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## Brazil: Poverty and Inequality in the 1970s

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This paper presents selected results from a research program on variations in the socioeconomic structure of Brazil.

We begin with a few remarks about the geography and population of Brazil and go on to focus on three sets of recent findings about the nation's socioeconomic structure. The first will summarize findings on the nation's socioeconomic macroregions; the second, the macroregional patterns of social stratification as they stood in 1973; the third, changes in the incidence of extreme poverty over Brazil's growth decade of the 1970s.

### Geography and population.

**Land.** Brazil is one of the largest nations in the world today. With a land surface of 8.5 million square kilometers (3.3 million square miles), it is roughly the same size as the United States, Canada, and China. To illustrate its size, all of France would easily fit within the borders of any one of Brazil's six largest states.

**People.** By 1980, its population was over 119 million, making it one of the most populous nations on the globe. In fact it is 50 percent more populous than any European country west of Russia. Some of its states are giants. For example, at over 25 million people, Brazilian state of Sao Paulo is larger than any American state, including New York or California, not to mention many independent countries.

**Economy.** At the beginning of this decade Brazil's economy was ranked as the world's tenth largest — the eighth largest market economy. In some ways, its economy resembles that of China and India. Its population, too, is generally poor. Yet like them it has the resources needed to mount advanced systems of science and technology and is doing so. The similarities may end there. Today it would seem that the main impediments to Brazil's development are a shortage of oil and coal on the one hand and a poorly educated population on the other. Partly because it has modernized much of its farm production, its export agriculture is a significant factor in international trade. Its export manufacturing is now also entering the scene.

**Main Regions.** Most of the population — nine out of every ten people — lives in a band of coastal and near-coastal states south from Ceara, within about 400 miles of the Atlantic shore. The area in which they live comprises about two-fifths of the nation's land surface. The other tenth or so of the people live in the vast western and northern regions — three-fifths of the total area — that comprises the Undeveloped Frontier. Brazil's Amazon forests are part of the Frontier, and indeed Brazil's Amazonia alone is so large that were it a separate country it would be the ninth largest in the world.

The Northeast is a second major sociological region. It could be said to run from Ceara through Bahia and Espirito Santo, including about two-thirds of Minas Gerais. About 30 percent of the population live there. It could be called the Underdeveloped Northeast, for many of its people are among the poorest anywhere.

The Developed South is the last of the three basic sociological regions, also comprising a fifth of the nation's territory, it includes about three-fifths of the population. Practically all the nation's manufacturing and most of its capital-intensive farming are located here. The nation's new capital, Brasilia, stands just about at the junction of the South, the Northeast and the Frontier. Five of the nation's million-plus cities are in the South. Three are in the Northeast. Brasilia is the other. The city of Sao Paulo stood at 8.5 million in 1980, Rio de Janeiro at five million.

**Uniqueness.** Though it is part of South America, it is separated from almost all its ten next-door neighbors by distance, language and culture. Actually, for all practical purposes, Brazil's long borders would be said to touch developed regions only in the South, at Uruguay, and a bit of Argentina and Paraguay. The language, too, is different from those of the nations comprising the other half of South America. The official language is Portuguese and it is in fact the first, and usually only, language of almost everyone. The nation has strong ties to the United States, Portugal, France, Italy, Germany, Britain, and Canada, and to various peoples of West Africa. Racially and nationally, its people are mixtures of Portuguese, Indian, Negroid, Italian, German, Japanese, and others in almost all imaginable combinations, the original cultures now practically all merged into a rather homogeneous, distinctive Brazilian culture and society.

**Projection Abroad.** Despite its size and vigor Brazil does not seem to have impressed the rest of the world very much as yet. Of course, its soccer is well known, and at least a few people have come to appreciate its creativity in music and literature. Its greatest projections, however, are still to come. The growth in its reputation will probably follow the growth in its export economy and the emergence of the political leadership it seems destined to assume in the years ahead. But whatever the route, it seems certain that within the next ten to twenty years Brazil's already significant position among nations will

become obvious to everyone.

Now we turn to new findings regarding Brazil's socioeconomic structure.

#### Socioeconomic Macroregions.

Reference has already been made to the three major sociological regions dividing the country — the empty Frontier, the depressed Northeast, and the relatively well-to-do South. Stretching from lowland equatorial rain forests in the North, along the coasts, through tropical plateaus in the Center, to temperate plains in the far South, Brazil's natural ecology varies from the most inhospitable to the most salubrious. Then, too, regional economies and ethnic cultures developed from the widely separated settlements that came into being near the shore two or three centuries ago. So in a way, regional variations have always been obvious. Serious research on them began at least forty years ago, and has led to official regionalizations of the nation. Several regional constructions exist, and are used for various purposes. Actually they do not differ very much. With few exceptions, they are sets of continuous states separated by state borders, no doubt in recognition of the power of certain states. Usually they turn out to be about five in number. The Northeast — sometimes larger, sometimes smaller — is always one. The North is always considered to be another. The Center-west is a third. The populous, prosperous South is usually divided into upper and lower regions — the "South" and the "South East" or "Center South." Not only do these demarcate ecological areas, but at least as important, they separate poor macroregions from those that are well-to-do. Actually, it cannot be said that the official macroregions vary systematically by socioeconomic development (SED). But they come close. Brazilian planners use them to help devise region-wide development strategies.

