	1320.8	13.58	--	--

[a] For estimate 3, wider income brackets were dictated by the format of the original data. Figures are given in the top line for the several narrower brackets included in the wider ones, indicated by arrows. These arrows are omitted in later tables.

[b] Includes income of females in the same income brackets.

[c] Reflects subtraction of 360,000 persons from the number of economically active males in the lowest income bracket. Corresponding cumulative percentages of income are as in column (4). But the division of households and incomes between the first two brackets, at least, should not be accepted literally.

[d] Small numbers of persons and amounts of income were not allocated among income classes.

Source: Polibio Córdova, Distribución de Ingresos en Colombia (Bogotá: DANE, 1971), pp. 80, 84, 88, 89, 93-95.

3 would have little meaning, especially at low income levels. In fact, the calculated distributions would probably be meaningful only in terms of comparing incomes of say the lowest 80% of rural households with that of the top 20%. They should be so interpreted.

The third approach, and the one preferred, was based upon data on incomes of heads of households reported by income brackets for each educational level.[1] The rural income distribution calculated from these data and reported in columns (6)-(9) of Table 3 suffers conceptually from failure to include incomes of secondary income recipients in the family. But as a matter of fact, total rural income calculated from data on average incomes and numbers of heads of households in each educational level in rural areas does not differ greatly from total rural income calculated using supposedly more comprehensive data on incomes of economically active rural persons. Thus it is not obvious whether any adjustment is warranted, and if so, what it should be. So none was made.

These three estimates, as different as they are, tell roughly the same story. The top 10% of rural households probably receive roughly 35-40% of total rural income.[2] This distribution, unequal though it may be, is considerably less unequal

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[1] Córdova, _Distribución de Ingresos en Colombia_, op. cit., pp. 80, 84, and 95. In this publication there are no straightforward data on the size distribution of income among rural heads of households. Rather, it was necessary to estimate that distribution indirectly from data on the educational distribution of heads of households and income patterns by educational levels. Educational data were of no intrinsic interest at all in this study and were not used as proxies for income levels. There is an unexplained discrepancy between the income class discriptions on p. 84 and those on p. 95. It appears that the latter are correct. Even though in some cases average income falls outside bracket limits, the problem would be even worse if the bracket limits used on p. 84 were interpreted literally.

[2] As noted above, the patterns of income distribution reported in Table 3 may not be very accurate in the lower income classes. But it is also of less interest, given that the bulk of rural families have very low income levels, compared to urban families.

than the distribution of agricultural income in 1960 and rural income in 1964 esti-
mated by Berry and Padilla and by Urrutia.[1] Berry and Padilla and Urrutia both
estimated that the top 10% of the income distribution received something over half
of all agricultural or rural income, respectively. This discrepancy appears to be
quite significant, but for several reasons it may not be as great as it appears.
First, in both of those studies agricultural income accruing to urban persons (and
the corresponding urban income recipient) was included in the analysis. On the other
hand, it was excluded from the analysis reported in Table 3. Since this income is
likely to accrue to persons in very high income brackets, we can expect a sizeable
difference in the two sets of estimates and in the direction that is reported above.
Moreover, both these early estimates were of the distribution of income among indi-
viduals, rather than families. This probably gives a slight additional bias toward
inequality. Whether on balance these differences are enough to account for the ap-
parent discrepancy cannot be known. And if not, it is not clear which set of esti-
mates is more nearly correct. But in what follows, estimate 3, constructed as
described above, was employed.

C. The Nation

The preferred estimate of the Colombian income distribution for the nation as
a whole was obtained by combining the results of Tables 2 and 3, as reported in
Table 4. According to this estimate, the bottom two-thirds of Colombian families
receive roughly one-fourth of all income and the top 10 percent of families receive
roughly 44 percent of income.[2] This pattern can usefully be compared with those es-

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[1] Albert Berry and Alfonso Padilla, "La Distribución de Ingresos Proven-
ientes de la Agricultura en Colombia--1960," Boletín Mensual de Estadística (DANE,
January 1971), pp. xxi-xxvi; Urrutia, op. cit.

[2] This conclusion would be altered hardly at all (but in the direction of
less equality) by the use of estimate 1 or 2 for the rural income distribution.

TABLE 4: Estimated Distribution of Income among Colombian Households, 1970
(Number of households in thousands; income in billions of pesos)

Income Brackets (Pesos per year)	Number of Households	Income	Percentage of Households	Income	Cumulative Percentage of Households	Income
0 - 6,000	639.0	1.99	19.0	1.9	19.0	1.9
6,000 - 12,000	679.1	6.18	20.2	6.0	39.2	7.9
12,000 - 24,000	836.0	14.87	24.9	14.4	64.1	22.4
24,000 - 60,000	767.2	28.63	22.9	27.8	87.0	50.2
60,000 - 120,000	294.9	24.66	8.8	24.0	95.8	74.1
120,000 - 240,000	114.6	17.48	3.4	17.0	99.2	91.1
Over 240,000	25.9	9.18	0.8	8.9	100.0	100.0
TOTAL	3356.7	102.99	100.0	100.0		

Source: Tables 2 and 3(estimate 3).

TABLE 5: Comparison of Results of Various Studies
of Income Distribution in Colombia
% of Income Received by:

Author	Date	Lowest 2/3	Top 10%	Basis of Estimate
Taylor	1961	28	42	Individuals
McLure	1964	27	50	Individuals
Urrutia	1964	24	48	Individuals
Present	1970	25	44	Households

Sources: See footnote 1, p. 12.

timated in several previous studies of the Colombian income distribution; see Table 5. In his previous study, the present author found that the top 10% of income recipients received roughly one-half of all income. Thus that study reports somewhat more inequality than the present study, as could be expected, in that it was based upon data for individuals, rather than households. The Taylor group, on the other hand, found that the bottom two-thirds of individuals received roughly 28% of income and the top 10% of individuals received slightly less than 42% of income. This is more difficult to reconcile with the present study in that the Taylor group also

used individuals as the basis of its estimate. Finally, Urrutia's estimates are quite consistent with those reported here and in the present author's previous study. In particular, Urrutia found that the lowest two-thirds of individual income recipients receive 24% of income and that the top 10% receive roughly 48%.[1]

It is interesting to note that the income distributions reported in Tables 2 (for urban areas) and in Table 3 (for rural areas) are quite similar in the sense that they would produce virtually identical Lorenz curves. But the absolute levels of household income in urban levels is substantially higher than in rural areas. (The estimated urban average is 43,826 pesos per year, while the rural average is 10,279 pesos.) This can be seen from Table 6 below, which reports points on the two distributions that are easily comparable and the approximate absolute income levels corresponding to them in the two sectors. Perhaps the most interesting aspect of this comparison, however, is the fact that the distribution of income for the nation as a whole is substantially less equal than that in either sector taken by itself. This is also shown in Table 6.[2]

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[1] McLure, op. cit., p. 251; Taylor, op. cit., p. 225; Urrutia, op. cit., p. 24. Further rather comforting confirmation that the approach followed in the present study makes sense can be found in the fact that total incomes of households calculated as described above (103 billion pesos) compares favorably with the 1970 national income accounts figures for national income net of corporate savings and income taxes and government income from property and business, but inclusive of interest on the public debt (98.9 billion pesos); see Cuentas Nacionales: 1967 a 1970 (Bogotá: Banco de la República). p. 4. This difference of 4 billion pesos seems to be well within the margin of error one might expect to encounter when using methods and data as crude as those described above. Alternatively, this total income figure compares favorably with the total income of family units and non-profit organizations, 101.9 billion pesos; op. cit., p. 6. Furthermore, the estimated rural income of 13.6 billion pesos seems quite reasonable in that salaries in agriculture, fishing and hunting, mining and silvieulture, etc. in 1970 totaled 10.9 billion pesos; ibid., p. 12. This seems to leave an ample residual to be accounted for by households receiving income from other activities. Perhaps it should be noted in passing that urban areas are defined as those with more than 1,500 population; see Córdova, Distribución de Ingresos en Colombia, p. 61.

[2] A final comparison that is of interest in some contexts is the international one reported in the table below, though such comparisons are inherently hazardous. (See McLure, op. cit., p. 248 for a short description of the hazards.) We see that the

TABLE 6: Comparison of Urban, Rural, and National Income Distribution

Urban Distribution Cumulative % of		Highest Income Level (Pesos/ Year)	Rural Distribution Cumulative % of		Highest Income Level (Pesos/ Year)	National Distribution Cumulative % of	
House- holds	Income		House- holds	Income		House- holds	Income
45.0	15.1	24,000	45.1	13.2	6,000	--	--
62.5	26.8	N.A.	--	--	--	64.1	22.4
79.3	44.4	60,000	77.0	41.2	12,000	--	--
87.2	57.4	N.A.	--	--	--	87.0	50.2
93.1	70.1	120,000	93.5	70.1	24,000	95.8	74.1

N.A. - Not Applicable.
Source: Tables 2, 3 (estimate 3) and 4.

distribution of income in Colombia is considerably more unequal than that in developed countries and may even be near the extreme for Latin America in terms of income in- equality.

Nation		Year	Percentage of Income Received by the Top 10% of Income Re- cipients
1.	India	1950	43.1
2.	India	1955-56	43.2
3.	Ceylon	1952-53	40.6
4.	Mexico	1950	49.0
5.	Mexico	1957	46.7
6.	Mexico	1957	45.0
7.	El Salvador	1946	43.6
8.	Guatemala	1947-48	43.8
9.	Barbados	1951-52	34.2
10.	Puerto Rico	1953	32.9
11.	Puesto Rico	1946-47	40.8
12.	Argentina	1959	35.8
13.	Chile	1960	37.5
14.	Ecuador	1957	30.0
15.	Venezuela	1957	45.0
16.	Italy	1948	34.0
17.	Great Britain	1951-52	30.2
18.	Great Britain	1955	29.3
19.	West Germany	1950	34.0
20.	Switzerland	1954	27.3
21.	Netherlands	1950	35.0
22.	Denmark	1952	30.7
23.	Sweden	1948	30.3
24.	United States	1950	30.3
25.	Colombia	1953	48.4
26.	Colombia (Taylor)	1961	42.0
27.	Colombia (McLure)	1964	50.0
28.	Colombia	1970	44.0

Source: McLure, op. cit., p. 253, where references to primary sources are given. The 1964 estimate by the present author has been adjusted for what appears to be an arithmetic error in the earlier study (50, rather than 52 percent, as published).

D. Further Adjustments

Up to this point we have been discussing the distribution of income in terms of income reported on various household surveys. We have not (and shall not) question the extent to which the concept of income used in these surveys deviates from what economists mean by income. But even if we accept the survey results at face value, for the purpose at hand we must make several adjustments to them. First, it is necessary to add to the personal incomes derived from survey data the pro-rata shares of corporate savings and unshifted corporation income taxes attributable to Colombian shareholders, on the theory (a) that retained earnings enhance the economic position of shareholders and (b) that dividends and retentions would have been higher by the amount of any corporate taxes borne by shareholders. Second, it is necessary to add to personal incomes the export duties paid on coffee, since these taxes are almost certainly borne by coffee growers who, however, are likely to report income to survey interviewers net of these taxes.[1] These adjustments and their justification are discussed in this section.

Corporation Income Tax. Ideally, in order to make the adjustment for retained earnings, it would be necessary to know both the proper allocation of earnings between Colombian and non-Colombian shareholders and the further allocation of the former portion among income brackets. Since we do not have information on the first allocation, polar assumptions were utilized. That is, retained earnings were allocated alternatively entirely to Colombians and entirely to foreigners. The further allocation of the

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[1] In theory the income reported by surveys should include both employee and employer contributions to social security, though in fact it probably includes no more than the employee share, if that. No attempt was made to correct for this possible source of error. Similarly, for the purpose at hand it would be desirable to be able to include accrued capital gains in the incomes of households. But as a practical matter this is virtually impossible and was not attempted. This means, of course, that the inequality of income will be understated and that the effective tax rates will be overstated at the highest income levels, where capital gains are likely to be especially important.

former portion among Colombians is described further below.

In order to allocate unshifted corporate taxes to Colombian shareholders, we must know three things: the extent to which the tax is shifted to consumers or workers, rather than being borne by shareholders, the allocation of the unshifted portion of the tax between Colombian and foreign shareholders, and the further allocation of the element borne by Colombian shareholders among income brackets. Because we do not know either the true incidence of the corporation income tax or the proper allocation of the unshifted portion of the tax between Colombians and for - eigners, resort was again had to extreme assumptions. Separate estimates were made for three extreme assumptions: (a) that that corporation tax is borne entirely by Colombian shareholders, (b) that it is shifted entirely to Colombian consumers, and (c) that it is borne entirely by non-Colombian shareholders.[1] Estimates for intermediate shifting assumptions and patterns of corporate ownership can be derived simply by interpolation between the results for the polar assumptions. Under assumptions (a) and (b), retained earnings were allocated entirely to Colombian shareholders, but for assumption (c) they were allocated to non-residents.[2] Thus, to summarize, under assumption (c) the distribution of income is as reported in Table 6, under assumption (b), that distribution must be adjusted by the amount of retained earnings, and under assumption (a) adjustment for both retained earnings and the corporation income tax is required.

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[1] The likelihood that a significant portion of the Colombian tax is shifted to non-Colombian consumers is low enough that we can disregard this possibility. Results for an assumption of partial shifting to workers probably would not differ enough from these for shifting to consumers to justify a separate estimate, even if that assumption were thought to be relevant.

[2] Strictly speaking, a fourth estimate combining shifting of the tax to consumers and allocation of retained earnings to foreigners is conceivable. It was not included because the results would not differ qualitatively from those under assumption (b).

In the absence of information on the distribution of dividend income among in-
come brackets, retained earnings and unshifted taxes of corporations were allocated
(where relevant) arbitrarily among urban households with incomes of over 120,000 pesos
per year. In particular, one-half of the total amount was imputed to urban households
with incomes of over 240,000 pesos per year and the remaining half was split evenly
between the two groups with annual incomes between 120,000 and 240,000 pesos.[1] The
urban distribution of income adjusted for corporate-source income allocated to the
top income brackets under the first two sets of assumptions is reported in Table 7.
The adjusted distribution is, of course, somewhat more unequal than the unadjusted one.

