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Who Benefits from Economic Development? - A Reexamination of Brazilian Growth in the 1960's

Abstract

[Excerpt] The purpose of this paper is to reexamine one of these two challenges, namely, the distributional impact of Brazilian economic growth during the 1960's. My results lead to a quite different interpretation from the conventional one. I will show that the poor in Brazil did participate in the rapid economic growth of the decade. Estimates presented below indicate that average real incomes among families defined as poor by Brazilian standards increased by as much as 60 percent while the comparable figure for nonpoor families is around 25 percent. However, since nonpoor 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. Thus, 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 more slowly (percentagewise) than those of nonpoor families. These and other findings are presented below in Section II, and some of the reasons for the observed changes are discussed in Section III.

In assessing the distributional consequences of Brazilian economic growth, this study explicitly adopts an *absolute* poverty approach. In so doing, it is at odds with the bulk of the economic development literature, which while urging a poverty focus, has long relied on measures of relative income inequality and Lorenz curves. Thus, this paper does not merely offer "one more measure"; it is, rather, the use of a different type of measure that causes the divergent results. The paper concludes in Section IV by reviewing the principal findings and exploring some further questions of more general applicability raised by the Brazilian debate.

Keywords
development, economic growth, Brazil, income distribution, poverty

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Who Benefits from Economic Development?— A Reexamination of Brazilian Growth in the 1960's

By Gary S. Fields*

One of the most interesting and controversial cases of recent economic development is that of Brazil. Over the decade of the 1960's, Brazil achieved a substantial rate of growth by the standards of less developed countries (*LDC*). For the latter years of the 1960's and the first part of the 1970's, growth rates approached 10 percent per annum. On this basis, the Brazilian case was widely heralded as an "economic miracle."

More recently, however, two 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 examined the distributional question of who received the benefits of this growth, found greater income inequality according to conventional measures, and concluded that the poor benefited very little if at all. 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. The consequent debate, involving Albert Fishlow (1972, 1973a,b), Carlos Langoni (1972, 1975a,b), and Celso Furtado, among others, has been intense and often acrimonious, resulting in widespread disagreement about the desirability of taking Brazilian economic and social policies as a

model for other developing countries to follow.

The purpose of this paper is to reexamine one of these two challenges, namely, the distributional impact of Brazilian economic growth during the 1960's. My results lead to a quite different interpretation from the conventional one. I will show that the poor in Brazil *did* participate in the rapid economic growth of the decade. Estimates presented below indicate that average real incomes among families defined as poor by Brazilian standards increased by as much as 60 percent while the comparable figure for nonpoor families is around 25 percent. However, since nonpoor 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. Thus, 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 more slowly (percentagewise) than those of nonpoor families. These and other findings are presented below in Section II, and some of the reasons for the observed changes are discussed in Section III.

In assessing the distributional consequences of Brazilian economic growth, this study explicitly adopts an *absolute* poverty approach. In so doing, it is at odds with the bulk of the economic development literature, which while urging a poverty focus, has long relied on measures of *relative* income inequality and Lorenz curves. Thus, this paper does not merely offer "one more measure"; it is, rather, the use of a different *type* of measure that causes the divergent

TABLE 1—BRAZILIAN SIZE DISTRIBUTION OF INCOME AND
ECONOMICALLY ACTIVE POPULATION, 1960 AND 1970

A. Variable Income Brackets

Monthly Income in 1960 NCr$[c]	Percentage of Population	Percentage of Income	Monthly Income in 1970 NCr$[c]	Percentage of Population	Percentage of Income
None	14.7	0.0	None	11.7	0.0
0–2.1	22.3	5.2	1–100	31.7	8.0
2.1–3.3	14.4	7.0	101–150	12.8	6.2
3.3–4.5	10.5	7.4	151–200	15.6	10.6
4.5–6.0	13.1	12.3	201–250	4.5	3.9
6.0–10.0	13.8	20.0	251–500	14.6	21.2
10.0–20.0	8.2	22.2	501–1000	5.9	17.1
20.0–50.0	2.6	16.4	1001–2000	2.2	13.0
Over 50.0	0.5	9.4	2001 and over	1.0	20.1
Mean (Current NCr$)	5.52		Mean (Current NCr$)	258.1	
Mean (1960 U.S. $ per year)	513		Mean (1960 U.S. $ per year)	679	
Gini Coefficient	0.59		Gini Coefficient	0.63	