In recent years, researchers have tried to refine the identification of Brazil's socioeconomic macroregions. They have not been successful and a careful examination of their procedures shows why. There are two reasons. First, uncertain as to the exact criteria by which to measure development, some researchers have included any imaginable variable, assuming that a factor-analysis of the resulting set of intervariable correlations would automatically yield a clear picture of the underlying SED variable. Actually, this obscures the measurement of SED because it yields several uninterpretable factors. The second mistake was to use the 26 states and territories as the small units to be aggregated into macroregions. Many of Brazil's states are huge, cutting across and thus obscuring the SED macroregions that would otherwise be plainly visible. Smaller units would be better.

Recently, the research group regionalized Brazil by methods designed to correct these mistakes. SED was measured by variables selected for clear theoretical reasons. 1970 data were used. Each initial variable had to be a *percapita* measure of either 1) a key economic development variable, or 2) an item from the pool of well-known indicators of familial socioeconomic status. Eight such variables were selected. To get around the problem of oversized small units, SED measures were analyzed at the level of Brazil's 360 continental microregions. Analysis of the resulting matrix of scores for each of the eight variables taken on each of the 360 microregions yielded a clear single factor. From this, a microregional SED scale was developed. The SED scale provides a score for each microregion. The range is zero to 100. (Later research showed development to be highly related to the consumption of electricity within each microregion. This is to be expected, of course. But it is not a trivial item. Brazil has an abundance of electricity. Development of poor areas might be enhanced by putting it to work. New sources of energy for Brazil's vast numbers of poor families might well release new productive activity in that 1) homes could then be healthier places to live in, 2) the unproductive nightly hours of darkness shortened, and 3) demands for new and new and useful consumer items encouraged.)

Recall that SED scores measure the average socioeconomic development levels of the *population* of the microregion, to some extent independently of the type of economy, ecology, and climate (though these influence development, of course). When SED scores are mapped, the locations and boundaries of macroregions varying according to the SED of their populations are obvious. A number of such macroregional boundaries cut across states; large parts of the great states of Bahia, Goiás, Minas Gerais, and Pará, among others, are seen to be located in two or more SED macroregions. Details of this analysis may be found elsewhere (Haller, 1982). But a few highlights may be indicated. On the whole, these results confirm and extend what was already well understood but unproven about Brazil's socioeconomic macroregions. But some findings are quite new. Let us quickly review the main findings. 1. The most obvious feature of this map was not well known. There is a vast region of about 1.5 million square kilometers, lying near the Northeast, whose microregions are all but one in the lowest one-fifth in SED. It includes Maranhão, Piauí, half of Bahia, and parts of Ceará, Pernambuco, Pará, and Minas Gerais. 2. The second most obvious feature is the developed South. Practically all of its microregions are in the top 40 percent, many in the top 10 percent. It includes Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, most of Rio de Janeiro, and part of Minas Gerais. Practically all the best-off macroregions are here. They are concentrated in São Paulo, Rio Grande do Sul, Santa Catarina and Rio de Janeiro. But Paraná also has several. 3. The industrialized microregions have high SED scores. This is not surprising. But many of the highest SED microregions are agricultural. 4. Next is a feature which may not have been observed before: a macroregion whose microregions are average in SED, encircling the northern reaches of the South and extending, if fragmentarily, out along the western border of the nation into Acre. It is evidently a regional periphery of the developed South. It includes all of Espírito Santo, parts of Rio de Janeiro, Minas Gerais, the Federal capital, parts of Goiás, all of Mato Grosso do Sul, part of Mato Grosso, all of Rondonia, and part of Acre. 5. The next feature is the near-coastal Nor-

theast, comprising all of Rio Grand do Norte, Paraíba, Alagoas, and Sergipe, plus the populous parts of Ceará, Pernambuco, and Bahia, and the northeast corner of Minas Gerais. This macroregion is well-known, except that here it has lost its sparsely populated western parts. Its most characteristic aspect is its uneven development, rather than uniform underdevelopment. Its most populous urban areas are moderately developed: Salvador, Recife, and Fortaleza. It includes, indeed, microregions ranging in SED from among the next highest one-fifth down to the lowest one-fifth. 6. The last feature is the undeveloped Amazonian frontier — most of Pará and Mato Grosso, part of Acre, and all of Amazonas, Roraima, and Amapá. Actually its people are almost all located in tiny urban concentrations surrounded by immense stretches that are nearly uninhabited. These few urban enclaves are sufficiently developed to bring the average SED levels of the Frontier's population off the bottom in most of its microregions. But it is practically all undeveloped and unpopulated.

