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A RE-EXAMINATION OF BRAZILIAN ECONOMIC DEVELOPMENT IN THE 1960S

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One of the most interesting and controversial cases of economic development has been that of Brazil. Over the decade of the 1960s, the real rate of economic growth was 79%, with annual rates approaching 10% in the latter few years. After allowing for a high population growth rate, the rate of growth of real income per capita over the decade was still 32%, among the highest in the Third World. On this basis, the Brazilian case has been widely heralded as an "economic miracle".

More recently however challenges have arisen. One group of analysts has looked with disfavor upon social policies which prevailed over the period, particularly following the rise to power in 1964 of the military government. A second group has examined the distributional question of who received the benefits of this growth, and have found greater income inequality according to conventional measures. These observations have caused many students of development to ask whether the high rate of aggregate growth in Brazil was worth the apparent social and distributional costs. As a result, there is at present widespread disagreement about the desirability of taking Brazilian economic and social policies as a model for other developing countries to follow, and it is probably fair to say that the Brazilian experience is no longer regarded as "miraculous."

The purpose of this paper is to re-examine one of these two challenges, namely, the distributional impact of Brazilian economic growth during the 1960s. The principal conclusion I reach is that it is possible to arrive

at a quite different interpretation. I hope to show that the poor in Brazil benefited rather substantially in economic terms from a decade of rapid economic growth. Estimates presented below indicate that average real incomes among families defined as poor by Brazilian standards increased by more than 60% while the comparable figure for non-poor families is around 25-30%. However, since non-poor families receive incomes which are much greater than those of poor families, the bulk of the growth of national income over the decade was received by families whose incomes placed them above the official poverty standard. These findings may be evaluated differently by various observers, depending on whether they have in mind an absolute or a relative definition of poverty. It would seem clear from these results, though, that it would be incorrect to say either that (1) in achieving a high rate of economic growth in Brazil the rich got absolutely richer while the poor got absolutely poorer, or (2) the incomes of poor families increased at a slower percentage rate than those of non-poor families.

One word of caution. In presenting these results on the distributional question, I am not taking a position in favor of the social measures adopted in Brazil. Conventional economics gives virtually no guidance on how to weigh the measures used to achieve economic growth against the actual development realized, and we are left to rely on personal judgments concerning matters of social justice. Personally, I doubt that in the Brazilian case the means justify the ends, but this is a value judgment, not a scientific conclusion.

I. Basic Results and the Customary Interpretation

The pioneering study of economic growth and the size distribution of income in Brazil over the decade of the 1960s is that of Fishlow (1972).

The basic data are reported in Table 1.

Looking first at the level of income, the mean income among the economically active population in constant U.S. dollars increased from $513 in 1960 to $679 in 1970, a real increase of 32%.[1] Not shown in the table is the fact that growth rates of 9% per annum had been realized during the latter 1960s (between 1967 and 1970) and have continued thereafter. This is the essence of the Brazilian "economic miracle."

At first glance, the data on income distribution seem to tell another story, however. We see that the upper 3.2 percent of the economically active population received 27% of the income in 1960; by 1970, their share had risen to more than 32%. In addition, the Gini coefficient rose from 0.59 to 0.63, seemingly implying a less even income distribution. A second study of Brazilian growth over the same period, by Langoni (1972), arrives at basically the same changes in the income distribution.[2]

Fishlow's interpretation of these is the following: "The conclusion that inequality has increased over the course of the decade accordingly seems correct, if lamentable."[3] This qualitative result---of a "worsening" income distribution in Brazil--has been widely accepted.[4]

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[1]This is the percentage increase of "uncorrected incomes" for the "total economically active population," the only comparison possible with Fishlow's data.

[2]Using slightly different definitions than Fishlow, Langoni found a rise in the Gini coefficient from 0.49 to 0.56, a falling share of national income received by each of the four lowest quintiles, and a rising share received by the richest 5% (from 27.9% to 34.9% of national income).

[3]Fishlow (1972, p. 399).

[4]See, for instance, the work of Cline (1973) and Figueroa and Weisskoff (1974)

Contrary to the customary interpretation, I wish to suggest that the Brazilian data are capable of telling a different story. This is the subject of Section II.

Table 1

BRAZILIAN SIZE DISTRIBUTION OF INCOME, ECONOMICALLY ACTIVE POPULATION, 1960 AND 1970, VARIABLE INCOME BRACKETS

Monthly income in 1960 NCr$	Percentage of population	Percentage of income
None	14.7%	0.0%
0 - 2.1	22.3	5.2
2.1 - 3.3	14.4	7.0
3.3 - 4.5	10.5	7.4
4.5 - 6.0	13.1	12.3
6.0 - 10.0	13.8	20.0
10.0 - 20.0	8.2	22.2
20.0 - 50.0	2.6	16.4
Over 50.0	0.5	9.4
Mean (Current NCr$)	5.52	
Mean (1960 U.S. $ per year)	513	
Gini coefficient	.59	

Monthly income in 1970 NCr$	Percentage of population	Percentage of income
None	11.7%	0.0%
0-100	31.7	8.0
101-150	12.8	6.2
151-200	15.6	10.6
201-250	4.5	3.9
251-500	14.6	21.2
501-1000	5.9	17.1
1001-2000	2.2	13.0
2001 and over	1.0	20.1
Mean (current NCr$)	258.1	
Mean (1960 U.S. $ per year)	679	
Gini coefficient	.63	