B. Comparable Income Brackets[a]

Monthly Income in 1960 NCr$[c]	Percentage of Population		Cumulative Percentage of Population	
	1960	1970[b]	1960	1970[b]
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

Source: Panel A, Albert Fishlow (1972), Tables 1 and 5.
[a]Calculated from data in Panel A.
[b]Approximations.
[c]NCr$ (thousands).

results. The paper concludes in Section IV by reviewing the principal findings and exploring some further questions of more general applicability raised by the Brazilian debate.

I. Basic Results and the Customary Interpretation

The best known study of economic growth and changes in the size distribution of income in Brazil over the decade of the 1960's is that of Fishlow (1972). The basic data are reported in Panel A of Table 1. Looking first at the level of income, the mean income among the economically ac-

tive population in constant U.S. dollars increased from $513 in 1969 to $679 in 1970, a real increase of 32 percent.[1]

At first glance, however, the data on income distribution seem to tell another story. We see that the upper 3.2 percent of the economically active population received 27 percent of the income in 1960; by 1970, their share had risen to more than 32 percent. In addition, the Gini coefficient rose from 0.59 to 0.63, seemingly implying a less

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

even income distribution. A second study of Brazilian growth over the same period, by Langoni (1972, 1975a), arrives at basically the same changes in the income distribution.[2]

In research on the distributional consequences of economic development, virtually all studies to date have maintained (usually implicitly) that changes in economic well-being are positively related to changes in the *level* of national income and negatively related to changes in measured *inequality* in its distribution, using such measures as the Gini coefficient or the share of income accruing to the poorest 40 percent. In accordance with this type of judgment, Fishlow's interpretation of the rising Gini coefficient and income share of the very richest is the following: "The conclusion that inequality has increased over the course of the decade accordingly seems correct, if lamentable" (1972, p. 399). The qualitative result—of a "worsening" income distribution in Brazil—has been widely accepted.[3,4]

Contrary to the customary interpretation,

a reexamination of the Brazilian data from an absolute income perspective tells a different story. This is the subject of Section II.

II. A Reexamination

A. *The Distribution of the Benefits of Growth*

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 what share of 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 income position and other characteristics. The type of longitudinal (or panel) data needed to do this do not exist for Brazil. In their absence, we must rely on frequency distributions of the population by income class.

To measure changing absolute incomes, the numbers presented in Table 1 do not quite suffice, because they have different income brackets in the two years.[5] Lacking the raw data with which to make an exact fit, it is necessary to take the income brackets for one year as a 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 Panel B of Table 2.[6,7]

.[2]Using slightly different definitions than Fishlow and excluding unremunerated workers and the unemployed, 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 percent (from 27.9 to 34.9 percent of national income). Langoni's exclusion of zero-income persons is presumably the reason why his Gini coefficients are lower than Fishlow's. For an English-language description detailing the characteristics of these and other income distribution sources, see Langoni (1975b).

[3]See, for instance, the work of Irma Adelman and Cynthia Taft Morris, William Cline, and Adolfo Figueroa and Richard Weisskoff.

[4]The Brazil debate has been conducted largely on the basis of the undisputed rise in the Gini coefficient. However, it is well known that when Lorenz curves cross, as they have been shown to do in Brazil, some indices of relative income inequality may indicate a more equal distribution of income, while others may indicate the reverse. (For an empirical illustration of this point for three Latin American countries, see Weisskoff.) Possible ambiguities in Brazil were apparently put to rest by Langoni (1972, p. 15), who reported increases in the variance of logarithms and the Theil inequality index as well as the Gini coefficient. More recently, though, Samuel Morley and Jeffrey Williamson reported that the relative inequality measure proposed by A. B. Atkinson yields the opposite result.

[5]This is also true for other sources of income distribution statistics; see Langoni (1975b).

[6]The procedure used to approximate the 1970 distribution is the following. The mean incomes in 1960 and 1970 were $513 and $679, respectively, both measured in constant 1960 *U.S.* dollars. These same means, expressed in current new cruzeiros (NCr$), 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

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 the economic growth which took place over the decade reached persons at 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 data 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 1960's.