This system of regionalization is flexible, lending itself to a number of uses. Especially when combined with other information, such as population density, it seems quite informative. For example, the basic sociological division mentioned earlier — the Undeveloped Amazonian Frontier, the Underdeveloped Northeast, and the Developed South — results from a simple cross-classification of microregions dichotomized by SED and population density. Practically all of the Frontier's macroregions are low in SED and sparsely populated. Practically all of the Northeast's macroregions are low and densely populated. Most of those of the South have high SED scores and are densely populated.

Thus, systematic socioeconomic macroregionalization has provided new and confirmed earlier insights into Brazil's developmental mosaic.

#### Macroregional Patterns of Social Stratification.

The five newly identified macroregions can be used to determine how social stratification varies among regions that differ markedly from each other according to the level of socioeconomic development of the people in the microregions composing them. The research team has used the Brazil's 1973 National Household Sample Survey data for this purpose. This was a national probability sample of over 80,000 households, containing nearly 300,000 persons ten years of age or older. Actually, the main reason for the analysis was to test widely accepted hypotheses about the effect of socioeconomic development on stratification — previously untested hypotheses that nonetheless are widely accepted. In this presentation, however, the results are used merely to indicate how stratification varies with development among Brazil's macroregions.

The term "social stratification" refers to society's more or less enduring patterns of inequality among persons and families regarding prestige, privilege, and power; in other words, regarding social standing and access to goods, services and information. Among its other objectives, stratification research today has two central descriptive aims. One is to measure variations in the structure of stratification systems. The other is to determine how status attainment occurs, how individuals are selected into status positions. As applied to Brazil these aims may be translated into a series of questions such as the following: Is the stratification system more open in the developed South than elsewhere? Is the Northeast indeed more stratified than other parts of the nation, as many seem to believe? Is there some special sense in which it is more stratified? Indeed, what if anything is the relationship between the development level of a region and the degree to which it is stratified?

The research team has attempted to answer such questions by means of the data on members of the 1973 Brazilian sample survey. These data include a statement of each person's formal schooling; the responses were transformed to obtain an estimate of the number of years of formal education for each participant. They also include a statement of each person's earnings during the most recent pay period. These responses were transformed to form an estimate of each person's annualized total income. The data include a statement of each person's occupation, coded into one of 263 specific occupational titles. When averaged over all persons reported a given occupation, these data on income and education can be used to form a scale measuring the socioeconomic status of each of the 263 occupations. A person may then be assigned the average status attributed to all people in his or her occupation. Thus measurements may be taken for each person on three different variables describing status: education, income and occupational status. This practice has now become routine among stratification researchers. Of course, there are many other items of data available on each person — age, sex, father's occupation, one's class and that of his father, metropolitan-nonmetropolitan residence, county (and therefore microregion) of residence, etc.

These variables may be used to describe the status of individuals and to work out causal models of their status attainment processes. The status variables may also be aggregated so as to measure the structural characteristics of the stratification system as a whole. Six different structural variables are known to describe different aspects of the structure of stratification systems. The three that have been subjected to the most scrutiny are used here. They are: status dispersion (or degree of inequality), status flux (or degree of intergenerational status circulation mobility — the average degree to which the statuses of people in the system are independent of those of their fathers) and status crystallization (the degree to which the different status variables are correlated with each other). Each of these structural variables measures an aspect of the degree of stratification of a society or macroregion. A macroregion with a high degree of dispersion around the means of its status variables is one that is relatively unequal. In that regard it would be highly stratified. A macroregion that has a low degree of flux would be considered highly stratified in another sense; the status of people of the present generation would be controlled by that of their fathers. Finally, a macroregion which is crystallized, in that the different status variables are highly correlated

with each other, would be highly stratified. That is, a weakly crystallized system would be one in which a person's position on any one status variable would not be much affected by his position on any other: education, occupation status, and income would not be highly interrelated.

So a strongly stratified system would be one with a high degree of status dispersion, a low degree of circulation mobility, and a high degree of crystallization. A weakly stratified system would be the opposite. Thus the relationship between the development level and structural degree of stratification among Brazil's SED macroregions may be determined arraying the SED score of each macroregion by the scores marking the degree of stratification each exhibits on each structural variable. (Actually, we shall see in the conclusion to this section that there is a bit more to it than this, for this form of analysis yields an unexpected finding whose eventual explication seems instructive.)

