ECONOMIC GROWTH CENTER

YALE UNIVERSITY

Box 1987, Yale Station
New Haven, Connecticut

CENTER DISCUSSION PAPER NO. 273

# POVERTY, INEQUALITY, AND THE MEASUREMENT OF DEVELOPMENT PERFORMANCE

Gary S. Fields

December 1977



This paper was prepared for the United States Agency for International Development in compliance with Order No. AID-147-77-108. Research assistance of Douglas Marcouiller and Judith Oder and typing of Lois Van de Velde are gratefully acknowledged, as are the comments of John Eriksson, Gustav Ranis, and Robert Evenson on an earlier draft.

# INTRODUCTION

U.S. law requires that foreign assistance be directed increasingly toward countries which are committed to and are making progress toward "greater equality of income distribution" so as to "help the poor toward a better life." This paper presents evidence on the extent of improvement in economic position of the poor in six less developed countries---Costa Rica, Sri Lanka, India, Brazil, the Philippines, and Taiwan---and explores the reasons for the differential performances.

The volume of poverty and inequality in the world is staggering. Recently-compiled data on absolute poverty and relative inequality in a large number of countries may be found in Tables 1 and 2 respectively. Just in the countries assisted by the U.S. Agency for International Development (A.I.D.), more than one billion persons receive annual incomes below $150 (as of about 1970, in 1969 prices). In terms of inequality, the richest 5% of income recipients in less developed countries receive income shares which on average are five or six times higher than the income shares of the poorest 20% (which means that the income ratios of richest to poorest are more than twenty to one). If the poor in poor countries were compared with the rich in rich countries, the gap between rich and poor would be many times higher. The international development community has awakened to the human dimensions of these data with calls for "New Directions in Development Assistance" (U.S.A.I.D.), "Meeting Basic Needs" (International Labor Office), and "Redistribution with Growth" (World Bank).

# Table 1

*Poor majority populations in AID-assisted countries*

"POOR MAJORITY" IN AID ASSISTED COUNTRIES, ACCORDING TO PROPORTION OF POPULATION RECEIVING LESS THAN $150 PER CAPITA PER YEAR (1969 PRICES) LISTED BY AID REGION AND BY CONTRIBUTION TO "POOR MAJORITY" POPULATION OF THE REGION [1]

| | Total population (millions) | Percent of population receiving $150 per capita | "Poor majority" population (millions) |
|---|---|---|---|
| **Near East and South Asia:** | | | |
| India (64–5) | 537.0 | 91 | 488.7 |
| Pakistan (including Bangladesh) (66–7) | 111.8 | 72 | 80.5 |
| Egypt (64–5) | 33.3 | 50 | 16.6 |
| Turkey (68) | 35.2 | 45 | 15.9 |
| Sri Lanka (63) | 12.5 | 68 | 8.5 |
| Tunisia (70) | 4.9 | 52 | 2.5 |
| Regional subtotal | 734.7 | 83 | 612.7 |
| **East Asia:** | | | |
| Thailand (62) | 34.7 | 65 | 22.6 |
| Korea, South (70) | 32.0 | 45 | 14.4 |
| Philippines (71) | 37.1 | 32 | 11.9 |
| Vietnam, South (64) | 17.9 | 44 | 7.9 |
| Regional subtotal | 121.7 | 47 | 56.8 |
| **Africa:** | | | |
| Sudan (63) | 15.2 | 81 | 12.3 |
| Tanzania (67) | 13.2 | 91 | 12.0 |
| Kenya (68–9) | 10.8 | 86 | 9.3 |
| Madagascar (60) | 6.5 | 88 | 5.7 |
| Malawi (69) | 4.5 | 96 | 4.3 |
| Chad (58) | 3.2 | 96 | 3.1 |
| Senegal (60) | 3.8 | 69 | 2.6 |
| Dahomey (59) | 2.5 | 94 | 2.3 |
| Ivory Coast (70) | 4.2 | 45 | 1.9 |
| Sierra Leone (68–9) | 2.5 | 70 | 1.8 |
| Zambia (59) | 4.2 | 20 | .8 |
| Botswana (71–2) | .6 | 84 | .5 |
| Gabon (68) | .5 | 22 | .1 |
| Regional subtotal | 71.7 | 79 | 56.7 |
| **Latin America:** | | | |
| Brazil (70) | 93.6 | 45 | 42.1 |
| Colombia (70) | 21.1 | 42 | 8.9 |
| Peru (70–1) | 13.6 | 35 | 4.8 |
| Ecuador (70) | 6.1 | 70 | 4.3 |
| Dominican Republic (69) | 4.3 | 38 | 1.6 |
| Chile (68) | 9.8 | 16 | 1.6 |
| El Salvador (69) | 3.5 | 43 | 1.5 |
| Honduras (67–8) | 2.6 | 58 | 1.5 |
| Guatemala (66) | 5.2 | 22 | 1.1 |
| Uruguay (67) | 2.9 | 23 | .7 |
| Jamaica (58) | 2.0 | 27 | .5 |
| Costa Rica (71) | 1.7 | 14 | .2 |
| Panama (69) | 1.5 | 16 | .2 |
| Guyana (55–6) | .8 | 28 | .2 |
| Regional subtotal | 168.7 | 41 | 69.2 |
| All regions (37 countries) | 1,096.8 | 72.5 | 795.4 |