Coffee Export Duties. In the absence of export duties on coffee, the incomes of coffee
farmers would be higher by roughly the amount of the tax.[2] It is thus necessary to
adjust the rural income distribution reported in Table 3 by including in the income
figure at each income level the amount taken in the form of coffee export duties. But
such an adjustment makes sense only to the extent that these duties are taxes that
flow into general revenue, rather than simply being returned to the coffee sector.
Again we use polar assumptions. That is, estimates are made based on the alternative
assumptions that virtually all coffee export duties are truly taxes and that none are.
For simplicity, we say alternately that coffee export duties are "included" in the

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[1] Thus, as a percentage of income reported on surveys and in Table 2, this
(potential) corporate source income ranges from 15.7% in the lowest of the three
brackets to 24.7% in the middle bracket and 37.8% in the top bracket, assuming that
the corporate tax is not shifted. If the tax is shifted, the three percentages are
8.0, 13.0. and 19.4. These patterns seem reasonable. None of this corporate-source
income was attributed to the rural sector because in each high income bracket the
great majority of income accrued to urban households. Moreover, it seems likely that
in a given income bracket urban households would be considerably more likely than
rural households to have corporate-source income.

[2] This is strictly partial analysis. No attempt is made to ask what taxes
would need to be higher if these duties were lower or how inflation would redistri-
bute income if no tax were higher and the duties lower.

analysis and that they are "excluded."

Thus we see that the rationale for the adjustment for the coffee export duties is basically the same as that for unshifted corporate income taxes borne by Colombian shareholders. And these duties are included in the part of the next section that deals with direct taxes. But the adjustments for the export duties on coffee are somewhat more complicated than those for the corporation income tax. First, part of the actual amount of such duties is buried in an item entitled, "income in the special exchange account," so that the total amount of taxes on coffee can be determined only through examination of the special exchange account and the bulletins of the National Federation of Coffee Growers. Such an examination reveals that in 1970 taxes totalling 2,821.2 million pesos were levied upon coffee exports.[1]

Second, it was necessary to develop an estimate of the distribution of coffee exports and export duties among the various income brackets. This was done on the basis of data on number of coffee plantings and value of production, by size of plantings.[2] By coincidence, average value of output on coffee plantings in the various size brackets (by hectares devoted to coffee) are such that these size brackets seem to correspond fairly closely to the income brackets used in estimating the rural income distribution

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[1]See Boletín de Información Estadística sobre Café (Federación Nacional de Cafeteras de Colombia, 1970), p. 48. This figure omits the 343.9 million pesos represented by the special certificates of exchange sold to the National Coffee Fund (Fondo Nacional de Café), which are the equivalent of an additional 4% duty on exports. Whether this should be included as part of the tax is open to debate. But so is the inclusion of the retention tax, since it, too, is used to finance the activities of the coffee federation. The portion of the included amount flowing into the special exchange fund, 1376 million pesos, seems roughly consistent with the total of 1265 million pesos appearing in a memorandum on the special exchange account supplied to the author by the central bank. For a further, but brief, discussion of the taxation of coffee, see Richard M. Bird, Taxation and Development: Lessons from the Colombian Experience (Cambridge: Harvard University Press, 1970), pp. 211-18.

[2]Economía Cafetera (Federación Nacional de Cafeteras de Colombia, April 1972), p. 46. Data on fincas dedicated solely to the cultivation of coffee tell essentially the same story: see op. cit. (March 1972), p. 38.

TABLE 7: Distribution of Urban Income, 1970, Adjusted for Unshifted
Corporation Income Tax and Retained Earnings
(Income in Billions of Pesos)

Income Bracket (Pesos/Year)	Income Adjusted for: Retained Earnings Only	Income Adjusted for: Retained Earnings & Corporation Income Tax	Percent of Income Adjusted for: Retained Earnings Only	Percent of Income Adjusted for: Retained Earnings & Corporation Income Tax	Cumulative Percent of Households	Cumulative Percent of Income Adjusted for: Retained Income Only	Cumulative Percent of Income Adjusted for: Retained Earnings & Corporation Income Tax
0 - 6,000	0.20	0.20	0.2	0.2	2.1	0.2	0.2
6,000 - 12,000	2.38	2.38	2.6	2.5	14.7	2.8	2.7
21,000 - 18,000	4.56	4.56	4.9	4.7	29.9	7.7	7.4
18,000 - 24,000	6.39	6.39	6.9	6.6	45.0	14.6	14.0
24,000 - 30,000	5.44	5.44	5.9	5.7	55.0	20.5	19.7
30,000 - 36,000	5.03	5.03	5.4	5.2	62.5	25.9	24.9
36,000 - 48,000	7.91	7.91	8.5	8.2	72.0	34.4	33.1
48,000 - 60,000	7.87	7.87	8.5	8.2	79.3	42.9	41.3
60,000 - 72,000	5.87	5.87	6.3	6.1	83.6	49.2	47.4
72,000 - 84,000	5.76	5.76	6.2	6.0	87.2	55.4	53.4
84,000 - 120,000	12.10	12.10	13.0	12.6	93.1	68.4	66.0
120,000 - 180,000	11.50	12.32	12.4	12.8	96.8	80.8	78.8
180,000 - 240,000	7.36	8.18	7.9	8.5	98.7	88.7	87.3
Over 240,000	10.52	12.14	11.3	12.6	100.0	100.0	99.9
TOTAL	92.89	96.15	100.0	100.0	--	--	--

Source: Table 2 and methodology described in text. Adjustments to income in the top three income classes as shown in Table 2 under the two assumptions were (from the lowest income class): 0.85, 0.85, and 1.71 and 1.67, 1.67 and 3.33, respectively. For assumption of complete foreign ownership of Colombian corporations, distribution is simply as shown in Table 2.

TABLE 8: Allocation of Coffee Export Duties among Rural Income Classes

Size of Coffee Planting (Hectares)	Number of Plantings (000) (1)	Value of Production (mil. pesos) (2)	Aver. Value of Output (Pesos) (3)	Tax Assigned to Income Level (000) (4)	Percentage of Value of Output (5)	Share of Exp. Duties (bil. pesos) (6)
0 - 1	101.6	274.5	2,701	0 - 6	4.3	0.12
1 - 2	72.8	525.5	7,214	6 - 12	8.2	0.23
2 - 4	59.9	890.4	14,865	12 - 24	13.9	0.39
4 - 6	25.5	681.6	26,729	24 - 42	10.7	0.30
6 - 10	21.7	954.6	43,890	42 - 60	15.0	0.42
10 - 16	11.1	821.2	73,982	60 - 90	12.9	0.36
16 - 20	3.4	369.3	109,390	90 - 120	5.8	0.16
20 - 40	4.9	876.4	177,913	120 - 240	13.7	0.39
40 - 100	1.7	698.1	420,289	Over 240	10.9	0.31
Over 100	0.2	296.0	1,119,838	Over 240	4.6	0.13
Total	302.9	6,387.6	--	--	100.0	2.81

Source: Economía Cafetera (Federación Nacional de Cafeteras de Colombia, April 1972), p. 46.

TABLE 9: Distribution of Rural Income, 1970,
Adjusted for Coffee Export Duties
(Income in Billions of Pesos)

Income Bracket (Pesos/Year)	Income Before Adjustment	Coffee Export Duties	Adjusted Income	Percent of Adjusted Income	Cumulative Percent of Households	Cumulative Percent of Adj. Income
0 - 6,000	1.79	0.12	1.91	11.7	45.1	11.7
6,000 - 12,000	3.80	0.23	4.03	24.6	77.0	36.3
12,000 - 24,000	3.92	0.39	4.31	26.3	93.5	62.6
24,000 - 42,000	1.94	0.30	2.24	13.7	98.0	76.3
42,000 - 60,000	0.43	0.42	0.85	5.2	98.6	81.5
60,000 - 90,000	0.53	0.36	0.89	5.4	99.0	86.9
90,000 - 120,000	0.39	0.16	0.55	3.4	99.3	90.3
120,000 - 240,000	0.31	0.39	0.70	4.3	99.4	94.5
Over 240,000	0.37	0.44	0.81	4.9	99.5	199.5
	13.48	2.81	16.29			

Source: Tables 3 and 8.

in Table 3 above. It was assumed that the correspondence was sufficiently close to make the assignments reported in Column (4) of Table 8.[1] Columns (5) and (6) indicate the distribution of value of coffee output and the corresponding distribution of export duties among size (and assumed income) brackets. The adjustment to the Table 3 distribution of rural income for coffee export duties is reported in Table 9.

If no account is taken of the coffee export duties and if, in addition, the corporation income tax and retained earnings are attributed entirely to non-Colombians (assumption (c)), the distribution of income among Colombian households would simply be as reported in Table 4 and repeated in column (1) of Table 10. If the coffee export duties are excluded from the analysis but retained earnings (assumption (b)) or both retained earnings and corporate profits (assumption (a)) are attributed to high income Colombians, the distributions of income would be as reported in Columns (2) and (3) of Table 10, respectively. These distributions are, of course, considerably less equal than the unadjusted distribution. Finally, columns (4)-(6) of Table 10 report the corresponding results assuming the coffee export duties to be properly included in the analysis. These duties are seen to bear most heavily at the top and bottom of the income distribution, but to alter it very little, overall. The distributions reported in part I of Table 10 are those used in calculating effective

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[1] The correspondence is closest at the bottom of the income scale. Then average income falls short of the midpoint of the income bracket. In these cases it can be argued that income from other sources would raise the average income and make the assumption of correspondence reasonable. Than at the highest income levels, average value of coffee begins to run above the midpoint of the income brackets. But this is to be expected. Whereas small coffee plantings are worked primarily by the planter and his family, the larger ones incur substantial amounts of labor costs. But so may their owners have substantial non-coffee incomes. Finally, it is almost certain that not all coffee duties should be attributed to rural households, especially in the highest income classes. This is borne out by the unrealistically high ratios of export duties to income reported on surveys. But no correction was made for this. Suffice it to say that the national distribution and burden figures should be more accurate than either component.

TABLE 10: Distribution of National Household Income, 1970, under Alternative Adjustments for Coffee Export Duties, Retained Earnings, and Corporate Income Tax

I. Household Income (billions of pesos)

| Income Bracket (pesos per year) | From Table 4 (1) | Excluding Coffee Export Duties, but Adjusted for: | | Including Coffee Export Duties and: | | |
		Retained Earnings (2)	Ret. Earn. & Corporate Income Tax (3)	Nothing More (4)	Retained Earnings (5)	Ret. Earn. & Corporate Income Tax (6)
0-6,000	1.99	1.99	1.99	2.11	2.11	2.11
6,000-12,000	6.18	6.18	6.18	6.41	6.41	6.41
12,000-24,000	14.87	14.87	14.87	15.26	15.26	15.26
24,000-60,000	28.63	28.63	28.63	29.35	29.35	29.35
60,000-120,000	24.66	24.66	24.66	25.18	25.18	25.18
120,000-240,000	17.48	19.18	20.82	17.87	19.57	21.21
over 240,000	9.18	10.89	12.51	9.62	11.33	12.95
TOTAL	102.99	106.40	109.66	105.80	109.21	112.97

II. Cumulative Percentage of Household Income

Income Bracket						
0-6,000	1.9	1.9	1.8	2.0	1.9	1.9
6,000-12,000	7.9	7.7	7.5	8.1	7.8	7.6
12,000-24,000	22.4	21.7	21.0	22.5	21.8	21.2
24,000-60,000	50.2	48.6	26.1	50.2	48.7	47.3
60,000-120,000	74.1	71.7	69.6	74.0	71.8	69.3
120,000-240,000	91.1	89.8	88.6	90.9	89.7	88.5
over 240,000	100.0	100.0	100.0	100.0	100.0	100.0

Source: Tables 2, 3, 4, 7, and 9.

tax rates in the next section.

3. The Incidence of Taxation

The next step in the process of calculating the incidence of taxation by income brackets and effective tax rates is to allocate each of the major indirect taxes and

the personal direct taxes and property taxes to the income brackets likely to pay
them and then calculate the percentage of income taken by taxes at various income
levels. The allocation of the direct taxes is described in the first subsection
and those for the indirect taxes in the second subsection. The results are brought
together and summarized in the final subsection.

A. Direct Taxes

1. Personal income tax. The primary problem in this subsection is the allo-
cation of the personal income tax among income brackets.[1] This and the complementary
personal taxes were allocated to income classes on the basis of unpublished tax-return
data for 1967 supplied by the Ministry of Finance (Hacienda), adjusted roughly to
bring them to 1970 levels.

Personal income tax collections in each income bracket were calculated on the
basis of partial tabulations of income tax returns for 1967. Data on 805,547 machine-
processed returns for the entire country (split into three groups: Bogotá, Medellín
and the rest of the country) and on 8,515 hand-processed returns for Bogotá had been
tabulated by the Ministry of Finance. On the other hand, data on 10,537 hand-processed
returns for Cali and Medellín and on about 50,000 hand-processed returns for the re-
mainder of the country had not been tabulated. Thus it was necessary to estimate
the amounts appearing on the untabulated hand-processed returns. This was done by
assuming that the 10,537 hand-processed returns for Cali and Medellín resembled the
8,515 hand-processed returns for Bogotá and that the 50,000 hand-processed returns for
the rest of the country (i.e., excluding Bogotá, Cali and Medellín) resembled the
450,731 machine-processed returns for the portion of the country other than Bogotá

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[1]As in the author's earlier study, social security taxes were not allocated
among income brackets because the Colombian social security system resembles more
nearly private insurance than a general tax-transfer operation.

and Medellín.[1] Thus the figures for number of taxpayers, net income, and total tax liability in each net income bracket on hand-processed Bogotá returns were multiplied by 1.237 (the ratio of 10,537 to 8,515) in order to estimate the corresponding figures for hand-processed returns in Cali and Medellín. Similarly, the equivalent figures for machine-processed returns for the rest of the country were multiplied by .11093 (the ratio of 50,000 to 450,731) to estimate the corresponding figures for hand-processed returns in the rest of the country. Adding the figures estimated this way to those for the hand-processed returns for Bogotá and the machine-processed returns for the entire nation gives an estimate of the number of taxpayers, net income, and total tax liability, by net income brackets, for the entire taxpaying population. These are reported in the first three columns of Table 11.

The data from income tax returns described thus far are for the net income of individual taxpayers in 1967, and thus cannot easily be matched with those from the household survey, which reports the distribution of personal income among families

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[1] Whereas the hand-processed returns in the large cities are likely to pertain to high-income individuals, and therefore to be quite different from the more numerous machine-processed returns, those in the rest of the country are more likely to resemble the machine-processed returns in the same areas. One slight discrepancy results from treating hand-processed returns for Cali like the hand-processed returns for Bogotá and the hand-processed returns for the part of the country excluding Bogotá, Cali and Medellín like the machine-processed returns for the part of the country excluding only Bogotá and Medellín, since the machine-processed returns for Cali are included among returns for the "rest of the country." The method followed and described in the text seemed preferable, however, to treating the hand-processed returns for Cali like the machine-processed returns for the rest of the country. Cali would seem to resemble Bogotá more than it does the rest of the country, and allocating the hand-processed returns for the rest of the country, excluding Cali, on the basis of data for returns for the rest of the country, including Cali, would allow a slight correction for the possibility that even in those regions hand-processed returns tend to pertain to high income taxpayers.