As noted, there are two main current focuses of descriptive theory of stratification. One, which we have just discussed in relation to development, concerns variations in the structure — the "shape" — of stratification systems. The other concerns variations in the processes of status attainment of individuals within such systems. Status attainment research attempts to specify causal patterns determining the relative level of education, occupational status, and income of the individual (recognizing that these themselves are causally ordered: education affects occupational status and income, occupational status affects income). The present *general* problem is to determine the effect of macroregional development on these causal patterns. The *specific* problem is to determine the effect of development on two classes of causal variables. One class describes the status and class origins of the person — the effect of inherited privilege on one's status. The other describes the effect of one's own capacities, education and experience, on one's occupational status and income. The overall research problem is thus to determine the extent to which one's attainments are affected by status and class origins and by one's own abilities. The underlying notion is that ability will be most effective in the more developed macroregions and that the inherited privilege will be most effective in the less developed macroregions.

The results of the analyses of macroregional socioeconomic development in relation to the structural degree of stratification and to the role of inheritance and ability on status attainment follow.

**1. Macroregional development level and the structural degree of stratification.** First, the degree of dispersion or inequality of education, occupational status and income rises with the level of development of the macroregions. It is highest or most unequal in the South, and lowest in the Northeast. The Frontier and the South's Periphery occupy intermediate positions. Second, the degree of occupational status flux is higher in the least developed macroregions and lowest in the most developed. (Flux estimates cannot be calculated with these data for education or income.) Third, if anything, status crystallization tends to be highest in the more developed macroregions.

Thus in Brazil, the structural degree of stratification appears to be greatest in the most developed and smallest in the least developed macroregions.

**2. Macroregional development level and the processes of status attainment.** Regarding development and inherited privilege, the results are mixed and mostly negative; there is no consistent pattern. Development increases the effect of class origins on one's education. Capitalist fathers are increasingly more successful than non-capitalists in educating their offspring as macroregional development rises from the least to the most developed regions. Among women, the effect of father's occupational status (whether capitalist or not) on income also rises with development, but among men it falls. Macroregional development has no effect on the relationship between one's father's occupational status or one's father's class on one's own occupational status. Neither does it have any effect on impact of one's father's occupational status on one's education or of one's father's class on one's income. Thus the effect of inherited privilege does not vary much among the development macroregions. It is quite high everywhere, if anything a bit higher in the more developed regions.

Next is the relationship between macroregional development and ability — education and experience — on one's own status. The results of the impact of development on the status effects of education are also mixed, though on the whole they increase with development. Specifically, education has greater effects on occupational status in the more developed macroregions. Among women, the effect of both education and occupational status on income rises with development, but this is not true among men. The results regarding the effect of development on the relationship between experience and status are clearer. For men and women, and for occupational status and income, they rise with development.

**3. Conclusions regarding the degree of stratification in relation to macroregional socioeconomic development level.** Despite certain mixed findings, the main conclusions from this analysis are clear enough even though they do not seem to agree with assumptions generally held about Brazil. The structural degree of stratification is highest in the developed South and is (mostly) progressively lower in the less developed regions. Moreover, the effect of one's status and class origins on one's own status is rather high everywhere, if anything a bit higher in the more developed regions. The effects of ability are rather clearer. The effect of education on occupational status rises with development. For women, so also do the effects of education and occupational status on income. The latter effects of development do not hold for men, however. For them, it does not influence the effect of education on income, and it has a negative influence on the income effect of occupational status. In general, however, development raises the effect of experience on occupation status and on income for both men and women.

Thus, by the above criteria, the general picture of the variations of the degree of stratification across Brazil's more

developed and less developed macroregions is this: the more developed macroregions appear to be structurally more stratified than the less developed, and status inheritance also tends to be higher in the more developed areas. But this does not mean that the effect of education and experience varies inversely with development. On the contrary: if anything, it increases with development. In other words, the developed South seems structurally the most stratified, and the deeply underdeveloped "inner" Northeast least. The intermediately developed areas are also intermediately stratified. Yet both status inheritance and ability seem to have the greatest effect on status attainment in the most developed, structurally most stratified regions, and the least effect in the least developed.

This suggests that status attainment processes must be most determinate in the South, and least determinate in the "inner" Northeast, with the other regions again intermediate. So it appears to be. A study of the coefficients of determination ( $R^2$ ) yielded by comparable regressors across education, occupational status, and income, for each macroregion by sex, show randomness of status attainment varies inversely with development.

**4. Reflections on macroregional development in Brazil.** The conclusions just drawn appear to be instructive and — so far as they go — accurate. But more remains to be said.