Source: Fishlow (1972, Tables 1 and 5)

II. A Re-examination

The fundamental question underlying the analysis of income distribution in economic development is this: who (as classified by income class or other economic or socio-economic criterion) receives the proceeds of economic growth? The ideal way to answer this question would be to follow the same set of individuals over a period of time to see how their incomes change and how these changes relate to their initial characteristics. While the type of longitudinal (or panel) data needed to do this have recently become available for the United States,[1] no similar data set exists for Brazil, nor to my knowledge for any other less developed country. In the absence of longitudinal data, we must rely on frequency distributions of the population by income class. Growth in favor of the rich at the expense of the poor would involve both (1) an increase in the number of persons in the highest income brackets, with a reduction in the number in the next lower income brackets, from which they presumably originated, and (2) an increase in the number of persons in the poorest categories, with a reduction in the number in the next higher income brackets, from which they presumably originated. On the other hand, a pattern of economic growth which reaches the very poorest as well would involve (1) a reduction in the number of persons in the poorest income categories, and (2) an increased frequency in most, if not all, of the other income classes.

To examine the data for Brazil, the figures presented in Table 1 do not

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[1] There are now three such data files in the United States: the Social Security LEED file, the University of Michigan panel study, and the National Longitudinal Study conducted at Ohio State University (commonly referred to as the Parnes data after the project's director).

quite suffice, because they have different income brackets in the two years. Lacking the raw data with which to make an exact fit, it is necessary to take the income brackets for one year as base and to approximate the frequency from the other year in each category. The actual distribution for 1960 and the approximate values for 1970 are shown in Table 2 and Figure 1.[1]

Table 2

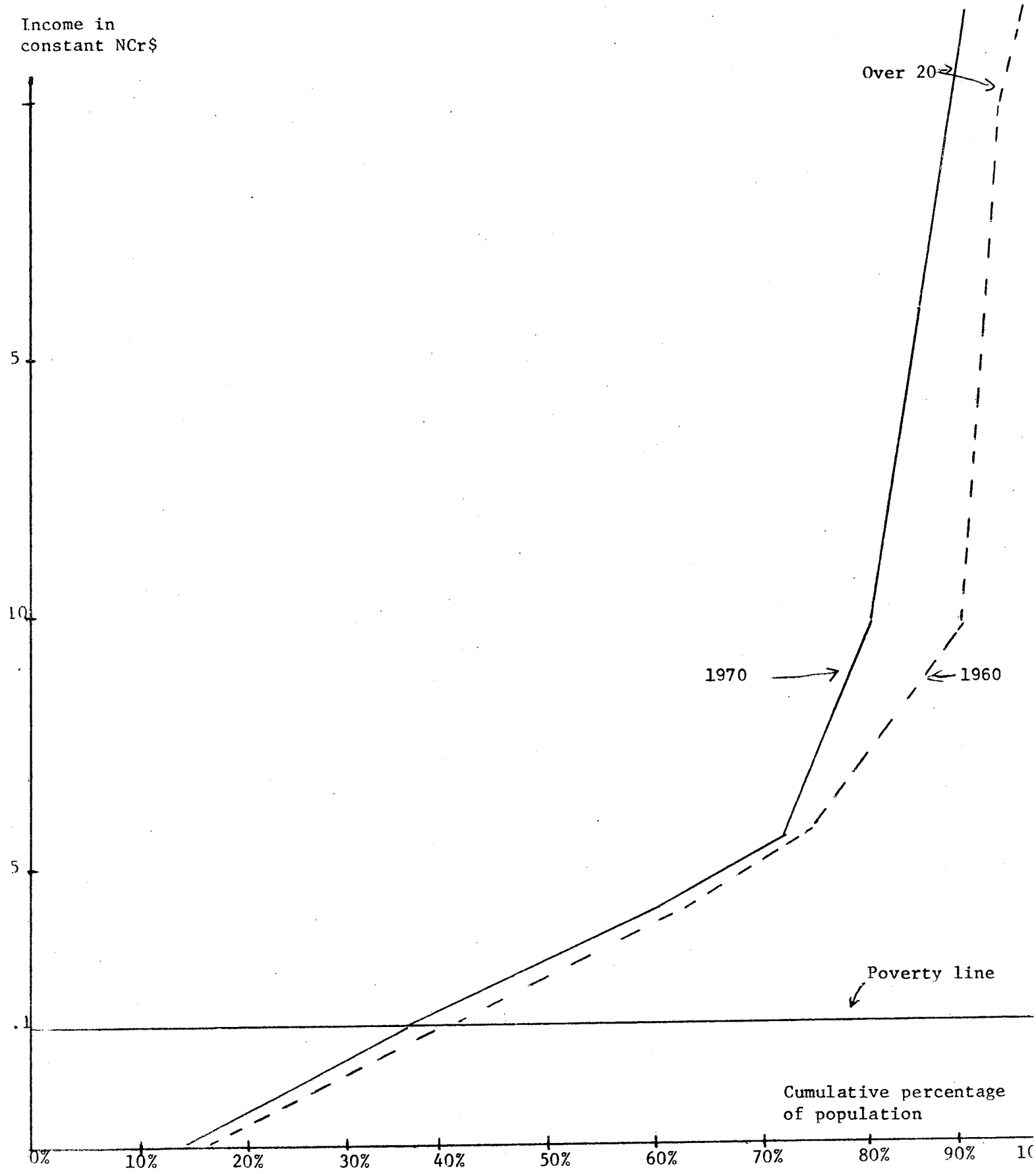
BRAZILIAN SIZE DISTRIBUTION OF INCOME, ECONOMICALLY ACTIVE POPULATION, 1960 and 1970, COMPARABLE INCOME BRACKETS