It is worth noting that even this slightly suspect approach is vastly superior to the extremely rough methodology followed in the present author's earlier study, McLure, op. cit., pp. 240-42. Because of the absence of tabulations of income tax returns except for Bogotá, it was necessary in that study to assume the pattern of tax returns for Bogotá to be representative of that for the entire nation, despite the obvious shortcomings of this assumption.

TABLE 11: Distribution of Number of Taxpayers, Net Income,
and Total Tax Liability, by Net Income Brackets, 1967
(Number of taxpayers in thousands; income and tax figures in millions of pesos)

Net Income Bracket (Pesos per Year)	Basic Data			Adjusted for Ceding of Income		
	Number of Taxpayers (1)	Net Income (2)	Total Tax Liability (3)	Number of Taxpayers (4)	Net Income (5)	Total Tax Liability (6)
Negative - 2,000	119.3	5.0	35.0	117.9	2.6	18.7
2,000 - 4,000	24.2	81.2	2.9	19.3	60.2	2.1
4,000 - 6,000	43.2	222.7	5.1	36.5	177.7	4.1
6,000 - 8,000	51.0	364.4	7.9	44.8	313.9	6.8
8,000 - 10,000	63.5	580.8	11.0	56.6	514.0	9.7
10,000 - 15,000	171.1	2,147.2	41.2	158.8	2,041.1	39.2
15,000 - 20,000	127.5	2,216.7	60.7	117.1	2,122.9	58.1
20,000 - 40,000	185.2	5,079.2	286.3	159.4	4,926.4	277.7
40,000 - 60,000	41.5	2,011.1	229.2	36.0	2,191.3	240.6
60,000 - 80,000	17.5	1,207.3	192.8	14.9	1,318.4	199.8
80,000 - 100,000	9.4	842.9	165.6	7.9	925.5	170.8
100,000 - 150,000	10.3	1,246.1	304.1	8.6	1,329.3	309.4
150,000 - 200,000	4.2	731.8	219.1	3.6	765.6	221.2
200,000 - 400,000	4.9	1,320.6	444.1	4.0	1,360.5	446.6
400,000 - 600,000	1.1	544.4	203.5	0.9	553.4	204.1
600,000 - 1,000,000	0.7	502.5	197.7	0.6	507.1	198.0
1,000,000 - 2,000,000	0.3	459.9	182.9	0.3	461.6	183.0
Over 2,000,000	0.1	326.4	135.2	0.1	327.5	135.3
Total	874.6	19,889.1	2,724.3	786.9	19,902.84	2,724.3

*Less than 0.05
Source: Unpublished information on liquidation of tax returns provided by the
Ministry of Finance. Adjustment for ceding of income is described in appendix A.

in 1970. Several adjustments were made to render the two series commensurable.
First, it was necessary to attempt to aggregate the incomes of individuals in the
same family who filed separate tax returns, given the widespread practice of "ceding"
income to one's spouse for tax purposes. There is no generally satisfactory way of
doing this, but a rough approximation was made. The results of this adjustment for
the ceding of income are also presented in Table 11. But details of the methodology
followed are confined to a separate appendix A. Overall, the adjustment for the
ceding of income makes relatively little difference, except at the very lowest in-
come level, despite the fact that over 10 percent of all taxpaying units and about
6 percent of all income estimated to be reported for tax purposes were involved. The
problem is, of course, that the adjustment for ceding alone does not fully convert
the distribution of individual income for tax purposes (and tax liabilities) to a
family basis. This is most easily seen by noting that the adjustment made throws
the average income in the upper middle income brackets outside the bracket limits.
The ideal solution would, of course, be to allocate the entire income of wives and
husbands together to higher income brackets. However, such an adjustment was not
attempted. It is hoped that the problem is not too significant, since most of the
problem arises in the high income brackets that should be aggregated in any case.

A second kind of adjustment that must be made to the basic figures in Table 11
is necessary to allow for growth and inflation. Fairly simple procedures were fol-
lowed in the adjustments. First, the bracket limits in Table 11 were multiplied by
1.49, the ratio of national income per capita in 1970 to that in 1967, in order to
allow for inflation and growth in average productivity. Second, the 1967 figures
for tax liabilities in each income bracket (adjusted as described above) were ad-
justed upward by a uniform fraction in order to equate the total with the national

income accounts figures for direct taxes imposed on families in 1970.[1] Taxes, thus adjusted, were then allocated among urban households by income brackets, producing the results shown in Table 12.[2] Before proceeding to discuss those results it is worthwhile to note that income taxes were allocated solely among urban households, in accord with the conventional wisdom that they are collected only (or primarily) in urban areas. This generalization probably does not fall wide of the mark by enough to cast much doubt on the validity of the results, especially if we recognize that the great majority of those receiving large agricultural incomes will be included in the urban sector for present purposes.

With but three exceptions, the results reported in Table 12 seem reasonable enough. As a percentage of household income in urban areas the personal income tax

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[1] It might seem natural to adjust the liability figures upward by the ratio of national income in 1970 to that in 1967 or by the ratio of personal tax collections in 1970 to those in 1967. But such an approach would lead to far too great an adjustment, since the total estimate for tax liabilities reported in Table 11 far exceeds the amount actually collected in 1967, and indeed falls short of 1970 collections by less than 10 percent. The problem is of course, (1) that tax collections do in fact fall far short of liabilities in a given year and (2) that the estimating procedure used in constructing Table 11 may give erroneous results. The uniform adjustment of the figures in Table 11 is based on ignorance as to the way in which underpayment (or deferred payment) of taxes and errors in the estimates are spread across income brackets. One might expect, however, that persons with salaries subject to withholding will be able to underpay recognized liabilities by far less than those with proprietary and capital income. No attempt was made to adjust for this.

[2] In several cases the adjusted income brackets corresponded sufficiently closely to those in the income distribution tables to allow them to be used directly. These are marked by an asterisk (*) in Table 12. But where the bracket limits did not match closely, or where one or more brackets from Table 11 covered more than one bracket in Table 12, interpolation was necessary. Tax liabilities reported in Table 11 were split between brackets on the basis of amounts of income in the component brackets, as reported in Table 2, weighted by the effective tax rates paid on net income, calculated from the data in Table 11. In several cases it was necessary to interpolate between the calculated effective tax rates. Implicit in this approach is the assumption that exemptions, evasion, etc. constitute the same fraction of income in each income bracket, though they clearly do not.

TABLE 12: Calculation of Tax Liabilities and Effective Rates
Under the Personal Income Tax, 1970
(Liabilities in Millions of Pesos)

Net Income Bracket (Pesos per Year)	Estimated Personal Income Tax Payments	Effective Tax Rate: Urban Households	No. of Taxpayers as Percentage of No. of Households***	Effective Tax Rate: All Households: Coffee Tax Included	Excluded
0- 6,000*	22.4*	11.2*	330	-*	-*
6,000- 12,000*	11.7	.5	33	.2	.2
12,000- 18,000	21.9	.5	36	.3	.4
18,000- 24,000 —	30.6	.5	36		
24,000- 30,000*	62.4	1.2*	59	1.2	1.3
30,000- 36,000	47.0	.9	33		
36,000- 48,000	103.4	1.3	33		
48,000- 60,000	148.0	1.9	33		
60,000- 72,000	84.9	1.5	19	1.9	1.9
72,000- 84,000	108.3	1.9	18		
84,000-120,000	279.9	2.3	19		
120,000-180,000: a**	291.3	2.4	15	2.4	2.5
b	291.3	2.5	15	2.6	2.7
c	291.3	2.7	15	2.9	3.0
180,000-240,000: a**	224.6	2.7	15		
b	224.6	3.1	15		
c	224.6	3.5	15		
Over 240,000 : a**	1491.1	12.3*	39	11.5	11.9
b	1491.1	14.2*	39	13.2	13.7
c	1491.1	16.9*	39	15.5	16.2
Total : a**	2927.5	3.0	40	2.6	2.7
b	2927.5	3.2	40	2.7	2.8
c	2927.5	3.3	40	2.8	2.8
Over 120,000 : a**	2007.0	6.2	19	5.9	6.0
b	2007.0	6.8	19	6.5	6.7
c	2007.0	7.7	19	7.3	7.5

*Indicates probable overestimates. In calculating the rate in column 4 and in what follows an effective rate of only 0.2 percent is used in the lowest income bracket. The top three brackets can be combined, as in the appended bottom three lines to get a better picture of the effective rate at the top of the income scale. No correction was made for the small overstatement of the effective rate in the 24-36,000 peso bracket or for the possible understatement in the 60-72,000 peso bracket.

**The three sets of estimates in the highest income brackets reflect different assumptions about the incidence of the corporation income tax, and therefore about income in the absence of taxes, as explained in the text. Assumption a: borne by Colombian shareholders; assumption b: borne by Colombian consumers, but retained earnings attributable to Colombian shareholders; assumption c: borne by foreign shareholders, who are also attributed to benefit from retentions.

***Included as a check on the likelihood that column (2) figures are reasonable. Calculated where bracket limits do not coincide approximately by allocating taxpayers between brackets in the same proportion as number of households.

Source: Tables 2, 7, and 11, using methodology described in the text.

rises fairly smoothly from one half of one percent in the lowest income brackets to 2 1/2 or 3 percent in the 120-240 thousand peso brackets and to 12-17 percent in the very highest bracket, depending upon the assumption one adopts about the incidence of the corporation income tax. The exceptions are as follows. First, the liabilities in the lowest income bracket are surely vastly overstated. This is easily seen not only from the extraordinarily high percentage tax is of income, but by the fact that in this bracket the estimated number of taxpayers (122 thousand) is 330 percent as great as the estimated number of urban households. Many of these taxpayers are undoubtedly in higher income brackets, but for tax purposes are in this lowest bracket because of exemptions, avoidance, evasion, etc. Thus in what follows, an effective rate of tax in this bracket of 0.2, rather than the 11.2 reported in Table 12, is used. But no effort is made to allocate the remaining 20 million pesos to other income brackets.

Second, for some reason liabilities in the 24-30 thousand peso bracket bear a relation to income that violates common sense, in that there is a sudden jump in the effective tax rate in this bracket, and then a slight subsequent fall. Probably liabilities are overstated by roughly two-thirds, that is, they should probably be only about 37 million pesos, rather than 62 million pesos, and the effective tax rate on urban households should probably be only about .70 percent. This is suggested by the fact that the number of taxpayers in this income bracket is 59 percent of the number of households, while in the five brackets surrounding it the corresponding percentages are 33-36. No effort is made to correct for this likely overstatement.

Third, it is possible, but difficult to know, that the effective tax rate in the very highest income bracket is overestimated, especially relative to the two immediately lower brackets.[1] Thus it may be more instructive to combine those three

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[1] Again this is suggested by the sudden rise in the estimated number of

brackets than to leave them as they are in Table 12. If this is done, the effective rate of personal income taxation in the combined open-ended bracket is in the range of 6.2 to 7.7 percent, depending upon the assumption one makes about the incidence of the corporation income tax. Again, no correction is made at this point, though this possible source of error is mentioned again later.

The discussion thus far has concerned only effective rates of personal income tax on urban households. Inclusion of rural households, who are assumed to pay negligible amounts of personal income taxes, results in the effective tax pattern on all households shown in the last two columns of Table 12. Since rural households have relatively low income levels, the rise in effective rates is continuous and smoother than was that for urban households only. As before, however, the rate in the income class of over 240,000 pesos per year is probably overstated and it is worthwhile to calculate the effective rate for households in the country with over 120,000 pesos per year in income. This rate falls in the range of 6 to 7 1/2 percent, depending upon the assumption of the incidence of the corporation income tax and upon whether the coffee export duties are treated as taxes, and therefore as foregone household income, or as an expense of earning income in the coffee sector (see subsection 3 below). In any event, it does appear that the personal income tax imparts an important element of progressivity to the Colombian tax system.[1]

2. Corporation Taxes. This subsection describes the role played by various assumptions about the incidence of the corporation income tax and the effective burden of taxation imposed upon households at various income levels under the various

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taxpayers as a percentage of the estimated number of households in various income brackets. The combined income bracket of over 120,000 pesos annually shows no such abrupt rise.

[1]This result is roughly consistent with the author's previous study, and with the Taylor study, though it shows (perhaps incorrectly) greater income tax payments at low income levels than do either of the earlier studies.

incidence assumptions. As noted above, three assumptions about the incidence of the corporation tax were employed in this study: A, that it is borne by upper income Colombian shareholders; B, that it is shifted to Colombian consumers; and C, that it is borne by foreign shareholders. In the first two cases retained earnings were also attributed to upper income Colombians in the last they were attributed to foreign owners. (It did not seem worthwhile to carry out the exercise under the assumption that the tax is shifted to consumers but retained earnings accrue to foreigners, since the results would be changed fairly little from those for assumption B by the adoption of this assumption about retentions.)

The allocation of the corporate income tax among households on the assumption that the tax is borne by Colombian shareholders has already been described in Section II. Allocations of the tax to upper income households increases the hypothetical income of households to above what is reported in surveys by the amount of the tax, on the assumption that an amount equal to the tax would have been available to these households in the absence of the tax.[1] On the same assumption, retained earnings were attributed to Colombian shareholders. If the tax is shifted to consumers, then the economic income of Colombian households exceeds what surveys suggest by only the amount of retained earnings, (but only if retained earnings can realistically be attributed to Colombians). Finally, if Colombian corporations were owned entirely by non-Colombians, one would not need to augment the survey data on income because of the corporation tax, regardless of the incidence of the tax, though he might wish to do so for other reasons.

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[1]This is not the place to discuss the time-honored (and somewhat threadbare) issue of whether in fact private incomes would have been higher by the amount of the tax, whether expenditures would have been foregone in the absence of the tax, etc. Suffice it to say that this is the usual approach in studies of this kind.

The upshot of this discussion is that the assumption one makes about the incidence of the corporation income tax affects the calculation of effective tax rates in the various income brackets in two ways. Most obviously, the total tax burden on a given income group depends upon whether the corporate tax is paid by Colombian shareholders, by Colombian consumers, or by foreign shareholders. Less obviously, and also less crucially, the denominator in the calculation of effective tax rates depends upon the incidence assumption in the ways described in the previous paragraph.