First, as a whole, Brazil is a highly stratified society. Father's occupational status has a substantial effect on status attainment in each macroregion. Despite this, as Pastore (1982) shows — and this analysis confirms — considerable circulation mobility, not to mention structural mobility, also occurs in Brazil.

Second, education makes a great deal of difference in status attainment in all macroregions. For example, in this modestly schooled society, each additional year of education a person obtains yields, on the average, seven or eight percent more income, when all other known factors are held constant statistically.

Third, the Frontier behaves a bit differently from the overall pattern. It fits, but not smoothly. It is less stratified than might be expected from a simple linear relationship between stratification and development. The egalitarian and "rags-to-riches" characteristics of frontier life have received scholarly attention for generations. The Brazilian experience may help us to understand them. Suppose that the open lands we call "frontiers" are those that firms and governments have decided to open up through investment. As frontiers, hardly anyone at all lives in them, certainly not the trusted and well-paid regular employees of the Company. In the beginning most of the few long-term residents of the Frontier are poor. But in order to invest its money wisely, a firm must obtain trustworthy key personnel. But how and from where? From the settled home-base regions it selects educated and experienced personnel and provides handsome rewards to induce them to leave the comforts of home for the rigors of the frontier. From the frontier it selects promising individuals who, as residents, provide indispensable knowledge of frontier itself. They, too, are rewarded. So there are substantial gains for selected new migrants and for some old residents. This raises average income levels, induces high rates of structural and circulation mobility, and reduces the status crystallization, although status dispersion may increase as the upwardly mobile pull away from the low status levels of most of the long-term residents. This interpretation seems consistent with recent Brazilian experience and it may also fit today's Siberia and the American West of the last century.

For Brazilianists, the most interesting anomaly may be the apparently low degree of stratification of the Northeast. "Everybody knows" that the Northeast has Brazil's most "rigid" stratification system. The evidence presented here seems irrefutable, at least as far as it goes. But it runs against the considered opinions of almost everyone who knows Brazil. Certain new data, plus a re-examination of the available evidence, may help explain the discrepancy. Actually, the populous and unevenly developed near-coastal "old" Northeast shows up in the data as more stratified by most counts than would be predicted from a linear graph of the relationship between stratification and development. Still, it appears to be neither as stratified as the South nor as unstratified as the "inner" or "new" Northeast. But this does not explain why the underdeveloped "new" Northeast is so weakly stratified. Neither is it sufficient to account for the general belief that the "old" Northeast is the most stratified region of Brazil.

To seek an explanation, a pair of rarely used structural dimensions of stratification were examined region by region. These have been called "skewness" and "stratigraphy" (Haller, 1970). In stratification, skewness refers to the tendency of the "masses" to be concentrated at a low point on a status scale, with but a few more-favored people tailing off into the heights. Stratigraphy refers to the possible presence of multiple modes — points of concentration of people at different levels of the status distribution. It might be called the "lumpiness" of the distribution. It could be hypothesized that in highly skewed structures the "masses" see those toward the top as if they were in the loftiest of positions even though by world standards those at the top may not appear to be of especially high status. Actually nobody sees a stratification system. But enough people can visualize enough parts of such a system so that certain kinds of inequality stand out. We surmise that a highly skewed system would be interpreted as a highly stratified system, while a less skewed system might not give this appearance even though in fact it might in other ways be more stratified. Similarly a split, sharply bi-modal or tri-modal, system might be experienced as highly stratified even though by criteria other than stratigraphy it is not; while an otherwise more stratified system with a smoother status distribution might be experienced as less stratified.

To obtain a visual image of the shape of the structure of stratification, one which would show the skewness and the modes that define discrete strata, the frequency distributions were plotted for each status variable by each development macroregion for both men and women. The resulting graphs may well explain why the Northeast seems so stratified while the

rest of the nation seems less so. The systematic differences plainly distinguishing each macroregion from every other and are far greater between the two Northeastern macroregions on the one hand and all the remaining three on the other hand. Within each macroregion and for both sexes, the distribution of each status variable — education, occupational status, and income — is sharply skewed. The masses really are at or near the bottom, and the minority who are higher stand in sharp status distinction to each other. For every variable, the lowest of values (zero years of education, the score of rural hand laborers for occupational status, less than \$400 year for income) is by far the most frequently occurring status. Not so for the other macroregions. Even there, though, most people are concentrated at low levels. But not at the abysmally low point characteristic of Northeasterners. Moreover, there are clear tendencies toward polymodality on each variable for each macroregion, though they are weakest in the Northeast, where almost everyone is on the bottom.

This then is the answer to why the Northeast is widely believed to be particularly highly stratified though measures of the most often used concepts show them not to be: the apparently weak stratification of the Northeast is an "equality of the outs." Practically everyone is on the bottom. Those who are above it in plain contrast to everyone else.