Monthly income in 1960 NCr$ (thousands)	Percentage of population, 1960	Percentage of population, 1970 (approx.)	Cumulative percentage of population 1960	Cumulative percentage of population 1970 (approx.)
None	14.7%	11.7%	14.7%	11.7%
0-2.1	22.3	23.8	37.0	35.5
2.1-3.3	14.4	12.2	51.4	47.7
3.3-4.5	10.5	11.0	61.9	58.6
4.5-6.0	13.1	14.5	75.0	73.1
6.0-10.0	13.8	9.4	88.8	82.5
10.0-20.0	8.2	10.9	97.0	93.4
20.0-50.0	2.6	5.0	99.6	98.4
Over 50.0	0.5	1.6	100.1	100.0

Gini coefficient, 1960 = .59
Gini coefficient, 1970 = .63

[1]The procedure used to approximate the 1970 distribution is the following. The mean incomes in 1960 and 1970 were $513 and 679 respectively, both measured in constant 1960 U.S. dollars. These same means, expressed in current NCr$ were 5.52 and 258.1. Thus, the ratio of the real means was 1.32, and of the nominal means 46.76. The ratio of these, 35.32 is then an inflation factor which can be used to deflate the 1970 brackets. For example, the first positive income bracket in 1970 runs from 0 to 2.8 constant NCr$. Then, applying a linear approximation to the population frequency within each bracket, 2.1/2.8 of the population in the 0-2.8 category was assigned to the 0-2.1 category, and the remaining 0.7/2.8 was assigned to the next higher category. An analogous procedure was followed for the other brackets. It would, of course, have been better to have used the exact distribution of the economically active population across these income brackets rather than this approximation; but owing to the lack of a public use sample for the microeconomic data, this was impossible.

FIGURE 1. BRAZILIAN SIZE DISTRIBUTION OF INCOME, 1960 AND 1970



The most striking feature of these data is that the cumulative percentage of population was lower in 1970 than in 1960 for every income bracket. This means, very simply, that economic growth which took place over the decade reached persons in all income levels, and not just those at the top.

It should be observed that these figures refer to percentage of the population; with a growing population, these figures imply that the Brazilian economy was able to create opportunities for its economically active population to earn higher incomes at a faster rate than its labor force was expanding. These findings clearly refute the notion that the rich got absolutely richer while the poor got absolutely poorer in Brazil during the 1960s.

The analysis may be extended to compare the income growth of the poorest groupswith that of all others. We may ask four related questions:

(1) Defining "the poor" as those whose incomes were below a constant real poverty line, did the fraction of the economically active population defined as "poor" increase or decrease over the decade?

(2) What was the relative increase of incomes among the "poor" as opposed to the "non-poor"?

(3) How much of the economic growth over the decade went to the "poor" and how much to the "non-poor"?

(4) Defining the "poverty gap" as the amount by which poor persons' incomes would have to be raised to bring them all up to the poverty line, how much of the gap was filled during the decade?

We must begin by establishing a poverty standard. According to Fishlow, something like 31% of Brazilian families were poor in 1960 by Brazilian

definitions.[1] Since it is not possible to identify these families exactly, we may suppose that those persons in the two lowest income brackets, (i.e., less then 2.1 NCr$ constant), which in 1960 comprised 37.0% of the population, were below the poverty line. From now on, we will refer to these persons as "the poor" and the rest of the population as "the non-poor."

Considering first the question of changing numbers of "poor", we see from Table 2 that there was a small decrease in the percentage of the economically active population with incomes below the poverty line, from 37.0% to 35.5%. While there was not a higher incidence of poverty in 1970 than in 1960 as might have been supposed by the rising inequality coefficients, neither was the incidence substantially reduced.

Next, let us compare the rate of growth of incomes among "the poor" as opposed to "the non-poor". Using information about the fraction of the population defined as "poor" and "non-poor" and the share of income accruing to each, we can determine the average income in each group in each year. Letting $\bar{y}_p$ and $\bar{y}_n$ be the mean incomes of the "poor" and "non-poor" respectively and P be the population, we have, for 1960,

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[1]The poverty line is defined according to Brazilian standards. Says Fishlow (1972, pp. 393-4): "The real minimum wage for 1960 in the Northeast, the poorest region, is taken as the lower limit of acceptable income for a family of 4.3 persons. For rural Brazil, the wage prevailing in the rural areas of the Northeast is taken; for the urban Northeast, the standard of the medium sized municipio is applied; and for all other urban residents, the Northeast level, increamented by 15 percent to allow for higher relative prices, is applied. The poverty line for different size families is defined with the aid of the elasticity of expenditure on food with respect to family size; because of economies of scale larger families need relatively less income, and conversely for smaller."