[1] Countries included are the 37 AID-assisted countries for which income distribution data are reported in Shail Jain "Size Distribution of Income: Compilation of Data" IBRD, Bank Staff Working Paper No. 190, November 1974. 27 AID-assisted countries are not included for lack of income distribution data. These are: Afghanistan, Bolivia, Burundi, Cameroon, Central African Republic, Ethiopia, Gambia, Ghana, Guinea, Haiti, Indonesia, Khmer Republic, Laos, Lesotho, Liberia, Mali, Morocco, Nepal, Nicaragua, Niger, Paraguay, Rwanda, Swaziland, Togo, Upper Volta, Yemen Arab Republic and Zaire. But the total 1970 population of these countries was only 242,000,000, compared to 1,097,000,000 for the countries included in the table. The method and sources for the tables are as follows. Population and GDP data are for 1970 (converted to 1969 prices in all cases), except for Pakistan, Sierra Leone, Tanzania, Thailand, India, Senegal, Sudan, South Vietnam, Egypt and Zambia, where the data refer to 1969, and Botswana (1968), Chad (1963) and Dahomey (1967). Dates for the income distribution data are shown in parentheses next to the country in the table. Income distribution data in the IBRD source cited above were presented in the form of income shares accruing to 20 equal subgroups of the population. To calculate the percent of the population receiving an annual per capita GDP below $150 the income share of a subgroup was multiplied by the total GDP figure for that country. This product was then divided by the number of individuals in that subgroup or the total population divided by 20. GDP and population refer to the most recent year for which data are available. Using $150 as a guide, the closest 5 percent interval was located and assuming equal distribution within this interval, the approximate percentage determined. The order in which countries are presented within regions was determined by the magnitude of the poor majority of the population, col. 3.

Source: The source for the population and GDP figures were the "U.N. Statistical Yearbook 69," and the "U.N. Yearbook of National Accounts Statistics 1971, V. III" respectively. GNP deflator indexes found in "Gross National Product," AID, FM/SRD, May 1974, were used to convert all GDP figures to 1969 prices. (Exceptions: Botswana, Jamaica, Sri Lanka Chad, Dahomey, and Guyana. GNP deflators were taken from an appropriate regional table of Africa or Latin America in the "U.N. Statistical Yearbook, 1973.")

Source: A.I.D. (1975).

TABLE 2 SIZE DISTRIBUTION OF PERSONAL INCOME BEFORE TAX IN 56 COUNTRIES: INCOME SHARES RECEIVED BY QUINTILES OF RECIPIENTS IN THE NEIGHBOURHOOD OF 1965