Having said this, we can turn directly to the effective tax rate estimates, which are reported in Table 13. For assumption A, the effective rates in the highest three urban income classes are roughly 6 2/3, 10 and 13 1/3. By assumption this tax has but little incidence on rural households, and so is neglected in the calculation of effective tax rates on rural households. But total rural incomes in the highest income brackets are also small relative to total urban incomes in the same brackets, so the effective tax rates for the country as a whole in the top two brackets (where the second and third brackets from the top in the urban distribution are combined) are 7.7-7.9 and 12.5-13.0, the exact point within these ranges depending upon whether the coffee export duties are treated as a potential part of household income or simply a cost of earning income in the coffee sector. (See the next subsection for a more detailed discussion of this issue.) Thus if in fact the corporation tax is borne by Colombian shareholders, it contributes importantly to the progressivity of the Colombian tax system.

If, on the other hand, the tax is shifted to consumers, it is probably borne more or less in proportion to income, as suggested in columns 2, 4, 6, and 8 of Table 13. The estimates reported there reflect the assumption that a shifted corporation

TABLE 13: Estimated Effective Tax Rates for the Corporation Income Tax under Two Incidence Assumptions*, 1970

Income Brackets (Pesos per year)	Effective Tax Rates: Urban Households		Effective Tax Rate: Rural Households, B: Coffee Export Duties		Effective Tax Rates: All Households Coffee Duties Included		Coffee Duties Excluded	
	A (1)	B (2)	Included (3)	Excluded (4)	A (5)	B (6)	A (7)	B (8)
0- 6,000	-	4.4	4.2	4.5	-	4.2	-	4.5
6,000- 12,000	-	2.7	2.6	2.7	-	2.6	-	2.7
12,000- 18,000	-	2.9	2.8	3.1	-	3.0	-	3.1
18,000- 24,000	-	3.2			-		-	
24,000- 30,000	-	3.1	2.5	3.2	-	3.1	-	3.2
30,000- 36,000	-	3.4			-		-	
36,000- 48,000	-	3.3			-		-	
48,000- 60,000	-	3.1	1.9	2.9	-	2.9	-	2.9
60,000- 72,000	-	2.8			-		-	
72,000- 84,000	-	2.8			-		-	
84,000-120,000	-	3.0			-		-	
120,000-180,000	6.7	2.9	1.5	3.4	7.7	3.0	7.9	3.0
180,000-240,000	10.0	3.3			12.5	2.8	13.0	2.9
Over 240,000	13.3	2.9	1.6	3.4	2.9	3.0	3.0	3.1
TOTAL	3.4	3.0	2.6	3.2				

*Assumptions A and B are as described in the text and Table 12. Assumption C involves complete exporting of the tax to non-Colombians.

Source: Tables 7 and 8.

tax would be borne roughly in proportion to non-food expenditures, which tend to take a fairly uniform fraction of income at all income levels.[1] Finally, if the corporation income tax is exported entirely to foreigners (which would perhaps be its most important attribute), it would be proportionate in the formal sense of adding to neither progressivity nor regressivity.

3. Coffee Export Duties. If coffee export duties simply went into general revenue, it would be reasonable to treat them as any other tax--except that we would want to treat them as a potential addition to household income, as we have done in Table 9 above. If, on the other hand, they simply go to finance activities of the coffee sector that might otherwise be financed privately by the constituents of the coffee sector, they could reasonably be ignored in a study such as this. Though truth probably lies somewhere between these two extremes, in this study estimates are made based on the two extreme assumptions. That is, for both the rural sector and the nation as a whole alternative estimates are presented, based on the competing assumptions (a) that the coffee export duties are simply like any other tax and should be included in the analysis and (b) that they really are not taxes at all, and therefore should be excluded.[2]

Table 14 reports the effective tax rates for the rural sector and for the nation as a whole implied in the allocation of export duties among income brackets in Table 8. It can readily be seen that according to these estimates the coffee duties

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[1] The derivation of the estimated distribution of non-food expenditures among income brackets is described in more detail in section B below, which discusses the estimation of the incidence of indirect taxes, which a shifted corporation tax resembles in its incidence. The generalization that a shifted tax is roughly proportionate to income is not quite valid in all cases, as column (3) of Table 13 reveals. This result occurs because non-food consumption is roughly proportionate to rural income actually received by households, but not to rural income inclusive of the coffee export duties.

[2] Time would not allow in-depth research of this question, but truth seems to lie nearer the latter interpretation; see also Richard M. Bird, loc. cit.

TABLE 14: Effective Tax Rates Imposed by
Coffee Export Duties, 1970

Net Income Bracket (Pesos per year)	Effective Tax Rate Implied by Coffee Export Duties	
	Rural Households	All Households
0- 6,000	6.3	5.7
6,000- 12,000	5.7	3.6
12,000- 24,000	9.1	2.6
24,000- 60,000	23.3	2.5
60,000-120,000	36.1	2.1
120,000-240,000 : a*	55.7	1.8
b	55.7	2.0
c	55.7	2.2
Over 240,000 : a*	59.3	3.4
b	59.3	3.9
c	59.3	4.6
Total : a*	17.3	2.5
b	17.3	2.6
c	17.3	2.7

*Assumptions A, B and C pertain to the incidence of the corporation
income tax, and are as described in the text and Table 12.
Source: Tables 7, 8, and 9.

constitute a strongly progressive element of taxation within the rural sector, but

for the nation as a whole they are regressive, except at the very highest income

level.[1] Moreover, they take a very sizeable part of total rural income, even where

that income is defined to include the export duties themselves. As discussed further

below, this explains the appearance of substantially higher effective tax rates in

the rural sector than in the urban sector. Of course, if the export duties, or even

a large fraction of them, should not be considered as being on an equal footing with

other taxes, this phenomenon does not appear.

4. Property Taxes. Thus far in this section we have discussed only direct taxes

levied at the national level. There are, however, important direct taxes at the

municipal level in Colombia. There are the two property taxes, the predial and the

valorización levy. In line with recent developments in incidence theory, these taxes

are treated as being borne by the owners of the taxed property.[1]

The household budget survey data upon which the estimate of the distribution of

income is based also includes information on household payments of the predial and the

valorization levy. The figures for each of the seven cities were expanded in exactly

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[1]This pattern, which is quite smooth and consistent across income brackets, would appear to be more reasonable than the erratic pattern reported in the author's earlier work on the subject; see McLure, op. cit., p. 259.

[2]See Peter Mieszkowski, "The Property Tax: an Excise Tax or a Profits Tax?" Journal of Public Economics, 1972, pp. 73-96. Time and space do not allow digression into the many qualifications that must be thrown up to protect the rather bald statement in the text. It should be noted, however, that this assumption differs from that in the author's earlier study, in which it was assumed that two-thirds of property taxes were shifted to consumers of non-food items; see McLure, op. cit., p. 254.

A further question is whether the valorization levy should even be treated as a tax, since it is intended quite explicitly to be a benefit-related charge. For simplicity and comprehensiveness, the levy is included in the analysis, as are gasoline taxes, which also have a certain element of benefit rationale. Those who object to this treatment can easily enough subtract these taxes out and omit them, as has been done for social security payroll taxes.

the same fashion as were those for numbers of households and for incomes in order to
derive an estimate of the distribution and amount of total payments of these taxes by
urban households. Then it was assumed that as a fraction of income rural households
pay exactly one half as much predial as urban households, and that rural households
pay no valorization levies, as this is an essentially urban tax.[1] The residual was
assumed to be levied upon commercial and industrial property and was split among the
income brackets above 120,000 per year in the same manner as the corporation income
tax and retained earnings. This procedure resulted in the estimated patterns of tax
burdens and effective rates reported in Table 15.[2]

The property taxes are quite insignificant, as a percentage of income, for both
urban and rural households, in the lowest income brackets. Only in income brackets
of above 120,000 pesos per year, which are assumed to bear the burden of the roughly
60 percent of the taxes assigned to commercial and industrial capital, are the bur-
dens really significant, rising to 1.0 to 2.5 percent of income. And even then, the
burdens are (by assumption) this heavy only on urban households.

5. Summary. The burden of direct taxes in Colombia (including the coffee export
duties, if applicable, but excluding the municipal automobile license taxes) can be
summarized as in Tables 16-18, which give effective tax rates at various income levels
for the urban and rural sectors and for the entire nation under a variety of assump-

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[1] Any error in these assumptions will be quite unimportant, as only 7.5 million
pesos or less than 0.1 percent of rural income is involved under the assumption actually
employed.

[2] The latest data available on tax collections, from a special tabulation of
Estadísticas Fiscales by DANE, was for 1969. These figures, rather than budgetary
projections for 1970, were employed in the present study. The sum of 1969 collections
of municipal direct taxes was allocated among the predial, the valorization levy,
circulación y tránsito, and other direct taxes in the same proportion as 1967 collect-
ions, as reported in Ministerio de Hacienda y Crédito Público, Boletín de la Dirección
General del Presupuesto: Año 1970, p. 433. The tax on "circulation and transit" was
treated as an indirect tax in the way described in the section below.

TABLE 15: Estimated Tax Burdens and Effective Tax Rates for the
Predial and Valorization Levies, 1969

Income Bracket (Pesos per year)	Property Tax Burdens (millions of Pesos)			Effective Tax Rates				
				Urban:	Rural: Coffee Duties		All Households Coffee Duties	
	Urban	Rural	Total		Included	Excluded	Included	Excluded
0- 6,000	.2	.9	1.1	.1	.1	.1	.1	.1
6,000- 12,000	2.9	1.9	4.8	.1	.1	.1	.1	.1
12,000- 18,000	6.0	1.6	16.0	.1	*	*	.1	.1
18,000- 24,000	8.4			.1				
24,000- 30,000	9.5	1.7	59.3	.1	.1	.1	.2	.2
30,000- 36,000	7.7			.2				
36,000- 48,000	18.8			.4				
48,000- 60,000	11.6			.2				
60,000- 72,000	8.8	.7	69.9	.2	.1	.1	.3	.3
72,000- 84,000	18.2			.3				
84,000-120,000	42.2			.4				
120,000-180,000: A	121.8	.2	239.7	1.0	*	.1	1.1	1.2
B	121.8	.2	239.7	1.1	*	.1	1.2	1.3
C	121.8	.2	239.7	1.2	*	.1	1.3	1.4
180,000-240,000: A	114.7			1.4				
B	114.7			1.6				
C	114.7			1.8				
Over 240,000 : A	236.9	.5	237.4	2.0	.1	.1	1.8	1.9
B	236.9	.5	237.4	2.3	.1	.1	2.1	2.2
C	236.9	.5	237.4	2.7	.1	.1	2.5	2.6
Total : A	622.2	7.5	629.6	.6	.1	.1	.6	.6
B	622.2	7.5	629.6	.7	.1	.1	.6	.6
C	622.2	7.5	629.6	.7	.1	.1	.6	.6

*Less than .05 percent.

Source: Special tabulation of Estadísticas Fiscales provided by DANE and Ministerio de Hacienda y Crédito Público, Boletín de Dirección General del Presupuesto: Año 1970, p. 433, using methodology described in text.

tions about the incidence of the corporation income tax and inclusion of the coffee export duties. The effective rates borne by urban families are progressive because each of the direct taxes is progressive--at least if the corporation income tax is borne by Colombian shareholders. On the other hand, the effective rates borne by rural households are progressive only if it is assumed that the coffee export duties should be included in the analysis. By the same token, the rural sector is subjected to only minor direct taxes if the coffee export duties are excluded from the analysis, the main burden arising if the corporation income tax is shifted to consumers. But if the coffee duties are included, the rural sector pays a high effective rate of direct tax indeed--roughly 20 percent, compared to about 7 percent in the urban sector (assuming the corporation tax not to be shifted entirely to foreigners). Finally, the effective rate pattern for all households is generally progressive, due to the progressivity of the personal income tax. Just how progressive depends, of course, upon whether it is assumed that the corporation income tax is borne by Colombian shareholders, consumers, or foreigners, and whether or not the coffee export duties are included in the analysis.

B. Indirect Taxes

Ideally indirect taxes collected in Colombia in 1970 would be allocated among income brackets in accord with consumption patterns reported in the household budget survey. There are, however, several obstacles to such an approach. First, actual tax collections are reported only through 1969; figures for 1970 relate only to initial budget estimates. Faced with the choice of using either the actual 1969 figures or budgetary estimates for 1970, the former was chosen, even though the income distribution figures being used are for 1970. Second, these data for 1969 are reported in considerably less detail than are those for actual collections through 1967 or budgetary projections. Thus it was necessary in some cases to use patterns from the

TABLE 16: Summary of Effective Rates of Direct Taxes, Urban Sector

Income Bracket (Pesos per year)	Personal Income Tax	Corporation Income Tax		Property Taxes	Total	
		A	B		A,C	B
0- 6,000	.2	-	4.4	.1	.3	4.7
6,000- 12,000	.5	-	2.7	.1	.6	3.3
12,000- 18,000	.5	-	2.9	.1	.6	3.6
18,000- 24,000	.5	-	3.2	.1	.6	3.8
24,000- 30,000	1.2	-	3.1	.1	1.2	4.3
30,000- 36,000	.9	-	3.4	.2	1.1	4.4
36,000- 48,000	1.3	-	3.3	.4	1.7	4.7
48,000- 60,000	1.9	-	3.1	.2	2.1	5.3
60,000- 72,000	1.5	-	2.8	.2	1.6	4.4
72,000- 84,000	1.9	-	2.8	.3	2.2	5.0
84,000-120,000	2.3	-	3.0	.4	2.7	5.7
120,000-180,000 : A	2.4	6.7	*	1.0	10.0	*
B	2.5	*	2.9	1.1	*	6.4
C	2.7	*	*	1.2	3.9	*
180,000-240,000 : A	2.7	10.0	*	1.4	14.2	*
B	3.1	*	3.3	1.6	*	7.9
C	3.5	*	*	1.8	5.2	*
Over 240,000 : A	12.3	13.3	*	2.0	27.6	*
B	19.2	*	2.9	2.3	*	19.4
C	16.9	*	*	2.7	19.6	*
Total : A	3.0	3.4	*	.6	6.9	*
B	3.2	*	3.0	.6	*	6.9
C	3.3	*	*	.7	4.0	*
Over 120,000 : A	6.2	10.0	*	1.5	17.6	*
B	6.8	*	3.0	1.6	*	11.4
C	7.7	*	*	1.8	9.6	*

*Not applicable.
Source: Tables 12, 13 and 15.