(1) $37\%\ P^{60}\bar{y}_p^{60} + 63\%\ P^{60}\bar{y}_n^{60} = 5.52\ P^{60}$ and

(2) $5.2\%(5.52P^{60}) = 37\%P^{60}\bar{y}_p^{60}$

and for 1970,

(3) $35.5\%\ P^{70}\bar{y}_p^{70} + 64.5\%\ P^{70}\bar{y}_n^{70} = (258.1/35.32)P^{70}$ and

(4) $8.0\%(2.1/2.8)\ (258.1/35.32)P^{70} = 35.5\%P^{70}\bar{y}_p^{70}$

Solving, we find:

(5) $\bar{y}_p^{60} = 0.8$, $\bar{y}_p^{70} = 1.3$, $\dfrac{\bar{y}_p^{70} - \bar{y}_p^{60}}{\bar{y}_p^{60}} = 63\%$

and

(6) $\bar{y}_n^{60} = 8.3$, $\bar{y}_n^{70} = 10.6$, $\dfrac{\bar{y}_n^{70} - \bar{y}_n^{60}}{\bar{y}_n^{60}} = 28\%$

From (5), we see that "the poor" became noticeably less poor. Furthermore, comparing (5) and (6), we see that the incomes of "the poor" grew at a rate double that of the "non-poor".[1] This reinforces the earlier observation that the rich in Brazil did not benefit during the 1960s at the expense of the poor.

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[1] Actually, this is an understatement, since some 4% of the "poor" (1.5%/37.0%) received large enough income increases to raise them above the poverty line, and their incomes appear as "non-poor" incomes in the above calculations.

Is the 1970 distribution of incomes between "poor" and "non-poor" more or less "equal" than the 1960 distribution? The answer to this question depends on how one defines "equal." On the one hand, if absolute real income differentials are our standard, we observe

$$(7) \qquad \bar{y}_n^{60} - \bar{y}_p^{60} = 7.5, \qquad \bar{y}_n^{70} - \bar{y}_p^{70} = 9.3,$$

and we see that the absolute gap widened by about 25%. However, this gap was a smaller percentage of per capita income in 1970 than in 1960:

$$(8) \qquad \frac{\bar{y}_n^{60} - \bar{y}_p^{60}}{\bar{y}_p^{60}} = \frac{7.5}{5.2} = 1.36, \quad \frac{\bar{y}_n^{70} - \bar{y}_p^{70}}{\bar{y}_p^{70}} = \frac{9.3}{258.1/35.32} = 1.27,$$

Furthermore, if we take relative income ratios as our standard for comparison, we find

$$(9) \qquad \bar{y}_n^{60} / \bar{y}_p^{60} = 10.4, \qquad \bar{y}_n^{70} / \bar{y}_p^{70} = 8.2,$$

that is, a reduction of the ratio of "non-poor" to "poor" incomes of about 20%. Personally, I would give heavier weight to the income ratios, for two reasons. One is that in any economy in which poverty is being alleviated, the "poor" can receive only limited income increases before they cross the poverty threshold and are no longer classified as "poor". Second, we are often inclined to think of income inequality in an economy in relative terms, independent of income levels, which implies the need to compare income

ratios rather than absolute income differentials.[1] I would thus interpret these patterns as indicating a relative narrowing of the gap between "poor" and "non-poor" in Brazil, but others who give heavy weight to absolute income differentials would disagree.

Now let us address the question of how much of the economic growth over the decade went to "the poor" and how much to "the non-poor." Elsewhere (Fields (1975)), I have devised a methodology for decomposing total economic growth into four effects:

α = Enlargement of the high income sector
= Change in the number of persons in the high income sector, multiplied by the income differential between the high income and low income sectors in the base year;

β = Enrichment of the high income sector
= Change in income within the high income sector, multiplied by the number of persons in that sector in the base year;

γ = Interaction between enlargement and enrichment of the high income sector
= Change in income within the high income sector, multiplied by the change in the number of persons in that sector;

δ = Enrichment of the low income sector
= Change in income within the low income sector, multiplied by the number of persons in that sector in the terminal year.

The specific formulas, and the numerical results for Brazilian economic growth during the 1960s, are given in Table 3.

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[1] For an initial attempt to axiomatize static inequality measures, see Fields and Fei (1974).

TABLE 3

ANALYSIS OF ECONOMIC GROWTH IN BRAZIL AND THE UNITED STATES DURING THE 1960s

	Effect	Definition of Effect	Importance in the economic Growth Of: Brazil 1960-1970	U.S. 1959-1969
α	Enlargement of the "non-poor" population	$(f_n^{70} - f_n^{60})(\bar{y}_n^{60} - \bar{y}_p^{60})$	6%	19%
β	Enrichment of the "non-poor" population	$(\bar{y}_n^{70} - \bar{y}_n^{60})f_n^{60}$	82%	72%
γ	Interaction between enlargement and enrichment of the "non-poor" population	$(\bar{y}_n^{70} - \bar{y}_n^{60})(f_n^{70} - f_n^{60})$	2%	8%
δ	Enrichment of the "poor" population	$(\bar{y}_p^{70} - \bar{y}_p^{60})\, f_p^{70}$	10%	1%
$\alpha + \delta$	Sum of "poor" enlargement and enrichment effect		16%	20%
	TOTAL		100%	100%

where f_p = percentage of the population which was "poor"

f_n = percentage of the population which was "non-poor"