| Country and level of GDP per head | Percentiles of recipients | | | | | | Gini ratio | Maximum equilisation percentage | GDP per head in 1965 (US $) |
|---|---|---|---|---|---|---|---|---|---|
| | Below 20 % | 21-40 % | 41-60 % | 61-80 % | 81-95 % | 96-100 % | | | |
| *Under $100* | | | | | | | | | |
| Chad (1958) | 8.0 | 11.6 | 15.4 | 22.0 | 20.0 | 23.0 | 0.35 | 25.0 | 68 |
| Dahomey (1959) | 8.0 | 10.0 | 12.0 | 20.0 | 18.0 | 32.0 | 0.42 | 30.0 | 73 |
| Niger (1960) | 7.8 | 11.6 | 15.6 | 23.0 | 19.0 | 23.0 | 0.34 | 25.0 | 81 |
| Nigeria (1959) | 7.0 | 7.0 | 9.0 | 16.1 | 22.5 | 38.4 | 0.51 | 40.9 | 74 |
| Sudan (1969) | 5.6 | 9.4 | 14.3 | 22.6 | 31.0 | 17.1 | 0.40 | 30.7 | 97 |
| Tanzania (1964) | 4.8 | 7.8 | 11.0 | 15.4 | 18.1 | 42.9 | 0.54 | 41.0 | 61 |
| Burma (1958) | 10.0 | 13.0 | 13.0 | 15.5 | 20.3 | 28.2 | 0.35 | 28.5 | 64 |
| India (1956-57) | 8.0 | 12.0 | 16.0 | 22.0 | 22.0 | 20.0 | 0.33 | 24.0 | 95 |
| Madagascar (1960) | 3.9 | 7.8 | 11.3 | 18.0 | 22.0 | 37.0 | 0.53 | 39.0 | 92 |
| *Group average* | *7.0* | *10.0* | *13.1* | *19.4* | *21.4* | *29.1* | *0.419* | *31.6* | *78.3* |
| *$101-200* | | | | | | | | | |
| Morocco (1965) | 7.1 | 7.4 | 7.7 | 12.4 | 44.5 | 20.6 | 0.50 | 45.4 | 180 |
| Senegal (1960) | 3.0 | 7.0 | 10.0 | 16.0 | 28.0 | 36.0 | 0.56 | 44.0 | 192 |
| Sierra Leone (1968) | 3.8 | 6.3 | 9.1 | 16.7 | 30.3 | 33.8 | 0.56 | 44.1 | 142 |
| Tunisia (1971) | 5.0 | 5.7 | 10.0 | 14.4 | 42.6 | 22.4 | 0.53 | 44.9 | 187 |
| Bolivia (1968) | 3.5 | 8.0 | 12.0 | 15.5 | 25.3 | 35.7 | 0.53 | 41.0 | 132 |
| Ceylon (Sri Lanka) (1963) | 4.5 | 9.2 | 13.8 | 20.2 | 33.9 | 18.4 | 0.44 | 32.5 | 140 |
| Pakistan (1963-64) | 6.5 | 11.0 | 15.5 | 22.0 | 25.0 | 20.0 | 0.37 | 27.0 | 101 |
| South Korea (1966) | 9.0 | 14.0 | 18.0 | 23.0 | 23.5 | 12.5 | 0.26 | 19.0 | 107 |
| *Group average* | *5.3* | *8.6* | *12.0* | *17.5* | *31.6* | *24.9* | *0.468* | *37.2* | *147.6* |
| *$201-300* | | | | | | | | | |
| Malaya (1957-58) | 6.5 | 11.2 | 15.7 | 22.6 | 26.2 | 17.8 | 0.36 | 26.6 | 278 |
| Fiji (1968) | 4.0 | 8.0 | 13.3 | 22.4 | 30.9 | 21.4 | 0.46 | 34.7 | 295 |
| Ivory Coast (1959) | 8.0 | 10.0 | 12.0 | 15.0 | 26.0 | 29.0 | 0.43 | 35.0 | 213 |
| Zambia (1959) | 6.3 | 9.6 | 11.1 | 15.9 | 19.6 | 37.5 | 0.48 | 37.1 | 207 |
| Brazil (1960) | 3.5 | 9.0 | 10.2 | 15.8 | 23.1 | 38.4 | 0.54 | 41.5 | 207 |
| Ecuador (1968) | 6.3 | 10.1 | 16.1 | 23.2 | 19.6 | 24.6 | 0.38 | 27.5 | 202 |
| El Salvador (1965) | 5.5 | 6.5 | 8.8 | 17.8 | 28.4 | 33.0 | 0.53 | 41.4 | 249 |
| Peru (1961) | 4.0 | 4.3 | 8.3 | 15.2 | 19.3 | 48.3 | 0.61 | 48.2 | 237 |
| Iraq (1956) | 2.0 | 6.0 | 8.0 | 16.0 | 34.0 | 34.0 | 0.60 | 48.0 | 285 |
| Philippines (1961) | 4.3 | 8.4 | 12.0 | 19.5 | 28.3 | 27.5 | 0.48 | 35.8 | 240 |
| Colombia (1964) | 2.2 | 4.7 | 9.0 | 16.1 | 27.7 | 40.4 | 0.62 | 48.0 | 275 |
| *Group average* | *4.8* | *8.0* | *11.3* | *18.1* | *25.7* | *32.0* | *0.499* | *38.5* | *244.4* |