B. *Income Growth of the Poor and Nonpoor*

The analysis may be extended to compare the income growth of the poorest groups

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used the exact distribution of the economically active population across these income categories rather than this approximation; but owing to the lack of a public use sample for the microeconomic data, this was impossible.

One may ask whether the simplified linear interpolation introduces a bias into Panel B and subsequent calculations, and if so how great that bias is. The answer is that the income share of those in the 0–2.1 income class is overstated by my assumptions, but under *no* possible alternative assumptions would any of the conclusions reached below, in particular, the conclusion about the relative rates of income growth among the poor and nonpoor, be reversed qualitatively. Details of these calculations may be found in the author (1976).

[7] A referee has noted that the data used in this paper include zero-income persons. He argues that these were previously unpaid farm workers who were forced off the land during the 1960's and took up wage employment. If this is correct, it raises the possibility that the income gains observed in the statistics are more apparent than real (due to the receipt of cash incomes, which are recorded, rather than incomes-in-kind, which were not). To resolve this doubt, he suggested excluding the zero-income labor force and reestimating income levels at the lower end of the distribution. I performed these additional estimates and found that the conclusions presented below are sustained. The calculations are available upon request.

with 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 classified as poor increase or decrease over the decade, i.e., was the incidence of poverty being reduced?

2) What were the rates of increase of income among the poor and nonpoor, i.e., were the remaining poor getting less poor, absolutely and relatively?

3) How much of the economic growth over the decade went to the poor and how much to the nonpoor?

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 line. Something like 31 percent of Brazilian families were poor in 1960 by Brazilian definitions.[8] 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 than 2.1 NCr$ constant), which in 1960 comprised 37.0 percent of the population, were below the poverty line. From now on, we will refer to these persons with incomes below 2.1 as "the poor" and the rest of the population as "the nonpoor."

Considering first the question of changing numbers of poor, we see from Panel B 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 percent. There was not a higher incidence of poverty in 1970 than in

[8] The poverty line is defined according to Brazilian standards. Says Fishlow: "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 medium sized municipio is applied; and for all other urban residents, the Northeast level, incremented 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" (1972, pp. 393–94).

TABLE 2—ANALYSIS OF ECONOMIC GROWTH IN BRAZIL AND
THE UNITED STATES DURING THE 1960's

Effect	Definition of Effect	Importance in the Economic Growth of:[a]	
		Brazil 1960–70	U.S. 1959–69
α = Enlargement of the higher 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;	$(f_n^{70} - f_n^{60})(\bar{y}_n^{60} - \bar{y}_p^{60})$	6	19
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;	$(\bar{y}_n^{70} - \bar{y}_n^{60}) f_n^{60}$	82	72
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;	$(\bar{y}_n^{70} - \bar{y}_n^{60})(f_n^{70} - f_n^{60})$	2	8
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;	$(\bar{y}_p^{70} - \bar{y}_p^{60}) f_p^{70}$	10	1
$\alpha + \delta$ = Sum of "poor" enlargement and enrichment effect		16	20
Total		100	100

Sources: Brazil (see text); *U.S.: Statistical Abstract of the United States 1971*, Tables 485, 512, 513, 515, 517.
Notes: f_p = fraction of the population which was poor.
        f_n = fraction of the population which was nonpoor.
        $\bar{y}_p$ = average income of the poor population.
        $\bar{y}_n$ = average income of the nonpoor population.

Brazil		United States	
1960	1970	1959	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

[a]Shown in percent.

1960, as might have been supposed from the rising inequality coefficients. Neither, though, was the incidence of poverty substantially reduced.