TABLE 17: Summary of Effective Rates of Direct Taxation,
Rural Sector

Income Bracket (Pesos per year)	Corp. Income Tax: B	Property Taxes	Coffee Export Duty	Total A,C	B
		Coffee Export Duties Included			
0- 6,000	4.2	.1	6.3	6.3	10.6
6,000- 12,000	2.6	.1	5.7	5.8	8.3
12,000- 24,000	2.8	*	9.1	9.1	11.9
24,000- 60,000	2.5	.1	23.3	23.4	25.8
60,000-120,000	1.9	.1	36.1	36.2	38.0
120,000-240,000	1.5	*	55.7	55.8	57.2
Over 240,000	1.6	.1	54.3	54.4	55.9
Total	2.6	.1	17.3	17.3	19.9
		Coffee Export Duties Excluded			
0- 6,000	4.5	.1	**	.1	4.6
6,000- 12,000	2.7	.1	**	.1	2.8
12,000- 24,000	3.1	*	**	*	3.1
24,000- 60,000	3.2	.1	**	.1	3.3
60,000-120,000	2.9	.1	**	.1	3.0
120,000-240,000	3.4	.1	**	.1	3.4
Over 240,000	3.4	.1	**	.1	3.6
Total	3.2	.1	**	.1	3.3

*Less than .05 percent.
**Not applicable.

TABLE 18: Summary of Effective Rates of Direct Taxes, All Households

Income Bracket (Pesos per year)	Personal Income Tax	Corporation Income Tax		Property Taxes	Coffee Export Duties	Total	
		A,C	B			A,C	B
Coffee Export Duties Included							
0- 6,000	**	-	4.2	.1	5.7	5.7	10.0
6,000- 12,000	.2	-	2.6	.1	3.6	3.8	6.5
12,000- 24,000	.3	-	3.0	.1	2.6	3.0	6.0
24,000- 60,000	1.2	-	3.1	.2	2.5	3.9	7.0
60,000-120,000	1.9	-	2.9	.3	2.1	4.2	7.1
120,000-240,000: A	2.4	7.7	3.0	1.1	1.8	13.1	*
B	2.6	*	*	1.2	2.0	*	8.8
C	2.9	*	*	1.3	2.2	6.4	*
Over 240,000 : A	11.5	12.5	*	1.8	3.4	29.3	*
B	13.2	*	2.8	2.1	3.9	*	21.9
C	15.5	*	*	2.5	4.6	22.5	*
Total : A	2.6	2.9	*	.6	2.5	8.6	*
B	2.7	*	3.0	.6	2.6	*	8.8
C	2.8	*	*	.6	2.7	6.0	*
Over 120,000 : A	5.9	9.5	*	1.4	2.4	19.2	*
B	6.5	*	2.9	1.5	2.7	*	13.6
C	7.3	*	*	1.7	3.0	12.1	*
Coffee Export Duties Excluded							
0- 6,000	**	-	4.5	.1	*	.1	4.6
6,000- 12,000	.2	-	2.7	.1	*	.3	3.0
12,000- 24,000	.4	-	3.1	.1	*	.5	3.5
24,000- 60,000	1.3	-	3.2	.2	*	1.5	4.7
60,000-120,000	1.9	-	2.9	.3	*	2.2	5.1
120,000-240,000: A	2.5	7.9	*	1.2	*	11.5	*
B	2.7	*	3.0	1.3	*	*	7.0
C	3.0	*	*	1.4	*	4.3	*
Over 240,000 : A	11.9	13.0	*	1.9	*	26.7	*
B	13.7	*	2.9	2.2	*	*	18.8
C	16.2	*	*	2.6	*	18.8	*
Total : A	2.7	3.0	*	.6	*	6.2	*
B	2.8	*	3.1	.6	*	*	6.4
C	2.8	*	*	.6	*	3.5	*
Over 120,000 : A	6.0	9.8	*	1.4	*	17.2	*
B	6.7	*	3.0	1.6	*	*	11.2
C	7.5	*	*	1.8	*	9.3	*

*Not applicable.
**Less than .05 percent.
Source: Tables 12, 13, 14, and 15.

1970 budget data to allocate indirect taxes within broad categories.[1] This is ex-
plained further below. Finally, the coffee export duties discussed in section 2D
above were treated as direct taxes for purposes of this exercise and the amount of
the petroleum subsidy was subtracted from the amount of national taxes collected on
gasoline. On the other hand, the automotive registration taxes were treated as in-
direct taxes, as noted above.

1. Allocation. Table 19 below reports the amounts of national, departmental
(including national territories), and municipal taxes of various kinds to be allo-
cated among income groups and the basis of the allocations. These allocations are
described further here. The consumption patterns on which they are based are sum-
marized in appendix Tables B-1 and B-2.

a. Gasoline taxes, net of the subsidy implicit in the differential petroleum
exchange rate, were allocated on the basis of estimated use of motor fuel.[2] Ac-
cording to this rough estimate, half of the taxes should be allocated to users of
private automobiles, 20 percent to carriers of cargo, and 15 percent each to muni-
cipal buses and taxis and intermunicipal buses. The half attributed to private owners
of automobiles was allocated among income brackets in urban and rural areas on the
basis of the household budget survey. For urban areas gasoline consumption figures

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[1]This approach seemed somewhat more reasonable than using patterns of col-
lections for 1967, in that changes in tax law would be more likely to be reflected
in the 1970 projections. A similar approach was not used for the predial and valor-
ization levies because budgetary figures for 1970 were available only for capital
cities, where the valorization levy could be expected to be more important, relative
to the predial, than in all municipalities.

[2]For details of the operation of the differential exchange rate, see
Charles E. McLure, Jr., "Automotive Tax Reforms," in Gillis and Musgrave, op. cit.,
pp. 692-719. Though this system has since been modified (but not eliminated), it is
estimated to have entailed a subsidy of roughly 400 million pesos, according to fig-
ures provided by the Central Bank. Unfortunately, no similar allowance was made for
this subsidy in the author's previous study of tax incidence in Colombia.

TABLE 19: Indirect Taxes to be Allocated, 1969
and Bases of Allocation
(Collections in millions of pesos)

| Tax | Level of Government | | | Total | Basis of Allocation |
	National	Departmental[a]	Municipal		
Gasoline	400.0[b]	39.9	-	439.9	.5 Consumption of gasoline .2 Total consumption .15 Urban buses & taxi use .15 Rural buses
Alcoholic beverages	-	1666.1[c]	-	1666.1	Expenditure on alcoholic beverages
Tobacco	5.8[d]	563.6	-	569.4	Expenditures on tobacco products
Auto registration	-	86.3	33.1	119.4	.5 Expenditures on registration .3 Total consumption .1 Urban bus & taxi use .1 Rural buses
Customs	1907.4	-	-	1907.4	Non-food consumption
Stamp	539.3	-	-	539.3	Non-food consumption
Industry and Commerce	-	-	289.5	289.5	Total consumption
					Departmental: non-food consumption National: According to rate structure[e]
Sales Tax	1088.9[e]	247.1	-	1336.0	
Total	3941.4	2603.0	322.6	6867.0	

[a]Includes the national territories.

[b]Net of the subsidy implicit in the petroleum exchange rate.

[c]Includes profits of the departmental liquor monopolies.

[d]Included in departmental total in subsequent tables.

[e]National sales tax allocated as follows: 747.5 to non-food consumption; 102.4 to expenditures on tobacco; 239.0 to automobile purchases.

Source: Ministerio de Hacienda y Crédito Público, Boletín de Dirección General del Presupuesto, Año 1970, p. 138 and special DANE tabulations of Estadísticas Fiscales for 1969 for departments and municipalities, with further breakdown in some cases based on 1967 collections, as reported in the above mentioned Boletín, p. 337.

for the seven cities were "blown up" to a national total in the same way that figures
for income were blown up. Then it was assumed that in a given income bracket rural
households spent the same fraction of income of gasoline as urban households. The
20 percent attributable to cargo transportation was allocated in proportion to est-
imated expenditures on total consumption, where the latter was calculated in a way
analogous to that described for private purchases of gasoline. The 15 percent at-
tributed to municipal buses was allocated among urban households on the basis of the
total figure for purchases of transport services in the seven cities in the survey,
without blowing them up. (Eighty-seven percent of such expenditures were for bus and
taxi transportation.) The figures were not blown up, because only municipal trans-
portation was being considered, and it seems reasonable that totals for these seven
cities reflect that quite adequately. Finally, the 15 percent attributed to inter-
municipal buses was allocated entirely to rural households on the following rather
imperfect basis. It was assumed that in each income bracket rural households spent
the same fraction of income on intermunicipal bus transportation as do urban house-
holds, as reported in the survey.

    b. Alcoholic beverage taxes, including the profits of the departmental liquor
monopolies, were allocated on the basis of total expenditures on alcoholic beverages,
where the allocation was done in the same way as that for private use of gasoline.

    c. Tobacco taxes were also allocated among households following a procedure
analogous to that described for private gasoline use. For convenience, the small
amount collected at the national level was simply lumped together with departmental
collections.[1]

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    [1]There is, in addition, a tax element implicit in the differential pricing
policy and profits of LEMA. No attempt was made to account for either this or the
corresponding subsidy to imported foodstuffs.

d. _Automotive registration fees_ were allocated one half to owners of private cars, 30 percent to consumers in general (via taxes on cargos), and 10 percent each to urban buses and taxes and interurban buses. These components were treated like the corresponding amounts of gasoline taxes, described above. The portion attributed to owners of private cars was allocated on the basis of survey data on registration expenditures.

c. _Customs duties_, the national _stamp taxes_, and the _departmental sales taxes_ were all allocated on the basis of non-food consumption expenditures. One of the unavoidable shortcomings of this study is that no detail is available on the breakdown of customs duties by commodity classes.

f. The municipal _industry_ and _commerce_ tax was allocated on the basis of total consumption. The regressivity of this tax may be overstated somewhat, due to the importance of consumption of food that does not pass through the marketplace in low-income levels.

g. The _national sales tax_ is composed of a standard rate of 3 percent and differential rates of 8, 10, and 15 percent. Collections from the standard rate were allocated on the basis of non-food consumption. The 10 percent rate applies only to domestically produced cigarettes, and so was allocated in the same way as tobacco taxes. The 8 and 15 percent rates apply to a variety of luxury items: automobiles, watches, electric hand appliances, imported liquors and cigarettes, imported clothes, radios, televisions, electric appliances, cameras and projectors, etc. (15 percent); cosmetics, heaters and air-conditioners, pickup and panel trucks, motorcycles, bicycles, domestic liquors, etc. (8 percent).[1] To reflect the general luxury nature

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[1] The breakdown of 1970 collections by rate of tax was supplied by the División de Recaudos y Cobranzas of the department of national taxes of the Finance Ministry. The coverage of the various rates is described in Dirección de Impuestos Nacionales, Boletín 33, _Impuestos sobre las Ventas_, Bogotá, December 1969, pp. 4-7, 26-27.

of these items and to offset the neglect of the unknown luxury content of import duties, revenues from these two rates were allocated in proportion to expenditures on the purchase of automobiles.

2. Incidence. These indirect taxes have the effective rate structures in the urban and rural sectors and the nation as a whole shown in Tables 20-22. In general, there is no tendency toward either progressivity or regressivity in the effective indirect tax rates paid by urban households, except at the very highest levels, where there seems to be a slight tendency towards progressivity. Thus it seems reasonable to conclude that on balance the indirect tax burden on urban households is roughly proportionate to income.[1] This reflects the essentially proportionate structure of taxation at each level of government. Within the total at the national level we see the slight progressivity of the gasoline tax offsetting the similarly slight regressivity of the stamp taxes and customs duties, with the sales tax showing a shallow tendency toward regressivity at low income levels (reflecting the non-food consumption element in the estimation procedure) and progressivity at the upper end of the scale (reflecting allocation in proportion to purchases of automobiles).

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[1]The effective rates exhibit a considerable amount of fluctuation between income brackets. This is more than the normal interplay of the effective rate patterns for the various indirect taxes under consideration. Rather, it seems to be rooted in extreme fluctuations in the effective rate patterns for particular taxes, and especially the excise taxes on alcoholic beverages. (Note the high correlation between the movements in the effective rates for the alcoholic beverage taxes and the movements in the total effective rates for all taxes at all levels of government.) These fluctuations are probably spurious and result from the way in which the estimates were constructed. Because of the blowing up of results from the survey to represent the entire nation, the consumption pattern of a given household in certain cities is magnified many times. It is thus possible that consumption patterns of given (non-representative) households in certain income categories carry through with enough strength to produce the unrealistic fluctuations in effective rates reported here. Time did not allow a more thorough analysis of this problem.

The problem just described can probably be distinguished from the rather ubiquitous tendency for effective rates to be very high in the lowest income bracket and then to fall as income rises. This latter phenomenon is probably better considered to be support for the permanent income hypothesis than for the proposition that the indirect tax system is regressive at low income levels. In terms of permanent income it may not exhibit this appearance of regressivity.

TABLE 20: Effective Rates of Indirect Taxation Paid by Urban Households

Income Bracket (Pesos per year)	National					Departmental					Muni-cipal[c]	Total: All Levels
	Gaso-line	Customs	Stamp	Sales	Total	Gaso-line and Auto Reg.	Tobacco[a]	Alc. Bev.[b]	Sales	Total		
0- 6,000	.2	2.6	.7	1.2	4.8	.1	1.2	-	.3	1.6	.4	6.8
6,000- 12,000	.2	1.6	.7	.7	3.0	.1	.7	.1	.2	1.1	.3	4.4
12,000- 18,000	.2	1.7	.5	.9	3.3	.1	1.0	1.2	.2	2.5	.3	6.1
18,000- 24,000	.2	1.9	.5	.9	3.4	.1	.8	1.6	.2	2.7	.3	6.5
24,000- 30,000	.2	1.8	.5	.8	3.4	.1	.7	1.3	.2	2.2	.3	6.0
30,000- 36,000	.2	2.0	.5	.9	3.6	.1	.5	1.8	.3	2.6	.3	6.5
36,000- 48,000	.3	2.0	.6	.9	3.7	.1	.6	2.1	.3	3.0	.3	7.0
48,000- 60,000	.2	1.8	.6	.8	3.3	.1	.4	1.1	.2	1.8	.3	5.4
60,000- 72,000	.4	1.6	.5	1.0	3.5	.1	.6	2.6	.2	3.4	.3	7.2
72,000- 84,000	.5	1.7	.5	.7	3.4	.1	.4	1.3	.2	2.1	.3	5.7
84,000-120,000	.4	1.8	.5	.8	3.5	.1	.6	2.1	.2	3.0	.3	6.8
120,000-180,000: A	.4	1.6	.4	1.1	3.6	.2	.3	.9	.2	1.5	.3	5.3
B	.5	1.7	.5	1.2	3.8	.2	.3	1.0	.2	1.7	.3	5.7
C	.5	1.8	.5	1.3	4.1	.2	.3	1.1	.2	1.8	.3	6.2
180,000-240,000: A	.5	1.7	.5	1.2	3.8	.1	.3	1.0	.2	1.7	.2	5.7
B	.5	1.9	.5	1.3	4.3	.1	.4	1.1	.3	1.8	.3	6.4
C	.6	2.2	.6	1.5	4.8	.2	.4	1.2	.3	2.1	.3	7.2
Over 240,000 : A	.3	1.5	.4	1.6	3.8	.2	.2	2.5	.2	3.2	.3	7.2
B	.3	1.7	.5	1.9	4.4	.3	.3	2.9	.2	3.7	.2	8.3
C	.4	2.0	.6	2.2	5.2	.3	.3	3.5	.3	4.4	.3	10.0
Total : A	.3	1.7	.5	1.0	3.5	.1	.5	1.6	.2	2.4	.3	6.3
B	.4	1.8	.5	1.0	3.7	.1	.5	1.7	.2	2.5	.3	6.5
C	.4	1.9	.5	1.1	3.8	.1	.5	1.7	.2	2.6	.3	6.7

[a] Includes small amount of national taxes on tobacco.