| *$301-500* | | | | | | | | | |
| Gabon (1960) | 2.0 | 6.0 | 7.0 | 14.0 | 24.0 | 47.0 | 0.64 | 51.0 | 368 |
| Costa Rica (1969) | 5.5 | 8.1 | 11.2 | 15.2 | 25.0 | 35.0 | 0.50 | 40.0 | 360 |
| Jamaica (1958) | 2.2 | 6.0 | 10.8 | 19.5 | 31.3 | 30.2 | 0.56 | 41.5 | 465 |
| Surinam (1962) | 10.7 | 11.6 | 14.7 | 20.6 | 27.0 | 15.4 | 0.30 | 23.0 | 424 |
| Lebanon (1955-60) | 3.0 | 4.2 | 15.8 | 16.0 | 27.0 | 34.0 | 0.55 | 41.0 | 440 |
| Barbados (1951-52) | 3.6 | 9.3 | 14.2 | 21.3 | 29.3 | 22.3 | 0.45 | 32.9 | 368 |
| Chile (1968) | 5.4 | 9.6 | 12.0 | 20.7 | 29.7 | 22.6 | 0.44 | 33.0 | 486 |
| Mexico (1963) | 3.5 | 6.6 | 11.1 | 19.3 | 30.7 | 28.8 | 0.53 | 39.5 | 441 |
| Panama (1969) | 4.9 | 9.4 | 13.8 | 15.2 | 22.2 | 34.5 | 0.48 | 36.7 | 490 |
| *Group average* | *4.5* | *7.9* | *12.3* | *18.0* | *27.4* | *30.0* | *0.494* | *37.6* | *426.9* |
| *$501-1 000* | | | | | | | | | |
| Republic of South Africa (1965) | 1.9 | 4.2 | 10.2 | 26.4 | 18.0 | 39.4 | 0.58 | 43.7 | 521 |
| Argentina (1961) | 7.0 | 10.4 | 13.2 | 17.9 | 22.2 | 29.3 | 0.42 | 31.5 | 782 |
| Trinidad and Tobago (1957-58) | 3.4 | 9.1 | 14.6 | 24.3 | 26.1 | 22.5 | 0.44 | 32.9 | 704 |
| Venezuela (1962) | 4.4 | 9.0 | 16.0 | 22.9 | 23.9 | 23.2 | 0.42 | 30.6 | 904 |
| Greece (1957) | 9.0 | 10.3 | 13.3 | 17.9 | 26.5 | 23.0 | 0.38 | 29.5 | 591 |
| Japan (1962) | 4.7 | 10.6 | 15.8 | 22.9 | 31.2 | 14.8 | 0.39 | 28.9 | 838 |
| *Group average* | *5.1* | *8.9* | *13.9* | *22.1* | *24.7* | *25.4* | *0.438* | *32.9* | *723.3* |
| *$1 001-2 000* | | | | | | | | | |
| Israel (1957) | 6.8 | 13.4 | 18.6 | 21.8 | 28.2 | 11.2 | 0.30 | 21.2 | 1 243 |
| United Kingdom (1964) | 5.1 | 10.2 | 16.6 | 23.9 | 25.0 | 19.0 | 0.38 | 28.1 | 1 590 |
| Netherlands (1962) | 4.0 | 10.0 | 16.0 | 21.6 | 24.8 | 23.6 | 0.42 | 30.0 | 1 400 |
| Federal Republic of Germany (1964) | 5.3 | 10.1 | 13.7 | 18.0 | 19.2 | 33.7 | 0.45 | 32.9 | 1 667 |
| France (1962) | 1.9 | 7.6 | 14.0 | 22.8 | 28.7 | 25.0 | 0.50 | 36.5 | 1 732 |
| Finland (1962) | 2.4 | 8.7 | 15.4 | 24.2 | 28.3 | 21.0 | 0.46 | 33.5 | 1 568 |
| Italy (1948) | 6.1 | 10.5 | 14.6 | 20.4 | 24.3 | 24.1 | 0.40 | 28.8 | 1 011 |
| Puerto Rico (1963) | 4.5 | 9.2 | 14.2 | 21.5 | 28.6 | 22.0 | 0.44 | 32.1 | 1 101 |
| Norway (1963) | 4.5 | 12.1 | 18.5 | 24.4 | 25.1 | 15.4 | 0.35 | 24.9 | 1 717 |
| Australia (1966-67) | 6.6 | 13.4 | 17.8 | 23.4 | 24.4 | 14.4 | 0.30 | 22.2 | 1 823 |
| *Group average* | *4.7* | *10.5* | *15.9* | *22.2* | *25.7* | *20.9* | *0.401* | *29.0* | *1 485.2* |
| *$2 001 and above* | | | | | | | | | |
| Denmark (1963) | 5.0 | 10.8 | 18.8 | 24.2 | 26.3 | 16.9 | 0.37 | 25.4 | 2 078 |
| Sweden (1963) | 4.4 | 9.6 | 17.4 | 24.6 | 26.4 | 17.6 | 0.39 | 28.6 | 2 406 |
| United States (1969) | 5.6 | 12.3 | 17.6 | 23.4 | 26.3 | 14.8 | 0.34 | 24.5 | 3 233 |
| *Group average* | *5.0* | *10.9* | *17.9* | *24.1* | *26.3* | *16.4* | *0.365* | *26.2* | *2 572.3* |