Next, let us compare the rates of growth of incomes among the poor as opposed to the nonpoor. To determine the average income in each group in each year, we use the basic accounting identity that total income, in the economically active population as a whole or for the poor and nonpoor sub-populations, is equal to the mean income multiplied by the number of persons in question. Letting $\bar{y}_p$ and $\bar{y}_n$ be the mean incomes of the poor and nonpoor, respectively, and P be the population, we have, for 1960,

$$(1) \quad 37.0\% \, P^{60} \bar{y}_p^{60} + 63.0\% \, P^{60} \bar{y}_n^{60} =$$
$$P^{60} (5.52)$$

(2) $37.0\% \ P^{60} \bar{y}_p^{60} \ = \ 5.2\% \ P^{60} \ (5.52)$

and for 1970,

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

$$P^{70} \ (258.1/35.32)$$

(4) $35.5\% \ P^{70} \bar{y}_p^{70} \ =$

$$8.0\% \ P^{70} \ (2.1/2.8) \ (258.1/35.32)$$

Equations (1) and (3) tell us simply that total income is equal to the sum of the incomes of the poor and nonpoor. In equations (2) and (4), the incomes of the poor are expressed first as their mean income multiplied by the number poor, and then as income in the economically active population multiplied by the income share of the poor. The numbers in parentheses are explained in footnote 6.

Solving, we find for the poor:

(5) $\bar{y}_p^{60} \ = \ 0.8 \qquad \bar{y}_p^{70} \ = \ 1.3$

$$\frac{\bar{y}_p^{70} - \bar{y}_p^{60}}{\bar{y}_p^{60}} \ = \ 63\%$$

and for the nonpoor:

(6) $\bar{y}_n^{60} \ = \ 8.3 \qquad \bar{y}_n^{70} \ = \ 10.6$

$$\frac{\bar{y}_n^{70} - \bar{y}_n^{60}}{\bar{y}_p^{70}} \ = \ 28\%$$

From (5), we see that the poor became noticeably less poor; their incomes are estimated to have grown by 63 percent over the decade. Furthermore, comparing (5) and (6), the incomes of the poor appear to have grown at a rate more than double that of the nonpoor.[9] This reinforces the earlier observation that the rich in Brazil did not benefit during the 1960's at the expense of the poor.

Is the 1970 distribution of incomes be-

[9] The specific figure is open to question for two offsetting reasons. On the one hand, income growth of the poorest 37.0 percent is understated, since some 4 percent of the poor (1.5%/37.0%) received large enough income increases to raise them above the poverty line, and their incomes appear as nonpoor incomes in the above calculations. On the other hand, the average income of the poor in 1970 ($\bar{y}_p^{70}$) tends to be overstated, owing to the fact that although the poorest of the poor received incomes below the average for their income category, they were assigned the average value in the approximations of Table 1 and

tween poor and nonpoor more or less equal than the 1960 distribution? The answer depends on how one defines "equal." If absolute real income differentials are our standard, we observe

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

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

(8) $$\frac{\bar{y}_n^{60} - \bar{y}_p^{60}}{\bar{y}^{60}} \ = \ \frac{7.5}{5.52} \ = \ 1.36$$

$$\frac{\bar{y}_n^{70} - \bar{y}_p^{70}}{\bar{y}^{70}} \ = \ \frac{9.3}{258.1/35.32} \ = \ 1.27$$

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

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

that is, a reduction of the ratio of nonpoor to poor incomes of about 20 percent. The interpretation of these figures is a matter of individual judgment.

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 nonpoor. In my 1975 paper, I have devised a methodology for decomposing total economic growth into four effects pertaining to the enlargement of the various sectors and the enrichment of persons within them. The specific formulas, and the numerical results for Brazilian economic growth during the 1960's, are given in Table 2. The outstanding result is that the bulk of economic growth in Brazil accrued to persons who had been above the poverty line in 1960 ($\beta = 82$ percent). Of the total