[b] Includes profits of departmental liquor monopolies.

[c] Accounted for almost entirely by industry and commerce tax, municipal auto registration fees amount to as much as 0.1 percent of income in only the top three income brackets.

Source: Table 19 and methodology described in text.

TABLE 21: Effective Rate of Indirect Taxation Paid by Rural Households

Income Bracket (Pesos per year)	National					Departmental					Muni-cipal	Total: All Levels
	Gaso-line	Customs	Stamp	Sales Coffee	Total Export	Gaso-line and Auto Reg. Duties	Tobacco	Alc. Bev.	Sales	Total		
				Coffee	Export	Duties	Included					
0- 6,000	.7	2.5	.7	1.2	5.1	.2	1.2	-	.3	1.7	.5	7.2
6,000- 12,000	1.2	1.5	.4	.7	3.9	.3	.6	.1	.2	1.3	.4	5.5
12,000- 24,000	.1	1.7	.5	.8	3.0	*	.8	1.3	.2	2.4	.3	5.7
24,000- 60,000	.2	1.5	.4	.6	2.7	*	.4	1.2	.2	1.8	.2	4.7
60,000-120,000	.2	1.1	.3	.6	2.2	*	.3	1.3	.1	1.8	.2	4.1
120,000-240,000	.2	.9	.3	.6	1.9	*	.2	.5	.1	.8	.1	2.9
Over 240,000	.2	.9	.3	1.0	2.4	*	.3	.2	.1	.6	.1	3.1
Total	.5	1.6	.4	.7	3.3	.1	.6	.8	.2	1.7	.3	5.3
				Coffee	Export	Duties	Excluded					
0- 6,000	.7	2.6	.8	1.3	5.4	.2	1.2	-	.3	1.8	.5	7.7
6,000- 12,000	1.3	1.6	.5	.7	4.1	.3	.7	.1	.2	1.3	.4	5.8
12,000- 24,000	.1	1.8	.5	.9	3.3	.1	.9	1.5	.2	2.6	.3	6.3
24,000- 60,000	.2	1.9	.5	.8	3.5	.1	.5	1.6	.3	2.4	.3	6.2
60,000-120,000	.4	1.7	.5	.9	3.4	.1	.5	2.0	.2	2.8	.3	6.5
120,000-240,000	.5	2.0	.6	1.4	4.4	.1	.3	1.1	.3	1.8	.3	6.4
Over 240,000	.4	2.0	.6	2.3	5.2	.1	.6	.4	.3	1.3	.2	6.7
Total	.6	1.9	.5	.9	3.9	.2	.8	.9	.2	2.1	.4	6.4

*Less than .05 percent.
See Table 20 for footnotes and sources.

TABLE 22: Effective Rates of Indirect Taxation Paid by All Households

Income Bracket (Pesos per year)	National					Departmental					Muni-cipal	Total: All Levels
	Gaso-line	Customs	Stamp	Sales	Total	Gaso-line and Auto Reg.	Tobacco	Alc. Bev.	Sales	Total		
Coffee Export Duties Included												
0- 6,000	.7	2.5	.7	1.2	5.0	.2	1.2	-	.3	1.7	.5	7.1
6,000- 12,000	.8	1.5	.4	.7	3.5	.2	.6	.1	.2	1.2	.4	5.1
12,000- 24,000	.2	1.8	.5	.9	3.3	.1	.9	1.4	.2	2.6	.3	6.2
24,000- 60,000	.2	1.8	.5	.8	3.4	.1	.5	1.5	.2	2.3	.3	6.0
60,000-120,000	.4	1.7	.5	.8	3.4	.1	.5	2.0	.2	1.6	.3	5.4
120,000-240,000: A	.4	1.6	.5	1.1	3.6	.1	.3	.9	.2	1.7	.3	5.9
B	.5	1.7	.5	1.2	3.9	.2	.3	1.0	.2	1.7	.3	6.4
C	.5	1.9	.5	1.3	4.3	.2	.3	1.1	.3	1.9	.2	7.0
Over 240,000 : A	.3	1.4	.4	1.6	3.7	.2	.2	2.4	.2	3.0	.3	7.0
B	.3	1.7	.5	1.8	4.2	.2	.3	2.7	.2	3.5	.3	8.0
C	.5	1.9	.6	2.1	5.0	.3	.3	3.2	.3	4.1	.3	9.4
Total : A	.4	1.7	.5	1.0	3.5	.1	.5	1.5	.2	2.3	.3	6.1
B	.4	1.8	.5	1.0	3.6	.1	.5	1.5	.2	2.4	.3	6.3
C	.4	1.8	.5	1.0	3.7	.1	.5	1.6	.2	2.5	.3	6.5
Coffee Export Duties Excluded												
0- 6,000	.7	2.6	.8	1.3	5.3	.2	1.2	-	.3	1.8	.5	7.6
6,000- 12,000	.9	1.6	.5	.7	3.7	.1	.7	.1	.2	1.2	.4	5.3
12,000- 24,000	.2	1.8	.5	.9	3.4	.1	.9	1.5	.2	2.6	.3	6.3
24,000- 60,000	.3	1.9	.5	.8	3.5	.1	.5	1.6	.2	2.4	.3	6.6
60,000-120,000	.4	1.7	.5	.8	3.5	.1	.5	2.0	.2	1.6	.3	5.5
120,000-240,000: A	.5	1.6	.5	1.2	3.7	.1	.3	1.0	.2	1.7	.3	6.0
B	.5	1.8	.5	1.3	4.0	.1	.3	1.0	.3	1.9	.3	6.6
C	.5	1.9	.6	1.4	4.4	.2	.3	1.1	.2	3.1	.2	7.2
Over 240,000 : A	.3	1.5	.4	1.6	3.8	.2	.2	2.5	.2	3.6	.3	8.3
B	.3	1.7	.5	1.9	4.4	.2	.3	2.8	.2	3.6	.3	9.5
C	.4	2.0	.6	2.2	5.2	.3	.3	3.1	.3	4.0	.3	9.5
Total : A	.4	1.7	.5	1.0	3.6	.1	.5	1.5	.2	2.4	.3	6.3
B	.4	1.8	.5	1.0	3.7	.1	.5	1.6	.2	2.5	.3	6.5
C	.4	1.9	.5	1.1	3.8	.1	.6	1.6	.2	2.5	.3	6.7

Whether the indirect tax burden on rural households exhibits progressivity depends essentially on the treatment of the coffee export duties. If those duties are excluded from the analysis, the effective rate structure is essentially flat. If, on the other hand, the duties are included in pre-tax income, regressivity appears, because of the weight of those duties in upper income levels. These patterns are, of course, not uniform between taxes, but deviations from the basic pattern of proportionality do not warrant special attention. Nor does the burden of taxation differ enough between the urban and rural sectors, on the average, to deserve special attention, unless the coffee export duties are included in the analysis.[1] If those duties are included, the rural sector bears a somewhat lighter indirect tax burden than does the urban sector.

The effective indirect tax burdens for the nation as a whole essentially reflect the patterns just described. There is some tendency toward progression at the upper end of the income scale, but this tendency is not strong. It is imparted by the automotive element of the national sales tax and by the alcoholic beverage taxes. And it is somewhat stronger if the coffee export duties are excluded than if they are included.[2] Moreover, the appearance of progressivity is greater if the corporation tax is assumed to be shifted to foreigners and weakest if it is assumed to be borne by Colombian shareholders.

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[1]This is, of course, in large part the result of the estimation procedure used and has no further significance.

[2]There appears to be a U-shape to the effective rate pattern. This may be partly spurious, caused by the fluctuations in the effective rates for alcoholic beverage taxes discussed earlier.

The results reported here differ markedly from those reported in the author's previous study, in which indirect taxes were found to be distinctly regressive. That regressivity can be traced directly to the treatment of alcoholic beverage and tobacco taxes in the previous study. Evidence from the consumer survey used in the present study suggests that these taxes are probably roughly proportionate, taken as a whole. This question deserves further analysis.

C. All Taxes

Thus far we have considered separately the incidence of the direct taxes and the indirect taxes collected in Colombia. In this part we bring together the analysis of parts A and B of this section in order to examine the effective tax rates imposed by all Colombian taxes. As before, we discuss separately the incidence of taxation on urban and rural households, as well as all households. Moreover, we examine the effective rates of taxation imposed upon all households by each of the three levels of government. Tables 23-26 present these results. The absolute amounts of taxes estimated to have been borne by each income group in the urban and rural sectors and the nation as a whole are reported in appendix Tables C-1, 2 and 3.

Table 23 shows that the tax system is mildly progressive on urban households if the corporation income tax is borne by foreigners, the progressivity resulting primarily from the personal income tax, but being augmented by the municipal property taxes and indirect taxes. If the corporate tax is shifted to consumers, the overall system is also mildly progressive in the urban sector, and for basically the same reasons. If the tax on corporate income is borne by Colombian shareholders, progressivity is considerably stronger than under the two alternative assumptions.

In the rural sector the crucial question is whether the coffee export duties are treated as being on all fours with other taxes. If they are, the effective rate structure shows considerable progressivity. (See Table 24.) If not, the burden on rural households is quite nearly proportionate. These conclusions hold more or less independently of the assumption one makes about the incidence of the corporation income tax. Because rural households are assumed to pay little personal income tax or (under assumption A) corporation income tax, effective tax rates are, on the average, substantially lower in the rural sector than in the urban sector, provided the coffee

TABLE 23: Effective Rates of Taxation, All Taxes, Urban Sector

Income Class (Pesos per year)	Direct Taxes A,C	Direct Taxes B	Indirect Taxes	Total A,C	Total B
0- 6,000	.3	4.7	6.8	7.1	11.5
6,000- 12,000	.6	3.3	4.4	5.0	7.7
12,000- 18,000	.6	3.6	6.1	6.7	9.6
18,000- 24,000	.6	3.8	6.5	7.1	10.3
24,000- 30,000	1.2	4.3	6.0	7.2	10.3
30,000- 36,000	1.1	4.4	6.5	7.6	10.9
36,000- 48,000	1.7	4.7	7.0	8.7	12.0
48,000- 60,000	2.1	5.3	5.4	7.5	10.5
60,000- 72,000	1.6	4.4	.2	8.8	11.5
72,000- 84,000	2.2	5.0	5.7	7.9	10.7
84,000-120,000	2.7	5.7	6.8	9.4	12.4
120,000-180,000: A	10.0	*	5.3	15.4	*
B	*	6.4	5.7	*	12.2
C	3.9	*	6.2	10.1	*
180,000-240,000: A	14.2	*	5.7	19.9	*
B	*	7.9	6.4	*	14.2
C	5.2	*	7.2	12.9	*
Over 240,000 : A	27.6	*	7.2	34.8	*
B	*	19.4	8.3	*	27.7
C	19.6	*	10.0	29.6	*
Total : A	6.9	*	6.3	13.3	*
B	*	6.9	6.5	*	13.3
C	4.0	*	6.7	10.7	*
Over 120,000 : A	17.6	*	6.1	23.7	*
B	*	11.4	6.8	*	18.2
C	9.6	*	7.7	17.3	*

*Not Applicable.

Source: Tables 16 and 20-22.

TABLE 24: Effective Rates of Taxation, All Taxes, Rural Sector

Income Class (Pesos per year)	Direct Taxes A,C	B	Indirect Taxes	Total A,C	B
	Coffee Export Duties Included				
0- 6,000	6.3	10.6	7.2	13.5	17.7
6,000- 12,000	5.8	8.3	5.5	11.2	13.8
12,000- 24,000	9.1	11.9	5.7	14.8	17.6
24,000- 60,000	23.4	25.8	4.7	28.1	30.5
60,000-120,000	36.2	38.0	4.1	40.3	42.2
120,000-240,000	55.8	57.2	2.9	58.6	60.1
Over 240,000	54.4	55.4	3.1	57.4	59.0
Total	17.3	19.9	5.3	22.6	25.2
	Coffee Export Duties Excluded				
0- 6,000	.1	4.6	7.7	7.7	11.2
6,000- 12,000	.1	2.8	5.8	5.9	8.6
12,000- 24,000	*	3.1	6.3	6.4	9.5
24,000- 60,000	.1	3.3	6.2	6.2	9.5
60,000-120,000	.1	3.0	6.5	6.6	9.5
120,000-240,000	.1	3.4	6.4	6.5	9.9
Over 240,000	.1	3.6	6.7	6.9	10.3
Total	.1	3.3	6.4	6.4	9.6

*Less than .05 percent.

Source: Tables 17 and 20-22.