This has been a tour-de-force into the relation between macroregional socioeconomic development and the degree of stratification in Brazil. It would appear that on the whole the more developed the region the more stratified it is. Yet Frontier conditions tend slightly to lower the degree of stratification, making life a bit more egalitarian — at least for awhile. It also seems that part or all of the reason the Northeast seems so stratified is because its population is concentrated at the bottom of the regional (and national) stratification system, making those who are higher stand out by comparison. Could this exaggerated, but only too understandable, perception that Northeastern stratification is especially rigid be responsible for some of the recurrent tensions of the region or might they due to destitution itself?

#### Poverty in the Growth Decade of the 1970s.

It is widely understood that inequality increased in Brazil from 1960 to 1970. Popular belief would have it too that the benefits of the obvious economic growth of the 1970s went into the pockets of the well-to-do, driving the increasing numbers of the poor even deeper into poverty.

Poverty is indeed deep and widespread within Brazil. Every region has large numbers of extremely poor families, as is obvious to all but the most sheltered tourists. One does not have to be a statistician to realize that millions of people are destitute. This did not happen overnight, as far back as economists have calculated — nearly two centuries — the average income of Brazilians was low by present world standards. Where the average is low, the poor are many.

Even today relatively few Brazilians are in a position to visualize the vast Brazilian social mosaic, fewer still the foreigners who can. Formerly, deep poverty was mostly to be found in the rural areas, and did not attract much attention. But this has changed as the cities swelled, attracting and generating large numbers of poor people. Today Brazilians are more conscious of the depth and extent of the problem.

Deep poverty is not easy to describe because like most human phenomena the realities do not lend themselves to facile classification. One can distinguish, however, between relative and absolute poverty. Relative poverty exists wherever inequality exists, probably in every nation in the world. One is relatively poor when someone else has more. Absolute poverty is another matter. It, too, is widespread, although in some nations only a small percentage of the population is poor in the absolute sense. But it is not therefore any the easier to describe. For example, mass media portrayals of those in absolute poverty — the destitute — are useful, even though they are fragmentary. They represent the destitute as those whose every meal is problematical, who live in hovels or sleep on the streets, who scavenge refuse heaps and garbage cans for food, who lack the means to avoid or treat illnesses, who eat, drink, and breathe pollution. Statistical descriptions are less dramatic. They show a variety of patterns such as unemployment, overemployment and the use of child labor. Absolute poverty, then, is a persistent state in which a family's resources are so meager that survival itself is in daily jeopardy.

In another project led by Dr. Jose Pastore, the research team has just concluded a statistical description of the incidence and forms of extreme poverty in Brazil as it stood in 1970 and 1980. The data were taken from the 1.0 percent and the 0.75 percent samples of the 1970 and 1980 demographic censuses of Brazil. These data are recorded in a way that permits analyses of the work, income, age, sex, etc. of each individual within each familial household. The project is a study of the destitute, of families in extreme poverty. Families are the key unit of analysis because it is the family as a whole that allocates the activities of its members and within which the benefits are distributed. It is the unit of accumulation and consumption.

Extreme poverty was defined as no more than one quarter of a minimum wage per capita within the family. The minimum wage is the standard unit of wages in Brazil. It is intended to reflect the same level of buying power regardless of how the value of the cruzeiro fluctuates with Brazil's chronic but fickle inflation rate. The cruzeiro value of the minimum wage thus varies regionally and over time. Brazil's local economies, once regionally isolated, have been coalescing for several decades. This process continued over the 1970s, so that the cruzeiro values of the regional minimum wages moved closer to each other over the decade. The evidence shows the buying power of the minimum wage remained almost exactly the same throughout the decade in all regions. Almost the same; in fact it rose ever so slightly over the decade. The upshot of all this is that the minimum wage or some standard portion of it appears to be a very good metric by which to separate the very poor from all others. Because of the slight increase in its buying power, in 1980 it would count a few as poor who would not have

been so counted in 1970. This is important. It means that the percentage decreases in the incidence of poverty reported herein slightly under-estimates the true decrease. In other words, the real decrease may have been even greater than is reported below.

**Economic Growth.** Brazil's economic growth has been sufficiently documented in recent years. It has even been called the "Brazilian Miracle." From 1948 through 1976 the economy grew at a rate of seven percent per year, far in excess of the 2.7 percent rate of population growth. This involved immense transfers of population. From 1970 to 1980, the rural portion of the population dropped from 42 percent to 31 percent. During the decade, the portion of the work-force who were in manufacturing increased from 18 to 24 percent, and the portion in services from 38 to 46 percent. Data on personal income per capita across the decade are not immediately available. The research team has estimated the average annualized earnings of regularly employed adult male workers in 1973 to have been about U.S. \$1,456 (dollars of 1973), or about \$120 per month. Macroregional differences were great, from a high of \$150 per month in the South to a low of \$45 per month in the underdeveloped "inner" Northeast.