equation (4). Notwithstanding these doubts, it is certain that the incomes of the poor grew at least as rapidly as those of the nonpoor, since it is mathematically impossible for the data to be consistent with the alternative hypothesis (incomes of the poor growing more slowly); see fn. 7. At issue is *how much* greater was the increase for the poor. Although we work with the data in Table 1 in what follows, the reader should remember that these are only approximate values and not exact figures.
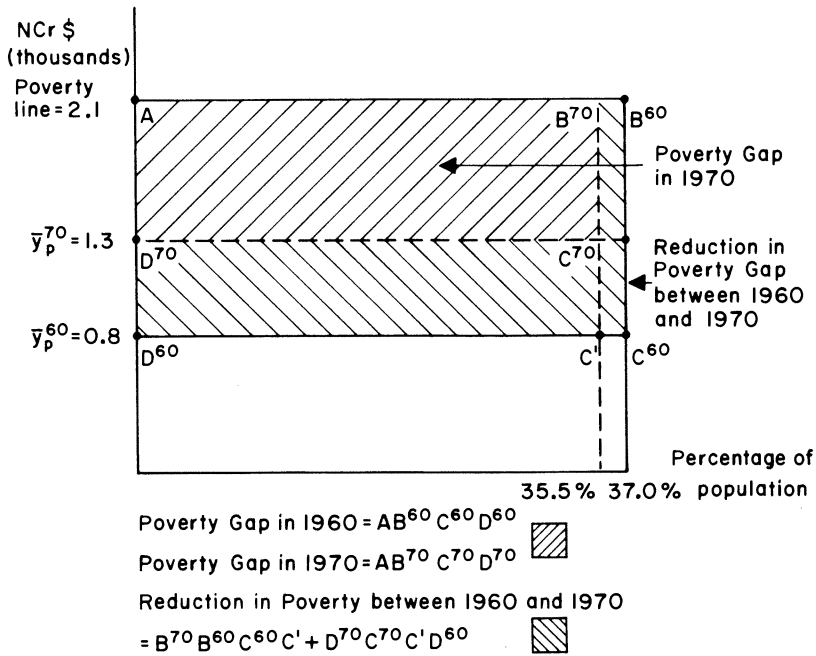
FIGURE 1. POVERTY GAP IN BRAZIL, 1960 AND 1970

growth, only about 16 percent ($\alpha + \delta$) went to the poor. Of this, 6 percentage points went to elevating formerly poor persons above the poverty line (α) while the other 10 percentage points served to make the poor somewhat less poor (δ).

In interpreting 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 nonpoor. 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 percent) with the same figure for the United States for the same decade (20 percent), we find that the results are not very

different, despite the reputation of the United States as a relatively more egalitarian society. In future research, it would be most interesting to compare α, β, and δ in a number of *LDCs* and to try to understand similarities and differences in the observed patterns.

Finally, we may examine the extent to which the Brazilian economy closed its poverty gap during the 1960's. 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 1. Poor persons in 1960, who comprised 37.0 percent of the population (P), 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 line in 1960) x (Population below the poverty line)

= (\$2.1 − \$0.8) x 37.0% P

= \$48.1% P

The poverty gap in 1960 is illustrated by the area $AB^{60}C^{60}D^{60}$. Similarly, for 1970, we have

$$(11) \quad \text{Poverty gap in 1970}$$
$$= (\$2.1 - \$1.3) \times 35.5\% \, P$$
$$= \$28.4\% \, P$$

given by area $AB^{70}C^{70}D^{70}$. Expressed as a percentage of population, the amount of the poverty gap made up during the 1960's 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:

$$(12) \quad \text{Poverty gap made-up}$$

= (Difference between poverty line and mean income of the poor in 1960) x (Number of poor elevated above the poverty line)

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

$$= [(\$2.1 - \$0.8) \times 1.5\% \, P]$$
$$+ [(\$1.3 - \$0.8) \times 35.5\% \, P]$$

$$= \$19.9\% \, P$$

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

Coincidentally, in the United States (see U.S. Bureau of the Census, Table 517) the poverty gap was reduced by exactly the same percentage (41 percent) over the same period, much of which comprised the "War on Poverty" years of the Johnson Administration. Although the percentage reduction was the same in the two countries, their patterns differed noticeably, as may be seen from the following data:[10]

	Brazil 1960-70	United States 1959-69
Percentage Reduction in Poverty Gap	41%	41%

[10]Sources: Brazil: computed from Table 1 in text; United States: U.S. Bureau of the Census, Tables 512, 513, 515, 517.

	Brazil 1960-70	United States 1959-69
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%

We observe that in Brazil, the poverty gap reduction took the form of substantially raising the incomes of the poor in percentage terms 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. These observations support the view that poverty in Brazil involves individuals potentially in the mainstream of the economy (principally low-income workers) while poverty in the United States is often attributable to lack of economic activity (for example, among retirees and the physically and mentally handicapped).

C. *Summary*

Concerning the changes in income distribution in Brazil over the decade of the 1960's, this section has established the following:

1) The entire income distribution shifted in real terms, 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 (in proportional terms).