TABLE 25: Effective Rates of Taxation, All Taxes, All Households

Income Class (Pesos per year)	Direct Taxes A,C	B	Indirect Taxes	Total: All Taxes A,C	B
Coffee Export Duties Included					
0- 6,000	5.7	10.0	7.1	12.9	17.1
6,000- 12,000	3.8	6.5	5.1	8.9	11.5
12,000- 24,000	3.0	6.0	6.2	9.2	12.2
24,000- 60,000	3.9	7.0	6.0	9.9	13.1
60,000-120,000	4.2	7.1	6.5	10.7	13.6
120,000-240,000: A	13.1	*	5.4	18.6	*
B	*	8.8	5.9	*	14.7
C	6.4	*	6.4	12.8	*
Over 240,000 : A	29.3	*	7.0	36.2	*
B	*	21.9	8.0	*	29.9
C	22.5	*	9.4	31.9	*
Total : A	8.6	*	6.1	14.7	*
B	*	8.8	6.3	*	15.1
C	6.0	*	6.5	12.5	*
Over 120,000 : A	19.2	*	6.0	25.2	*
B	*	13.6	6.6	*	19.2
C	12.1	*	7.5	19.6	*
Coffee Export Duties Excluded					
0- 6,000	.1	4.6	7.6	7.6	12.1
6,000- 12,000	.3	3.0	5.3	5.5	8.2
12,000- 24,000	.5	3.5	6.3	6.8	9.9
24,000- 60,000	1.5	4.7	6.2	7.7	10.9
60,000-120,000	2.2	5.1	6.6	8.8	11.7
120,000-240,000: A	11.5	*	5.5	17.0	*
B	*	7.0	6.0	*	12.9
C	4.3	*	6.6	10.9	*
Over 240,000 : A	26.7	*	7.2	34.0	*
B	*	18.8	8.3	*	27.1
C	18.8	*	9.5	28.4	*
Total : A	6.2	*	6.3	12.5	*
B	*	6.4	6.5	*	12.8
C	3.5	*	6.7	10.1	*
Over 120,000 : A	17.2	*	6.2	23.4	*
B	*	11.2	6.8	*	18.0
C	9.3	*	7.7	17.0	*

*Not applicable.

Source: Tables 18 and 20-22.

TABLE 26: Effective Rates of Taxation, All Households,
by Level of Government

Income Bracket (Pesos per year)	National A,C	B	Departmental	Municipal	Total: A,C	B
			Coffee Export Duties Included			
0- 6,000	10.7	14.9	1.7	.5	12.9	17.1
6,000- 12,000	7.3	9.9	1.2	.4	8.9	11.5
12,000- 24,000	6.2	9.2	2.6	.4	9.2	12.2
24,000- 60,000	7.1	10.2	2.3	.5	9.9	13.1
60,000-120,000	7.4	10.2	2.8	.6	10.7	13.6
120,000-240,000: A	15.6	*	1.6	1.4	18.6	*
B	*	11.5	1.7	1.5	*	14.7
C	9.4	*	1.9	1.6	12.8	*
Over 240,000 : A	31.1	*	3.0	2.1	36.2	*
B	*	24.1	3.5	2.4	*	29.9
C	25.1	*	4.1	2.8	31.9	*
Total : A	11.5	*	2.3	.9	14.7	*
B	*	11.8	2.4	.9	*	15.1
C	9.2	*	2.5	.9	12.5	*
Over 120,000 : A	21.5	*	2.1	1.8	25.4	*
B	*	16.1	2.3	1.9	*	20.4
C	14.9	*	2.6	2.2	19.7	*
			Coffee Export Duties Excluded			
0- 6,000	5.3	9.8	1.8	.5	7.6	12.1
6,000- 12,000	3.8	6.6	1.2	.5	5.5	8.2
12,000- 24,000	3.7	6.8	2.6	.5	6.8	9.9
24,000- 60,000	4.8	8.0	2.4	.5	7.7	10.9
60,000-120,000	5.4	8.3	2.9	.6	8.8	11.7
120,000-240,000: A	14.0	*	1.6	1.4	17.0	*
B	*	9.7	1.7	1.5	*	12.9
C	7.3	*	1.9	1.7	10.9	*
Over 240,000 : A	28.7	*	3.1	2.1	34.0	*
B	*	21.0	3.6	2.5	*	27.1
C	21.5	*	4.0	2.9	28.4	*
Total : A	9.2	*	2.4	.9	12.5	*
B	*	9.5	2.5	.9	*	12.8
C	6.7	*	2.5	.9	10.1	*
Over 120,000 : A	19.1	*	2.2	1.8	23.1	*
B	*	13.4	2.4	2.0	*	17.4
C	11.8	*	2.7	2.3	16.8	*

*Not applicable.

Source: Tables 16 and 22.

export duties are excluded from the analysis. If those duties are included, average effective rates are roughly twice as high in the rural sector as in the urban sector.

In total, the Colombian tax system is rather progressive, regardless of one's assumptions about the treatment of the coffee export duties and the incidence of the corporate income tax. (See Tables 25 and 26.) Of course, progressivity is greatest if the corporation income tax is borne by Colombian shareholders, rather than Colombian consumers or foreigners and if the coffee export duties are included in the analysis, as previous paragraphs would suggest.[1]

Finally, to take a somewhat different view of things, it should be noted that taxes at all levels of government contribute to progressivity, at least in the upper income ranges, though the contribution at the national level--with its important personal income tax--is by far the greatest--especially if the coffee export duties are included and corporate taxes are attributed to Colombian shareholders. Progressivity at the local level results from the property taxes and that at the departmental level from the alcoholic beverage taxes--which the survey data (rather surprisingly) suggest to be progressive at the upper end of the income scale.

4. Summary and Conclusions

The distribution of income in Colombia is quite unequal. The bottom two-thirds of the income distribution (among households) receives only about one-fourth of household income and the top one-eight of households account for roughly half of all income. In both the urban and rural sectors of the nation income is distributed quite unequally, but in both cases the inequality is less than for the nation as a whole. In broad outlines the findings of the present study are quite consistent with those

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[1] This is roughly consistent with the author's findings in his previous study, in which the coffee duties were included and the burden of the corporate taxes was split evenly between Colombian shareholders and consumers.

of earlier studies, including the author's earlier work.

The Colombian tax system appears to exhibit a degree of progressivity ranging from rather mild to fairly strong, depending upon whether the corporation income tax is borne by foreigners or Colombian consumers or by Colombian shareholders and upon whether or not the coffee export duties are excluded from the analysis or included. Progressivity results in large part from the personal income tax, but liquor taxes, the property taxes, and the luxury elements of the sales tax and customs duties contribute to it. Of course, an unshifted corporate income tax and the inclusion of the coffee export duties add significantly to progressivity.

These conclusions are roughly consistent with the author's previous study of incidence in Colombia, the primary differences arising from the following. First, a considerably less regressive (and in some cases progressive, i.e. alcoholic beverages) pattern is revealed for many indirect taxes than was assumed in the earlier study. Second, in this study property taxes are assumed to fall entirely on owners of property, instead of partly on consumers, as in the previous study. Third, in the previous study only one assumption was made for the coffee export duties (included) and for the corporation income tax (half to consumers and half to Colombian shareholders).

It seems reasonable to believe that the results of the present study are more reliable than those of the earlier study for a number of reasons. First, the underlying data on the distribution of income, consumption patterns, and personal income patterns are far superior, as noted earlier. Second, time allowed a more careful analysis than was possible in the earlier study, even though there remain a number of areas in which considerably more work needs to be done.

APPENDIX A

Adjustment for Ceding of Income in Calculating Personal Tax Liabilities

Under Colombian income tax law a husband can "cede" to his wife one-half of his labor income, up to a maximum of 30,000 pesos per year. Table A-1 (cols. 1, 2, 6) reports the total amounts ceded to wives and from husbands and the number of wives receiving ceded income, by net income groups, on machine-processed income tax returns.[1] Thus it is possible to calculate the net amounts ceded to or from taxpayers in the various income brackets, as reported on these machine-processed returns. Not surprisingly, taxpayers in low income groups are net recipients of ceded income and on balance those in high income groups cede income to wives in lower income groups. (See column 3.) Applying to these net figures the ratio of total income in each income class (column 2 of Table 11 of the text) to income reported on machine-processed returns (col. 5), it was possible to estimate the net amounts ceded to or from each income class on all returns. These are shown in Column (4) of Table A-1. Net amounts estimated to have been received by taxpayers in a given income class were subtracted from the income figure for the class; net amounts ceded were treated equivalently. This adjustment to column (2) of Table 11 in the text produced the figures in column (5) of that table. Moreover, the number of wives in each income category estimated to have received ceded income (col. 3) was multiplied by the ratio in column (5) to produce column (7), which was then subtracted from the total number of taxpayers in each bracket reported in column (1) of text Table 11 to produce column (4) of that table.

These adjustments, subject to qualifications noted below, produced an estimate of the distribution of incomes reported on tax returns, by households. It remained, however, to allocate the taxes attributable to ceded income to the income bracket of the husband. This was done in the following crude way. It was assumed that for income

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[1] These data refer to the 805,547 returns that had been tabulated.

Table A-1

Adjustment for Ceding of Income
(Income and tax figures in millions of pesos)

Income Bracket (Pesos per year)	Amounts Ceded: From (1)	To (2)	Net From Machine Processed (3)	Total (4)	Total Number of Returns ÷ Number of Machine Processed Returns (5)	Ceded Income: Machine Processed (6)	Total (7)	Adjustment To Tax Liability (8)
Negative - 2,000	.70	2.87	- 2.17	- 2.38	1.10	1265	1392	-17.3
2,000 - 4,000	.57	20.04	- 19.47	- 21.05	1.08	4608	4978	- .8
4,000 - 6,000	1.94	43.83	- 41.89	- 45.03	1.07	6166	6598	- 1.0
6,000 - 8,000	6.68	53.80	- 47.12	- 50.54	1.07	5705	6104	- 1.1
8,000 - 10,000	14.78	77.00	- 62.22	- 66.77	1.07	6438	6889	- 1.3
10,000 - 15,000	66.09	165.08	- 98.99	-106.18	1.07	11549	12357	- 2.0
15,000 - 20,000	85.84	168.72	- 82.88	- 88.76	1.07	9726	10406	- 2.6
20,000 - 40,000	427.57	569.05	-141.48	-152.80	1.08	23889	25800	- 8.6
40,000 - 60,000	209.31	46.66	162.65	180.19	1.11	4964	5510	11.4
60,000 - 80,000	113.51	16.44	97.07	111.13	1.14	2283	2603	7.0
80,000 - 100,000	76.85	7.24	69.61	82.62	1.19	1276	1518	5.2
100,000 - 150,000	74.14	7.09	67.05	83.21	1.24	1370	1699	5.3
150,000 - 200,000	28.10	2.45	33.79	25.65	1.32	522	689	2.1
200,000 - 400,000	30.79	2.78	28.01	39.95	1.43	590	844	2.5
400,000 - 600,000	5.83	.38	5.45	8.96	1.64	130	213	.6
600,000 - 1,000,000	2.69	.19	2.50	4.63	1.85	44	81	.3
1,000,000 - 2,000,000	.88	.09	.79	1.67	2.11	15	32	.1
2,000,000 - 4,000,000	.61	.07	.54	1.06	1.96	3	6	.1
over 4,000,000	------	------	------	------	----	-----	-----	----
Total	1,146.33	1,183.77	- 37.44	13.75		80540	87719	----

Sources and Procedures:
  Columns (1), (2), and (6) from unpublished tabulations of the Office of Planning of the Finance Ministry (Hacienda).
  Column (3) = Column (1) - column (2).
  Columns (4) and (7) = Column (5) x columns (3) and (6) respectively.
  Column (5) = Estimated number of returns in each income bracket (Column 1 of text table 11) ÷ number of machine processed returns, from unpublished tabulations of Finance Ministry.
  Column (8) = Column (3) of text table 11 x column (4) ÷ column (2) of text table 11, for brackets with negative values in column (4).
      For brackets with positive values, the sum of negative entries in column (8) was allocated in proportion to values in column (4).

brackets receiving net ceded income, total tax liabilities reported in column (3)
of text Table 11 would be reduced by the fraction net ceded income (column 6 of Table
A-1) was of total income in the bracket (column 2 of text Table 11). The total re-
duction in liabilities calculated in this was was 34.7 million pesos. This amount
was then allocated to the income brackets reporting net ceding of income in propor-
tion to those net amounts ceded. These amounts are reported in column (7) of Table
A-1. Applying these adjustments to the data in column (3) of Table 11 results in
column (6) of that table. This procedure is slightly faulty in that we would expect
ceded income subjected to the highest rates of taxation in the hands of wives to
have come more than proportionately from husbands in higher income groups. No cor-
rection was made for this likelihood.

Several technical points should be made about the procedure described above.
First, column 3 of Table A-1 reveals that the total amount reported on machine-
processed returns to have been received by wives exceeds the amount reported on the
same returns to have been ceded by husbands by slightly over three percent. This is
to be expected, since many husbands filing hand-processed returns may cede income to
wives filing the simpler machine-processed returns. It is worth noting that when the
amounts reported on machine-processed returns are adjusted to take account of the
amounts on hand-processed returns, as described above, the discrepancy in the total
amounts ceded and received declines to roughly one percent (and reverses signs). This
suggests that the procedure used here is not unreasonable.

Second, adding the net amounts of income ceded to wives to the amounts reported
by husbands would raise the average incomes in the higher income brackets, and could
even result in the average falling above the upper bracket limit. Thus ideally the
bracket limits would be raised or the incomes of husbands ceding income to wives would

be attributed to higher income brackets. However, no such adjustment was attempted.
Failure to make such an adjustment probably distorts the overall results relatively
little, because much of the ceded income comes from the highest income brackets (con-
taining the top 10-15 percent of all households), which for practical purposes should
probably be combined in any event.

Finally, it should be noted quite explicitly that the adjustment described here
is satisfactory, strictly speaking, only for wives who have no income other than that
ceded from their husbands. In the case of a wife with other income, the procedure
adopted here has the effect of reducing by one the number of taxpayers in her income
bracket and reducing income in that bracket by the amount ceded to her. It does not,
however, reduce the income in that bracket by the amount of the wife's other (non-
ceded) income. This fact could easily result in throwing some average incomes out-
side bracket limits. Again this phenomenon is especially likely to occur in the
upper income levels, as is borne out by inspection of average income levels implied
by columns (4) and (5) of Table 11 of the text. It was not deemed worthwhile to
carry out a detailed analysis of this problem, given the relatively small amount of
income involved. A final problem is that for wives filing tax returns upon which no
ceded income is reported and for other members filing tax returns no consolidation
into family units is possible.