Perhaps the most telling data available for 1970 and 1980 is the growth in the economically active population (EAP). About 20 percent of the EAP is normally under-employed, but almost none were unemployed. Unemployment in the industrial sense seems to have emerged in Brazil for the first time during the 1980s. So increases in the EAP show the rate of growth in the number of jobs. From 1970 to 1980 the EAP grew at an average rate of 4.01 percent per year, far above the rate of population growth for the same period, 2.49 percent per year. All in all, the data suggest that jobs became much more plentiful and that the minimum wage kept just about the same buying power over the decade (actually increasing slightly).

So Brazil's economy expanded vigorously over the decade, generating employment for a constantly increasing proportion of its growing population. For the bulk of the population, this did not yield prosperity, of course. Far from it. Indeed it seems to be widely, though erroneously, believed that the benefits all accrued to the well-to-do, who spent them on consumer novelties.

**The Incidence of Extreme Poverty.** The incidence of extreme poverty among the 93 percent of Brazilian households that were family-based dropped dramatically over the decade. This conclusion is drawn from the research team's calculations. It is based upon the statistical analysis of the aforementioned public-use samples of the 1970 and 1980 demographic censuses. Persons living alone or in institutions are excluded, along with those in non-familial households. A familial household was defined to be in extreme poverty if its total reported income came to one-fourth of a minimum wage per capita (.25 MR/k), as indicated above. This is a measure of absolute, not relative poverty, and those at or below this level may fairly be described as destitute.

The key data are presented in Table 1. They show that the change in the incidence of destitution.

TABLE 1: The Incidence of Extreme Poverty in Brazil: 1970 and 1980<sup>1</sup>

Statistic	Year 1970	Year 1980
Families		
Percent	44	18
Number	7.3 million	4.4 million
Individuals		
Percent	51.5	21.5
Number	45 million	25 million

<sup>1</sup>Based upon persons living in familial households. Original calculations from public use samples of the 1970 and 1980 demographic censuses of Brazil provided by the Brazilian Institute of Geography and Statistics.

By present estimates, which seem quite reliable, the drop was from 44 percent of all Brazilian familial households in 1970 to 18 percent in 1980. Brazil is not a small country. Today, about three out of every 100 people in the world are Brazilian: over 120 million altogether. So we speak here of the lives of large numbers of people. In 1970, 7.3 million Brazilian families were at or below the deep poverty level; by 1980, 4.4 million. In 1970, this was more than 50 percent of all Brazilians; by 1980, less than 25 percent. This is a drop from about 45 million persons to about 25 million.

Let us back off a bit, so to speak, and look at these numbers again. Brazil's total population mounted over the decade from 93 to 119 million adding 26 million people to the nation. But those in deep poverty dropped from about 45 million to 25 million. In 1970 about one of every two Brazilians was in deep poverty; in 1980 about one in every five.

This fall in poverty must be one of the more massive announced social revolutions of the century. Are the facts correct? So, how did it happen? What does it mean?

Regarding the first of these questions, it should be clear that the numbers are estimates whose accuracy depends upon the initial interviewing, the precision of the sampling, and the validity of the .25 MR/k cutting point that defines poverty. The pre-

sent research teams, especially those based at the University of Wisconsin and the University of Sao Paulo, have made extensive use of mass data collected and recorded, as these were, by the Brazilian Institute of Geography and Statistics (IBGE). So have other experienced research groups. In Brazil itself, no serious question has yet been raised about the quality of the censuses of 1970 or 1980. The consensus of those who have employed IBGE's mass data-sets over the last 15 years or so suggests that the data are about as reliable as the best available in the more developed nations of northern Europe and America. Two questions may be raised about the .25 MR k cutting point. Does it identify families in extreme poverty? Does it work equally well over all Brazil? Regarding the first, it is clear that any family at so low a level of income would indeed have difficulty in maintaining itself. A family of four who earned one MR would have only about \$20 per month from which to feed, cloth, and otherwise support each of its members. So there can be little doubt: those at or below .25 MR k are indeed in deep poverty. On the other hand, no doubt large numbers of people over this line are also poor. Thus those identified as destitute no doubt are so; but many others may also have been close to that level in both 1970 and 1980. Regarding the second point, there are two main factors that might vary the survival power indicated by the .25MR k cutting point: region and rural-urban residence. In point of fact the standardization introduced by the use of the minimum wage probably negates the effect of regions. The effect of rural versus urban residence is harder to assess. There is evidence that caloric intake was a bit higher in rural areas in the mid-1970s, though the average level of nutrition did not meet minimum FAO standards in either case. But health and other survival facilities are scarcer in the rural areas. In other words the criteria may miss small rural-urban variations in the survival value indicated by the criterion. But if so they are unmeasurable and not likely to be of much consequence. Practically speaking, this means that measurement error due to rural-to-urban population shifts between 1970 and 1980 is probably negligible.