$\bar{y}_p$ = average income of the "poor" population

$\bar{y}_n$ = average income of the "non-poor" population

continued on next page

Table 3 continued

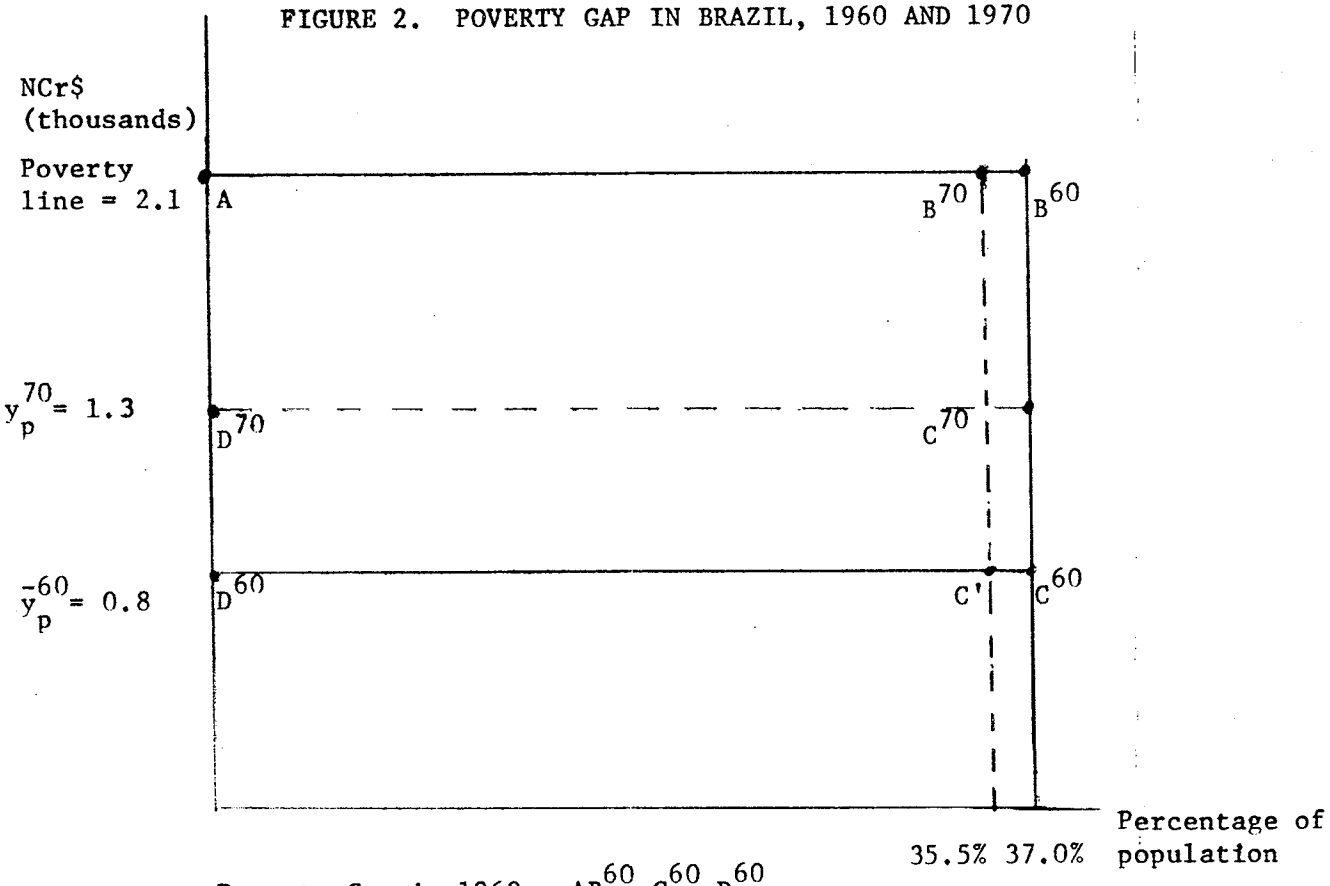
and

Brazil, 1960	Brazil, 1970	U.S. 1959	U.S. 1969
f_p^{60} = 37.0%	f_p^{70} = 35.5%	f_p^{59} = 23.8%	f_p^{69} = 14.9%
f_n^{60} = 63.0%	f_n^{70} = 64.5%	f_n^{59} =76.2%	f_n^{69} = 85.1%
$\bar{y}_p^{60}$ = NCr$0.8	$\bar{y}_p^{70}$ =NCr$1.3	$\bar{y}_p^{59}$ = U.S.$2,423	$\bar{y}_p^{69}$ = U.S.$2,689
$\bar{y}_n^{60}$ = NCr$8.3	$\bar{y}_n^{70}$ = NCr$10.6	$\bar{y}_n^{59}$ = U.S.$10,774	$\bar{y}_n^{69}$ = U.S. 12,343

Sources of data: Brazil--text

United States--Statistical Abstract of the United States (1971), Tables 485, 512, 513, 515, 517.

FIGURE 2. POVERTY GAP IN BRAZIL, 1960 AND 1970



Poverty Gap in 1960 = $AB^{60}\ C^{60}\ D^{60}$

Poverty Gap in 1970 = $AB^{70}\ C^{70}\ D^{70}$

Reduction in Poverty Gap Between 1960 and 1970 = $B^{70}\ B^{60}\ C^{60}\ C' + D^{70}\ C^{70}\ C'\ D^{60}$

Source: See Text

The outstanding result is that the bulk of economic growth in Brazil accrued to persons who had been above the poverty line in 1960. Of the total growth, only about 16% went to "the poor." Of this, six percentage points went to elevating formerly poor persons above the poverty line, while the other ten percentage points served to make "the poor" somewhat less poor.