Appendix Table B-1

Percentage Allocation of Expenditure Items Among Urban Income Groups

Income Bracket (Pesos per Year)	Total Consumption	Non-Food Consumption	Alcoholic Beverages	Tobacco Products	Gasoline (Private Use)	Auto-mobiles	Urban Buses	Auto Reg.	Predial Valorization (Personal)	
0 - 6,000	.34	.31	-----	.52	-----	-----	.32	-----	.16	-----
6,000- 12,000	3.07	2.28	.20	3.40	-----	-----	3.60	-----	1.52	.75
12,000- 18,000	6.04	4.76	3.50	9.95	.06	-----	7.44	.30	2.90	1.89
18,000- 24,000	8.31	7.20	6.74	10.76	-----	-----	7.58	-----	3.41	3.49
24,000- 30,000	6.65	6.02	4.48	7.59	1.97	-----	7.05	.88	4.57	3.02
30,000- 36,000	6.16	5.97	5.80	5.31	.76	-----	8.23	-----	3.84	2.26
36,000- 48,000	9.34	9.35	10.48	10.31	6.01	.93	11.68	-----	13.48	9.62
48,000- 60,000	8.88	8.55	5.62	6.53	3.46	-----	8.75	-----	5.07	4.34
60,000- 72,000	6.63	5.77	9.70	6.86	7.33	6.75	7.39	1.55	4.49	2.45
72,000- 84,000	6.07	5.81	4.81	5.47	11.00	-----	5.23	2.83	9.13	5.25
84,000- 120,000	12.65	13.03	16.11	14.79	10.80	.05	12.68	11.04	13.77	21.89
120,000- 180,000	10.62	11.63	7.45	6.60	21.73	24.29	9.59	24.70	12.31	12.92
180,000- 240,000	7.18	8.51	5.17	5.89	14.84	16.11	5.00	8.49	7.90	9.15
over 240,000	7.96	10.82	19.94	5.97	14.02	51.88	5.98	50.21	17.46	23.11
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Urban as Percent of Total	84.98	86.77	92.66	81.91	96.44	96.93	100.00	100.00	94.84	100.00

Columns may not sum to 100.00 because of roundi[ng]

Percentage Allocation of Expenditure Items Among Rural Income Groups

Income Bracket (Pesos per Year)	Total Consumption	Non-Food Consumption	Alcoholic Beverages	Tobacco Products	Gasoline (Private Use)	Auto-mobiles	Rural Buses	Predial
0- 6,000	17.88	18.72	-----	21.57	------	------	18.48	12.00
6,000- 12,000	27.82	23.89	4.18	24.57	------	------	76.72	25.33
12,000- 24,000	29.10	28.06	46.59	33.62	------	------	3.48	21.33
24,000- 60,000	15.93	17.75	30.33	12.20	30.16	------	1.40	22.67
60,000-120,000	5.56	6.24	14.95	4.80	35.71	8.65	-----	9.33
120,000-240,000	1.82	2.38	2.86	1.02	18.25	23.08	-----	2.67
over 240,000	1.89	2.97	1.10	2.20	15.87	68.27	-----	6.67
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.00
Rural as Percent of Total	15.02	13.23	7.34	18.08	3.56	3.07	100.0	5.16

Columns may not sum to 100.00 because of rounding.

Allocation of Taxes Among Urban Households
(millions of pesos)

Income Bracket (thousands of pesos per year)

	0-6	6-12	12-18	18-24	24-30	30-36	36-48	48-60	60-72	72-84	84-120	120-180	180-240	over 240	TOTAL
National Taxes															
Personal Income Tax	.4	11.7	21.9	30.6	62.4	47.0	103.4	148.0	84.9	108.3	279.9	291.3	224.6	1491.1	2927.5
Corporation Income Tax: A	---	----	----	----	----	----	-----	-----	----	-----	----	820	820	1620	3260
B	8.8	64.3	134.2	203.0	169.6	168.3	263.5	240.7	162.4	163.7	367.1	327.8	239.7	305.0	2818.7
Indirect Taxes															
Gasoline Tax	.4	4.3	8.6	10.2	12.6	10.6	25.0	17.7	23.1	28.5	52.5	54.9	36.5	36.1	320.8
General Sales Tax	2.5	17.7	39.2	55.8	45.4	43.2	71.4	60.9	58.7	42.3	96.9	137.2	97.4	195.4	964.0
Stamp Taxes	1.5	10.7	22.3	33.7	28.2	27.9	43.7	40.0	27.0	27.2	60.9	54.4	39.8	50.6	467.9
Customs Duties	5.2	37.8	78.8	119.2	99.6	98.8	154.7	141.3	95.4	96.1	215.5	192.5	140.8	179.1	1654.7
TOTAL Indirect Taxes	9.5	70.4	148.8	218.9	185.7	180.5	294.8	259.8	204.2	194.1	425.8	439.0	314.5	461.2	3407.3
TOTAL: A	9.9	82.1	170.7	249.5	248.1	227.5	398.2	407.8	289.1	302.4	705.7	1550.3	1359.1	3572.3	9594.8
B	18.7	146.4	304.9	452.5	417.7	395.8	661.7	648.5	451.5	466.7	1072.8	1058.1	778.8	2257.3	9153.5
C	9.9	82.1	170.7	249.5	248.1	227.5	398.2	407.8	289.1	302.4	705.7	730.3	539.1	1952.3	6334.8
Departmental Taxes															
Gasoline Tax	*	*	.1	1.0	1.3	1.1	2.5	1.8	2.3	2.9	5.3	5.5	3.7	3.6	32.1
Auto Registration Fees	.1	1.0	2.1	2.5	2.5	2.1	3.1	2.7	2.8	3.0	8.6	13.8	5.7	23.9	73.8
Tobacco Products	2.5	15.9	46.4	50.2	35.4	24.8	48.1	30.5	32.0	25.5	69.0	30.8	27.5	27.9	466.4
Alcoholic Beverages	---	3.2	54.0	104.0	69.1	89.5	161.8	86.8	149.8	74.1	248.6	115.1	79.8	307.7	1543.5
General Sales Tax	.7	4.9	10.2	15.4	12.9	12.8	20.0	18.3	12.4	12.5	27.9	24.9	18.2	23.2	204.4
TOTAL	3.3	25.4	113.6	173.1	121.2	130.2	235.5	140.0	199.2	118.0	359.4	190.2	134.8	386.4	2330.1
Municipal Taxes															
Property Taxes	.2	2.9	6.0	8.4	9.5	7.7	28.8	11.6	8.8	18.1	42.2	124.8	114.7	236.9	622.2
Auto Registration Fees	*	.4	.8	1.0	.9	.8	1.2	1.0	1.1	1.2	3.3	5.3	2.2	9.2	28.3
Industry and Commerce Tax	.8	7.6	14.9	20.5	16.4	15.2	23.0	21.9	16.3	14.9	31.2	26.2	17.7	19.6	246.0
TOTAL	1.0	10.9	21.7	29.9	26.8	23.7	53.0	34.5	26.2	34.2	76.7	156.3	134.6	265.7	896.5
TOTAL: All levels of government: A	14.2	118.4	306.0	452.5	396.1	381.4	686.7	582.3	514.5	454.6	1141.8	1896.8	1528.5	4224.4	12821.4
B	23.0	182.7	440.2	655.5	565.7	549.7	950.2	823.0	676.9	618.3	1508.9	1404.6	1048.2	2909.4	12380.1
C	14.2	118.4	306.0	452.5	396.1	381.4	686.7	582.3	514.5	454.6	1141.8	1076.8	808.5	2604.4	9561.4

*Less than .05.

Allocation of Taxes among Rural Households
(millions of pesos)

	0-6	6-12	12-24	24-60	60-120	120-240	Over 240	Total
National Taxes								
Personal Income Tax	--	--	--	--	--	--	--	--
Corporation Income Tax: A,C	--	--	--	--	--	--	--	--
B	80.6	103.0	120.8	76.3	27.0	10.4	12.7	429.8
Coffee Export Duties	120	230	390	720	520	390	440	2810
Indirect Taxes								
Gasoline Tax	13.3	49.4	5.6	4.7	3.2	1.5	1.4	79.2
General Sales Tax	22.5	28.3	34.0	19.8	8.0	4.2	8.3	125.2
Stamp Taxes	13.4	17.1	20.1	12.7	4.5	1.7	2.1	71.5
Customs Duties	47.3	60.5	71.0	44.8	15.8	6.1	7.4	252.9
Total: Indirect Taxes	96.5	155.2	130.6	82.0	31.5	13.6	19.2	528.9
Total: Coffee Export Duties:								
Included: A,C	216.5	385.2	520.6	802.0	551.5	403.6	459.2	3338.9
B	297.1	488.2	641.4	878.3	578.5	414.0	471.9	3768.7
Excluded: A,C	96.5	155.2	130.6	82.0	31.5	13.6	19.2	528.9
B	177.1	258.2	251.4	158.3	58.5	24.0	31.9	958.7
Departmental Taxes								
Gasoline Tax	1.3	4.9	.6	.5	.3	.2	.1	7.9
Auto Registration Fees	2.3	7.7	1.4	.7	.2	.1	.1	12.5
Tobacco Products	22.2	25.3	34.6	12.6	5.0	1.0	2.3	103.0
Alcoholic Beverages	--	5.2	57.0	37.2	18.3	3.5	1.3	122.6
General Sales Tax	6.1	7.8	9.2	5.8	2.1	.8	1.0	32.8
Total:	32.0	50.9	102.8	56.8	25.9	5.5	4.8	278.8
Municipal Taxes								
Predial	.9	1.9	1.6	1.7	.7	.2	.5	7.5
Indirect Taxes								
Auto Registration	.9	2.9	.5	.3	.1	*	*	4.8
Industry and Commerce	7.8	12.1	12.7	6.9	2.4	.8	.8	43.5
Total	9.6	16.9	14.8	8.9	3.2	1.0	1.3	55.8
Total: All Levels of Government:								
Coffee Duties Included: A,C	258.1	453.0	638.2	867.7	580.6	410.1	465.3	3673.5
B	338.7	556.0	759.0	944.0	607.6	420.5	478.0	4103.3
Coffee Duties Excluded: A,C	138.5	223.0	248.2	147.7	60.6	20.1	25.3	863.5
B	218.7	326.0	369.0	224.0	87.6	30.5	38.0	1293.3

Income Bracket (thousands of pesos per year)

Allocation of Taxes Among All Households
(millions of pesos)

Income Bracket (thousands of pesos per year)

	0-6	6-12	12-24	24-60	60-120	120-240	Over 240	Total
National Taxes								
Personal Income Tax	22.4	11.7	52.5	360.8	473.1	515.9	1491.1	2927.5
Corporate Income Tax: A	--	--	--	--	--	1640	1620	3260
B	89.3	167.3	458.0	918.3	720.2	577.9	317.7	3248.5
C	--	--	--	--	--	--	--	--
Coffee Export Duties	120	230	390	720	520	390	440	2810
Indirect Taxes								
Gasoline Taxes	13.7	53.7	24.4	70.5	107.3	92.9	37.4	399.9
General Sales Tax	25.0	45.9	129.0	240.7	205.9	238.9	203.7	1089.2
Stamp Taxes	14.8	27.8	76.0	152.5	119.6	96.0	52.7	539.4
Customs Duties	52.5	98.2	268.9	539.2	422.9	339.3	186.5	1907.6
Total: Indirect Taxes	105.9	225.6	498.4	1002.9	855.6	767.1	480.4	3936.2
Total: Coffee Export Duties								
Excluded: A	128.3	237.3	550.9	1363.7	1328.7	2923.0	3591.5	10123.7
B	217.6	404.6	1008.9	2282.0	2048.9	1860.9	2289.2	10112.2
C	128.3	237.3	550.9	1363.7	1328.7	1283.0	1971.5	6863.7
Included: A	248.3	467.3	940.9	2083.7	1848.7	3313.0	4031.5	12933.7
B	337.6	634.6	1398.9	3002.0	2568.9	2250.9	2728.2	12922.2
C	248.3	467.3	940.9	2083.7	1848.7	1673.0	2411.5	9673.7
Departmental Taxes								
Gasoline Tax	1.4	5.4	2.4	7.1	10.7	9.2	3.7	40.0
Auto Registration Fees	2.4	8.7	6.0	11.0	14.6	19.6	23.0	86.3
Tobacco Products	24.7	41.2	131.3	151.3	131.5	59.3	30.2	569.4
Alcoholic Beverages	--	8.3	214.9	444.3	490.8	198.4	309.1	1666.1
General Sales Tax	6.8	12.7	34.8	69.9	54.8	44.0	24.2	247.1
Total	35.2	76.3	389.5	683.6	702.5	330.5	391.1	2608.9
Municipal Taxes								
Property Taxes	1.1	4.8	16.0	59.3	69.9	239.7	237.4	629.6
Auto Registration Fees	.9	3.3	2.3	4.2	5.6	7.5	9.2	33.1
Industry and Commerce Tax	8.6	19.7	48.0	83.3	64.9	44.6	20.4	289.5
Total	10.7	27.8	66.3	146.8	140.4	291.8	267.0	952.3
Total: All Levels								
Coffee Export Duties								
Included: A	174.2	341.4	1006.7	2194.1	2171.6	3545.3	4249.6	13684.9
B	263.5	508.7	1464.7	3112.4	2891.8	2483.2	2947.3	13673.4
C	174.2	341.4	1006.7	2194.1	2171.6	1905.3	2629.6	10429.9
Excluded: A	294.2	571.4	1396.7	2914.1	2691.6	3935.3	4689.6	16494.7
B	383.5	738.7	1854.7	3832.4	3411.8	2873.2	3387.3	16483.4
C	244.2	571.4	1396.7	2914.1	2691.6	2295.3	3069.6	13234.9

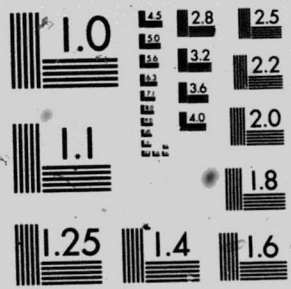PROGRAM OF DEVELOPMENT STUDIES

Discussion Papers

Note: Discussion Papers are available upon request to individual scholars
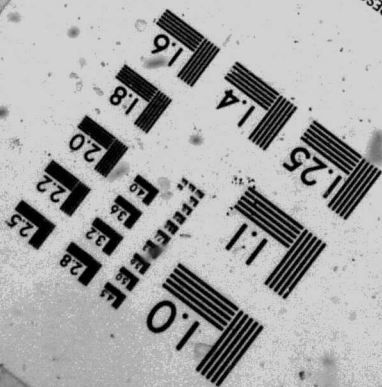and researchers and libraries of educational institutions.
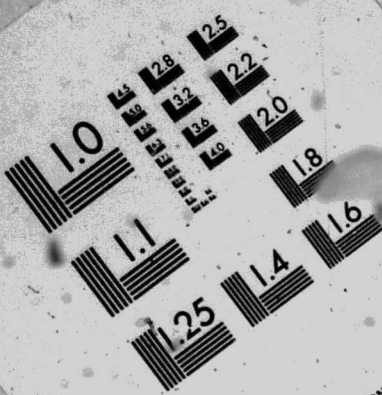
MICROCOPY RESOLUTION TEST CHART

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