The overall conclusion to be drawn is that the incidence of deep poverty did in fact drop at a fast rate over Brazil's 1970s economic growth decade.

**Why Poverty Fell.** The basic reason why this quiet revolution has been occurring is that the economy grew and much of the increasing benefit was accumulated among the poor. In other words, economic development can and does reduce the incidence of poverty. In Brazil the reduction just recorded occurred at a fast rate by historical standards. The drop just seen, it will be recalled, happened in one short decade. The engine of this change was an economic increase that saw Brazil's manufacturing system grow to become for the first time a noticeable export factor in world trade. Export agriculture also expanded and diversified over the decade. It did so by moving toward technology — intensive production for a world market with a high demand for food. We have seen the first-order result — a rapid rise in the number of available jobs per person, and these mostly in non-farming sectors.

There were other factors. In mid-decade the fertility-rate dropped. So by 1980, family members tended to be a bit older. More of them were thus old enough to fill some of the new jobs that were coming into being. And because of the decline in fertility, there were fewer mouths to be fed with each wage that was earned. The data show an increase in the percentage of adult members in the family who were employed, with accompanying drops in the rates of under-employment and unemployment within families. The number of families with over-employed members — persons who worked over 48 hours per week — also increased. So did the number of families who put their theoretically unemployable members — mostly children and adolescents — out to work. All this happened while large numbers of people moved from farm to city. So new urban jobs opened up at a rate that exceeded both the population growth and the rate of urban in-migration.

In short, with economic growth came new jobs, more employment, smaller families and more money. Indeed, the percentage of families earning 1.00 MR/k or more rose from 14.2 percent in 1970 to 33.6 percent in 1980. This is why poverty fell so sharply.

**Policy Implications.** The main policy implications are to be drawn from the above and from a study of categories of families who are most likely to find themselves in poverty. The research shows that several types are especially vulnerable to deep poverty. They include the illiterate who are poorly equipped to take advantage of the newly emerging types of jobs; female-headed families, in which the burden of responsibilities is great; large families; the self-employed, especially those with few skills; agricultural hand-laborers; and Northeasterners.

The major observation is that economic development is indeed a mechanism for reducing poverty. Once commonly assumed, this understanding seems to have faded in recent years. It now appears that policies that yield economic growth may in fact reduce poverty rather rapidly.

Another way to reduce poverty is to employ income redistribution policies that increase the income of poor workers faster than others. Brazil has been doing this for about three years now, overadjusting the semi-annual wage corrections by ten percent for those earning three or fewer minimum wages. This policy seems to have been effective, though at the time of this writing it is being rescinded.

A third mechanism by which to reduce poverty would be to increase educational opportunities for the poorly schooled, especially at or below the junior high school level. Other research conducted by the present team shows that (net of other key factors) each additional year of education a person obtains yields seven or eight percent more income per year on the average. Many of the new jobs demand more education, and the kinds of farm jobs once available everywhere to illiterates are

declining. So both "pull" and "push" factors operate to enhance the value of those who are at least somewhat better educated.

Fourth are mechanisms to blunt the ravages of poverty on those who are most vulnerable to it. Two such can be mentioned, female-headed families and seasonal farm day-laborers. Both of these phenomena are growing, the first in urban areas, the second near the modernized farms. Actually, the Brazilian government is attempting to meet both.

The final comment is that though poverty has declined quite dramatically in Brazil, it remains widespread. Indeed the current world economic crisis could exacerbate it. It now seems clear that national economic growth policies can decrease the incidence of poverty, and that national research on the topic can provide the data by which many of the processes we call "poverty" can be understood.

#### General Conclusions.

This paper has provided the chance to view certain socioeconomic variations of a great nation. Though still impoverished by current world standards, it is large, vigorous, and growing. In decades to come it may well expand into its now empty frontier, and the exact forms of its socioeconomic development macroregions will no doubt change. The South, its periphery, and the Frontier will surely raise their development levels. This process will no doubt take longer in the two Northeast.

New forms of stratification will doubtless also emerge. One would guess that inequality as measured by the researcher might well increase everywhere, assuming that development in fact proceeds.

Poverty may well continue to decline, if so, and if detrimental world conditions do not intrude, Brazil's dream of prosperity may become more nearly approachable.

Brazil's main socioeconomic problem today is not inequality. It is poverty, and its solution is economic growth. Yet other evidence presented here suggests that economic growth may also increase social stratification. If so, then someday inequality might present new challenges to Brazilians.

#### NOTES

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