Before arriving at a qualitative judgment about this pattern, two considerations should be borne in mind. For one thing, it is not really surprising that most of the economic growth of a country would be received by the non-poor. This is partly because higher income persons have superior access to income-earning opportunities; partly because many countries develop by creating more employment of professional and skilled workers, who are likely to have been earning above the poverty line to begin with; and partly because of the simple mathematical fact that the poor cannot receive a very large share of the income growth before they are no longer poor. In addition, if we compare the percentage of growth accruing to the "poor" in Brazil (16%) with the same figure for the United States for the same decade (20%), we find that the results are not very different, despite the reputation of the U.S. as a relatively more egalitarian society. Thus, the pattern observed for Brazil may be a bit more understandable.

Finally, we may examine the extent to which the Brazilian economy closed its "poverty gap" during the 1960s. The poverty gap is calculated as the sum of the differences between each poor person's (or family's) income and the poverty line. This concept may be illustrated with the aid of Figure 2. Poor persons in 1960, who comprised 37.0% of the population received an average income of NCr$0.8. The poverty gap then was:

(10) Poverty gap in 1960
= (poverty line minus mean income of persons below the poverty line in 1960)

X (Population below the poverty line)

= ($2.1 - $0.8) x 37.0%P

= 48.1% P,

where P is the economically active population, and is illustrated by the area $AB^{60}\ C^{60}\ D^{60}$.

Similarly, for 1970, we have

(11) Poverty gap in 1970

= ($2.1 - $1.3) x 35.5%P.

= $28.4% P,

given by area $AB^{70}C^{70}D^{70}$ in Figure 2. Expressed as a percentage of population, the amount of the poverty gap made up during the 1960s is the sum of two components: that part of the increase in incomes which elevated some of the poor up to the poverty line ($B^{70}B^{60}C^{60}C'$), plus the increase in incomes of those who remained below the line ($D^{70}C^{70}C'\ D^{60}$). For Brazil between 1960 and 1970, the amount made up was:

(12) Poverty gap made up

= (Gap between poverty line and mean income of "the poor" in 1960) x (Percentage of "poor" elevated above the poverty line)

+ (Change in mean income of "the poor" between 1960 and 1970) x (Percentage of "poor" remaining poor)

= [($2.1 - $0.8) x 1.5%P] + [($1.3-0.8) x 35.5%P]

= $19.9%P.

The percentage of the poverty gap made up in Brazil over the decade is the ratio of (12) to (10) or 41%.

Coincidentally, in the United States, the poverty gap was reduced by exactly the same percentage, 41%, over the same period, much of which comprised the "War on Poverty" years of the Johnson administration.[1] Although the percentage reduction was the same in the two countries, their patterns differed noticeably, as may be seen from the following figures:

	Brazil 1960-1970	United States 1959-1969
Percentage Reduction in Poverty Gap	41%	41%
Percentage Reduction in Fraction "Poor"	5%	33%
Percentage Reduction in Percentage Difference Between Average Income of "The Poor" and the Poverty Line	38%	20%
Fraction of Poverty Gap Reduction Attributable to Smaller Fraction of Population Below the Poverty Line	10%	61%

The differences may be illustrated by comparing Figures 2 and 3. We observe that in Brazil, the poverty gap reduction took the form of substantially raising the incomes of "the poor" while elevating relatively few above the poverty line. In the United States, in contrast, the fraction "poor" was reduced by one-third, but those who remained "poor" were helped relatively less by a decade of growth than in Brazil.