3) The percentage increase in income for those below the poverty line was greater than the increase for those not in poverty, and may well have been twice as high, or more.

4) The relative income gap between poor and nonpoor 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. A similar pattern is observed for the United States, an allegedly more egalitarian society.

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

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 3.

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 percent of the total. It follows, therefore, that the changing income distribution has its primary origin in a changing labor market.

Earnings are higher in urban than rural areas, and higher in industry than in agriculture. Thus, a shifting income distribu-

TABLE 3—SOME ASPECTS OF BRAZILIAN LABOR MARKETS IN THE 1960'S

	1960	1970	Growth
Income Source, 1970[a]			
Wage earners as percentage of income recipients			74%
Income received by wage earners as percentage of total			71%
Median Earned Income By Rural-Urban, 1960 (approximate)[b]			
Urban and suburban households			Cr$1,250
Median Earned Income By Economic Sector, 1970 (approximate)[c]			
Industrial			NCr$195
Agriculture			110
All sectors			165
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%
Real Output By Sector, 1949 = 100[e]			
Industrial	261.4	511.8	96%
Agriculture	156.1	239.5	53%
Total real product	205.7	368.5	79%
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%
Employment By Occupational Type (in thousands)[g]	1960	1969	
Primary: Agricultural activities, vegetable extraction, and fishing	12,271	12,533	2%
Secondary: Mineral extraction, industrial production and services, and construction	2,791	5,476	96%
Tertiary: 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%
Others not elsewhere classified	2,248	873	

[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]Fundação Getúlio Vargas (1973), Table 2.
[f]Brasil (1970), Table V.
[g]Singer (1971), Tables 2.V, 2.VI.

tion 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. 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. Rates of growth of output and employment in the industrial sector were higher than in agriculture. The changing sectoral distribution of the labor force is reflected as well in the occupational distribution, the number of jobs at the lowest occupational levels increasing by just 2 percent over the decade, the number of jobs at higher levels doubling.

What caused labor market conditions to change as they did? The answer goes to the very heart of the Brazilian economic model. The main points of contention concern the role of government policy, particularly in four areas: industrialization and stabilization, international trade, government wage policy, and education. It is well beyond the scope of this paper to attempt to pass judgment on the relative merits of the opposing viewpoints. The interested reader is referred to Fishlow, Furtado, *Brazilian Trends*, Morley and Williamson, J. P. Wogart, Kenneth Mericle, John Wells, and Pedro Malan and Wells. How much of the improvement in labor market conditions is due to economic growth itself and how much to government policy remains an unsettled issue.

IV. Conclusion

A. *Recapitulation*

The conventional wisdom concerning Brazilian economic development over the 1960-70 period may be summarized by three propositions:

1) The absolute rate of growth was high, particularly in the latter part of the period.

2) Income distribution worsened.

3) Significant social and political costs were paid.

Many economists and other social sci-

entists have invoked judgments on points 2) and 3) in questioning whether the higher rate of economic growth was "worth it." Evidence on the first two points is presented in Section I above.

Accepting the rapidity of aggregate growth over the decade, I have in this paper reexamined the challenge concerning the income distributional consequences of Brazilian growth. The main innovation is the use of *absolute poverty* measures in place of the usual *relative inequality* indices. Changes over the decade in absolute economic position of the poor and nonpoor populations were presented in Section II.

The findings based on the absolute poverty approach cast considerable doubt on the conventional wisdom. At minimum, the widely held notion that "the rich got rich at the expense of the poor" receives no support in the data examined here. To the contrary, the poor in Brazil clearly *did* share in a decade of economic development. Some poor were lifted out of poverty. For those left behind, their incomes grew at least as rapidly as those of the nonpoor. At the same time, the very rich also got richer than before, in both absolute and relative terms. Relative inequality did become greater by most measures.

Section III then described how changes in the structure 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 factors presumably account for a considerable part of the observed income distribution changes.