Source: Paukert (1973, Table 6).

Many observers have noted that as countries grow many of their people remain in poverty. Lipton (1976) and Griffin (1977), for example, give evidence of persistent poverty for selected groups in particular countries, even rapidly-growing ones.[1] The value of their work is to point out that economic growth alone is insufficient to guarantee decent standards of living for all. But identifying certain groups who remain poor does not tell us how many have progressed. What we need, and what this paper seeks to provide, is a comprehensive overview of progress or lack of progress toward alleviating poverty. We must know by how much poverty is being alleviated in the course of economic development and why different countries progress at different rates. These are the questions addressed in the six case studies presented below.

In an earlier paper prepared for A.I.D. [Fields (1976)], I showed that both in theory and in practice the choice of a relative inequality or absolute poverty measure of income distribution may make an important difference in assessing whether economic development is benefiting the poor. My principal concern, and my perception of the concern of the international development community, is with the alleviation of absolute economic misery. Given this concern, it does not seem desirable to use relative inequality indices to measure changing income distribution. Rather, it is more appropriate to use absolute poverty measures such as the number of individuals or families with incomes below a constant real poverty line or the average gap between the incomes of the poor and the poverty line. Most of the discussion in the present paper is therefore

[1] For example, the various indicators of persistent poverty are the income share of the poorest x% in one country, the wages of landless laborers and small farmers in another, the pure labor share of national income in a third, and so on.

in terms of absolute incomes and absolute poverty; relative inequality comparisons, when they are made, receive less weight in the overall conclusions.

Two methodological themes unify the country studies, although the specific ways of carrying them out differ because of lack of standardized international data. One common approach in each country study is the construction of absolute income and absolute poverty distributions for each point in time for which we have data. The poverty lines are not the same between one country and another for two reasons: difficulties in establishing appropriate inter-country exchange rates and problems of making reliable intra-country data imputations. The poverty lines are, however, consistent within each country, holding real incomes constant by adjusting for price changes. To avoid arbitrariness, results are presented using alternative poverty lines wherever possible.[1]

The other common theme in each of the country studies is an examination of changing employment conditions, in particular, changing occupational and industrial structure and changing wage structure. The poor may share in a country's economic growth either by being drawn into better-paying jobs ("job" being defined broadly to encompass all work including self-employment and work in family enterprises) or by being paid more in the same activity.

A useful framework for analyzing these changes is that of dualistic economic development. This concept dominates current thinking in the economic development field. The essential idea of dualistic models is that poor countries' economies can usefully be divided into two broad groups: a modern sector, which utilizes up-to-date production processes and pays

---

[1] See Fields (1976) for further discussion of procedures for establishing a poverty line in a particular country.

incomes significantly above poverty level to those in it; and a traditional sector, which uses less advanced methods and whose members receive incomes not far from subsistence.[2] Let us assume that those in the traditional sector are poor and those in the modern sector are not. Economic development consists of upgrading the economic positions of persons in the traditional sector. There is some disagreement on how this is to come about. For the most part, leading development economists (e.g., Lewis (1954), Fei and Ranis (1964), and Kuznets (1966)) see the expansion of employment in modern sector jobs as the essence of economic development in poor countries. An alternative view---that countries develop principally by transforming traditional sectors into modern ones---is held by a small but distinguished minority (e.g., Schultz (1963)).