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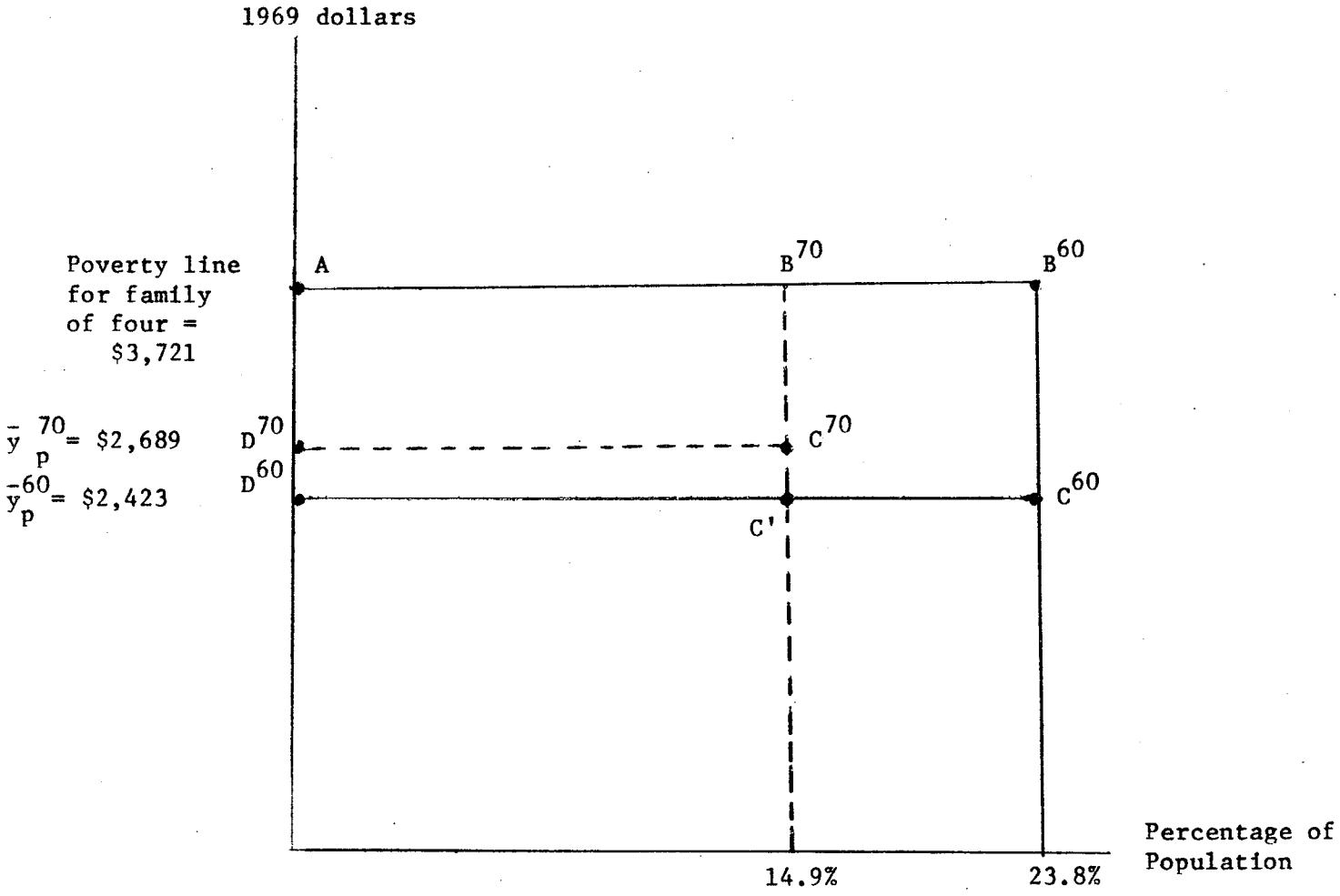
[1] Statistical abstract of the United States (1971, Table 517)

FIGURE 3

POVERTY GAP IN THE UNITED STATES, 1959 AND 1969



Poverty Gap in 1959 = $AB^{60}\ C^{60}\ D^{60}$

Poverty Gap in 1969 = $AB^{70}\ C^{70}\ D^{70}$

Reduction in Poverty Gap Between 1960 and 1970 = $B^{70}\ B^{60}\ C^{60}\ C' + D^{70}\ C^{70}\ C'\ D^{60}$

Source: Statistical Abstract of the United States (1971), Tables 512, 513, 515, 517.

III. How it Happened

How was the Brazilian economy able to shift its entire income distribution and eliminate a considerable percentage of its poverty gap during a decade of growth? The basic dimensions of change are given in Table 4.

We begin by observing that for three-quarters of that country's economically active population, wages were the only source of income, and the income received by wage-earners was 71% of the total. It follows, therefore, that the changing income distribution has its primary origin in a changing labor market.

Sections B and C document the familiar notions that incomes are higher in urban than rural areas, and higher in industry than in agriculture. Thus, a shifting income distribution and reduction of poverty could result from the transfer of the population from rural agriculture to urban areas in general and to the industrial sector in particular.

In Sections D-F, we see that that is just what happened. The urban population grew nearly twice as fast as the total population and more than six times faster than the rural population, which can only be due to substantial rural-urban migration. Output in the industrial sector grew at an above-average rate (96% opposed to an average of 79%) while agricultural sector output growth was below average (53%). The differences in employment growth are even more marked: 77% growth of the industrial sector, and only 9% in agriculture.

The changing sectoral distribution of the labor force is reflected as well in the occupational distribution (Section F). The number of jobs at the lowest occupational levels (more or less the equivalent of unskilled,

menial labor) increased by just 2% over the decade, while the number of jobs at higher levels doubled. Consequently, the importance of "primary jobs" fell from 54% to 43% of total employment.

Finally, we may note that labor force participation increased over the decade, due to dramatic increases in the employment of women in every age group. On the other hand, there were noticeable but relatively small declines in employment rates for men, particularly the very young and very old. The increased employment of women is likely to represent an influx of previously underutilized human capital, with consequent increases in wage levels.[1]

What caused labor market conditions to change? During the 1960s Brazil shifted toward an export-promotion development strategy and away from a policy of import-substitution. In Brazil as in many other less developed countries, it is generally thought that import-substitution was accompanied by factor price distortions which hindered employment growth by favoring capital-intensive techniques in manufacturing.[2] The export-promotion phase, beginning in 1964, raised capital costs by means of monetary correction and lowered labor costs via wage controls. The expected result was more labor intensive production, which indeed took place (see Section I). The likely consequences

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[1]Recall that the income distribution figures presented above refer to the economically active population. It may be presumed that size distribution of income among families became more equal (or less unequal) than the distribution among persons, insofar as many of these women are "secondary" workers" whose earnings supplement those of their husbands.

[2]But for a constrasting view of the labor absorption experience during the import substitution phase, see Morley and Williamson (1974).

of greater labor intensiveness on income distribution would be a) a narrowing of the wage structure, b) more employment of the previously-unemployed, presumably at the lower occupational levels, but also c) more employment at higher levels, (i.e., a more unequal occupational structure), and therefore the possibility of greater measured inequality, which we have observed.