B. *Issues in Interpreting the Brazilian Experience*

In appraising the performance of the Brazilian economy over the 1960's, some important questions are raised by these findings:

1) *How much weight do we want to give in our evaluations to changes at which points on the income distribution?*

I have chosen in this paper to concentrate

on the number of very poor in Brazil and on the levels of income they receive. Such a focus has been urged by many writers, including Fishlow and Langoni themselves.[11] Nonetheless, the measures they use focus either on the entire income distribution or on the very top. In particular, it is well known (see, for example, David Champernowne) that the Gini coefficient assigns the greatest weight to changes in the *middle* of the income distribution and is relatively insensitive to income changes at either end. There thus appears to be a discrepancy between the welfare weights implicit in the measures used by previous writers on Brazil and the judgments they themselves wish to make about the primacy of income changes among the very poor.

2) *Are the incomes of the poor in Brazil being raised fast enough?*

An increase in average incomes of the poor of as much as 60 percent in a decade works out to an average annual rate of about 4 percent, starting from a very low level. I am unaware of evidence from other less developed countries that might indicate whether this rate is comparatively high or low. In any event, taking Brazil on its own, with a continuing growth rate of 5 percent per annum, 20 to 30 years would be needed to raise the poorest decile up to $100 per capita income, given the present pattern of income inequality. Writes Fishlow: "Can the present starving poor be expected to wait for 30 years, amid rising affluence, to attain the princely sum of $100 per capita? That, stripped of its niceties, is what the debate is all about" (1973, p. 90). Whether the growth experience of Brazil should be commended or condemned may well hinge on the answer to this question.

3) *Was the economic growth of the latter 1960's and early 1970's worth the apparent social and political costs?*

Very few studies of economic develop-

ment have considered the noneconomic costs of growth. Yet, in the case of Brazil, this issue can hardly be avoided. In presenting these results on the distributional question, I have *not* taken a position in favor of the social measures adopted in Brazil, nor would I wish to. Conventional welfare economics offers no real 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 ends justify the means, but this is a value judgment, not a scientific conclusion, and others will undoubtedly disagree.

C. *How to Determine Who Benefits from Economic Development*

Beyond these specific questions pertaining to the particular case of Brazil, this study raises a much more fundamental issue of general applicability, namely, *how should distributional concerns be brought to bear in evaluating a country's economic development?* In my 1975 paper, I showed that when a country's high income sector enlarges to absorb an increasing share of the population, the more rapid alleviation of poverty is invariably accompanied by greater measured inequality in the early stages. When growth takes place in this fashion, should rising inequality be interpreted as an economically meaningful "worsening" of the income distribution or as an emotively neutral statistical artifact inherent in the very nature of this class of relative inequality indices? I would tend to opt for the latter. In any case, the key point is that there is no necessary concurrence between absolute-income and relative-inequality based distributional studies.

What this all basically comes down to is whether we wish to give greater weight in our judgments about the distributional consequences of economic development to the alleviation of absolute poverty or to the narrowing of relative income inequality. Personally, I am most concerned about the alleviation of absolute poverty among the

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[11] The desirability of a poverty focus has been stated clearly by Fishlow (1972, pp. 392–95) and Langoni (1972, pp. 80–81). For similar statements outside the Brazilian context, see, for instance, Robert McNamara in Hollis Chenery et al., and Dudley Seers.

very poorest, and have made use of measures with this explicit focus to the virtual exclusion of the rest of the income distribution. Others with different value judgments who may be more concerned than I with relative income comparisons or with the middle or upper end of the income distribution may wish to give relatively greater weight to changes in other measures in arriving at their own interpretations of the Brazilian experience.

Ideally, the choice of the measure to use and the specific welfare weights assigned should reflect the value judgments we wish to make. Despite recent advances in this area,[12] there is not yet any consensus on how best to go about bringing these judgments to bear in practice. This is perhaps one of the most important lessons emerging from the Brazil debate.

This reexamination of the Brazilian experience has raised some fundamental questions. Did the personal distribution of income *really* worsen in Brazil over the 1960's? Should the rising Gini coefficient weigh negatively in our welfare judgments, and if so, by how much? How much importance should be given to considerations of relative incomes as opposed to absolute poverty? By assigning heavy weight to changes in the usual indices of relative income inequality and interpreting these increases as offsets to the well-being brought about by growth, the participants in the Brazilian debate and others who have followed similar approaches in studies of other less developed countries appear to have overlooked important tendencies toward the alleviation of poverty.

[12]Among the recent works are Atkinson, Nicholas Stern, Montek Ahluwalia and Hollis Chenery, and the author and John Fei.

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