In summary, we may conclude that the changing income distribution in Brazil resulted largely from changing labor market conditions, in particular:

(1) A relatively high rate of growth of output and employment in the relatively high-paying urban sector;

(2) A relatively high rate of growth of output and employment in the relatively high-paying industrial sector;

(3) A relative expansion of employment in "modern sector" occupations;

(4) Changing labor force composition away from the very young and very old in favor of prime-age women, who are apt to be more productive than those whom they replaced in the labor force.

Furthermore, the changing labor market conditions seem in turn to have been caused at least in part by a shift to an export-promotion development strategy.

Table 4

SOME ASPECTS OF BRAZILIAN ECONOMIC GROWTH
DURING THE 1960s

A.	Income Source, 1970[a]			
	Wage earners as percentage of income recipients			74%
	Income received by wage-earners as percentage of total			71%
B.	Median Earned income by rural-ruban, 1960 (approximate)[b]			
	Urban and suburban households			Cr$1,250
C.	Median Earned income by economic sector, 1970 (approximate)[c]			
	Industrial			NCr $195
	Agriculture			110
	All sectors			165
D.	Population (in Millions)[d]	1960	1970	Growth
	Total	70.1	93.2	33%
	Urban	32.5	52.1	60%
	Rural	37.6	41.1	9%
E.	Real output by sector 1949 = 100[e]			
	Industrial	261.4	511.8	96%
	Agriculture	156.1	239.5	53%
	Total real produce	205.7	368.5	79%
F.	Employment by sector (in Millions)[f]			
	Industrial	3.0	5.8	77%
	Agriculture	12.2	13.1	9%
	Total economically active population	22.6	29.5	30%
G.	Employment by occupational type (in thousands)[g]			
	Primary: agricultural activities, vegetable extraction, and fishing	12,271	12,533	2%

continued

Secondary: Mineral extraction, industrial production and services, and construction	2,791	5,476	96%
Terciary: Professionals, sellers of services (including repairmen and domestic workers), merchants, transport and communication workers and civil servants (including police and army)	5,341	11,082	107%

H. Rate of Employment as percentage of population in Each Age-Sex Group[h]

	1960	1969
Men		
15-19	72.4%	68.2%
20-24	92.3	89.3
25-34	97.2	96.0
35-44	96.9	95.8
45-54	94.0	92.5
55-64	83.2	81.5
65 +	59.1	51.4
Men 15 and over	88.6%	84.8%
Women		
15-19	23.4%	37.4%
20-24	22.5	41.7
25-34	17.8	36.3
35-44	17.1	34.2
45-54	15.6	31.0
55-64	12.6	22.7
65 +	8.5	10.0
Women 15 and over	18.4%	33.6%

I. Employment/output ratio by sector)[i]

	1960	1968-70	% change
Agriculture	2.27	2.50	+10%
Industry	.52	.63	+20%
Services	.49	.68	+38%

Notes to Table 4:

a) Comisión Economica para América Latina (1974), p. 22
b) Brasil (1960), Table 6
c) Brasil (1970), Table 8
d) Brasil (1960), Table 1 and Brasil (1970), Table 1
e) Fundacao Getúlio Vargas (1973), Table 2
f) Brasil (1970), Table V
g) Singer (1971), Tables 2.V, 2.VI
h) Singer (1971), Table I.I
i) Wogart (1974), Table 6

IV. Conclusions

The conventional wisdom concerning Brazilian economic development over the 1960-1970 period may be summarized by three propositions:

(1) The absolute rate of growth was very high.

(2) Income distribution worsened over the period.

(3) Significant social and political costs were paid.

As a result, many writers have questioned whether the higher rate of economic growth was "worth it."

Without addressing the issue of social and political costs and accepting the finding that aggregate growth was very rapid over the decade, this paper has re-examined the income distributional consequences of Brazilian economic development over the 1960s. Among the findings are the following:

(1) The entire income distribution shifted, benefiting every income class.

(2) There was a small decline in the fraction of the economically active population classified as below the poverty line, but those who remained "poor" received markedly higher incomes.

(3) The percentage increase in incomes for those below the poverty line was more than double that of those above the poverty line.

(4) The relative income gap between "poor" and "non-poor" persons narrowed in terms of ratios but widened absolutely.

(5) The bulk of the income growth over the decade accrued to persons above the poverty line. However, a similar pattern is observed for the United States, an allegedly more egalitarian society.

(6) The poverty gap in Brazil was reduced by 41% between 1960 and 1970. The United States reduced its poverty gap by exactly the same percentage over the same decade.

(7) The patterns of production and employment in the Brazilian economy shifted over the decade in favor of the relatively advanced and high-paying sectors: urban areas, the industrial sector, and relatively high-level occupations.

These findings cast considerable doubt on the conventional wisdom concerning the distributional consequences of Brazilian economic growth. At minimum, the notion that "the rich got rich at the expense of the poor" receives no support in the data examined here. Furthermore, while the very richest (i.e., top 5%) benefited over the decade, we also see that in several respects, the "poor" benefited relative to the "non-poor." We might conclude by asking a qualitative question: despite a rising share of income going to the very richest and rising Gini coefficient, did the Brazilian size distribution of income really worsen?[1]

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[1]After completing the draft of this paper, I learned that Morley and Williamson (1974) have also questioned whether a rising Gini coefficient really signifies reduced social welfare. Their observation pertains to Brazilian growth over the 1949-62 period.

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