To measure the various components of dualistic economic development, it would seem at first that we could simply look at the rates of growth of real income in the modern and traditional sectors. Unfortunately, that way of measuring the participation of the poor in economic growth will not work. Here is why. Suppose we knew that a country's modern sector grew by 10% and its traditional sector did not grow at all. One possibility is that those who were already in the modern sector experienced income gains of 10% and those still in the traditional sector experienced no income gains whatever; if this were the case, the growth would have been highly uneven and the poor would not have shared in it at all. But another possibility consistent with the same sectoral growth rates --- 10% in the modern sector, 0% in the traditional sector --- is that average incomes in the modern sector might

[2] Questions about the precise definitions of the two sectors in empirical research or the justification for just two sectors (rather than three or more) need not concern us at present since it is spirit of dualism and not literal duality that is of use to us here.

have fallen by 10% on average, 20% more people might have found relatively high-paying jobs in that sector and so left the traditional sector, and average traditional sector incomes rose for the remaining population; in this second case, the growth would have been highly favorable to the poor. The important point is that from just the data on rates of growth of output in modern and traditional sector activities, we can not determine whether or not the poor are sharing in economic development.

Another way that the participation of the poor is sometimes measured is by looking at the growth rates of income among particular decile groups, either directly or using a more formal procedure such as that suggested by Ahluwalia and Chenery (1974).[1] The problem with the use of deciles is that it gives a mistaken impression for a particularly important kind of economic growth. Consider a simple ten person economy with the following distribution of income: (1,1,1,1,1,1,1,1,1,5). Suppose the economy's modern sector grows and creates one more job with an income of 5 and some poor person is hired to fill that job. The new income distribution is (1,1,1,1,1,1,1,1,5,5) and the decile growth rates are (0,0,0,0,0,0,0,0,+100%,0), i.e., economic growth is recorded only in the ninth decile (second highest) even though the only beneficiary was a poor person! Or if the initial distribution were (1.0,1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,5.0) and modern sector growth led to an additional high-paying job for which the median poor person was hired, the new distribution would be (1.0,1.1,1.2,1.3,1.5,1.6,1.7,1.8,5.0,5.0) and we would record the decile growth rates as (0,0,0,0,-7%,-6%,-6%,-5%,+177%,0). In this case it would appear that the middle class had lost while the rich gained! Clearly, decile income growth rates will not work as a measure of the poor's participation in economic growth of this type.

[1] This type of research is facilitated in no small measure by the World Bank's publication of decile income shares for 81 countries in the world; see Jain (1975).

A preferred method for analyzing dualistic economic development is to distinguish the enlargement and enrichment components of each sector's growth, where enlargement refers to an increasing number of people in that sector and enrichment refers to the average real income gain among them.[1] Note that negative enlargement and enrichment effects are both possible. Negative enlargement would occur when employment in a sector shrinks while negative enrichment would result when average real incomes in that sector fall. We might distinguish between three stylized development typologies as follows:

TABLE 3 DEFINITION OF DUALISTIC DEVELOPMENT TYPOLOGIES

| Development Typology | Distribution of the Labor Force Between the Modern Sector and the Traditional Sector | Average Real Modern Sector Income | Average Real Traditional Sector Income |
|---|---|---|---|
| Traditional Sector Enrichment | Remains the same | Remains the same | Rises |
| Modern Sector Enrichment | Remains the same | Rises | Remains the same |
| Modern Sector Enlargement | More workers in modern sector | Remains the same | Remains the same |

[1] For further details of this methodology, see Fields (1975).

No country is a pure case of any of these development typologies but some are relatively closer to one type than to another. Presently available data do not permit us to calculate the various enlargement and enrichment components of growth for all of the countries studied in this paper. Nonetheless, in several cases, the available wage and employment data give useful insights into the importance of enlargement and enrichment in major economic sectors.

Before proceeding, a word should be mentioned about the data. The six countries studied here were selected according to the availability of data on income distribution for at least two points in time at least a decade apart. To some extent, our perceptions about whether or not the poor shared in economic development may depend on the particular base and terminal years for which data were available. I have made a serious effort to assure comparability between various censuses or surveys in each country. On this basis (lack of comparability over time), some seemingly good data countries were rejected.[1]

The countries analyzed are Costa Rica, Sri Lanka, India, Brazil, the Philippines, and Taiwan. The country studies are presented in that order. The paper concludes with a summary of the major findings.

---

[1]For example, Colombia, where we have income distribution estimates constructed by Berry (1974) and others dating back to the 1930s.

## COSTA RICA

Let us begin by reviewing aggregate data on changes in the Costa Rican economy since the early 1960s. Between 1960 and 1971, gross domestic product doubled in real terms, a particularly good performance; of the countries covered in this paper, only Taiwan grew faster. By 1971, per capita GDP was U.S. $586, which implies that Costa Rica ranks in Latin America's "upper middle class."[1] Growth slowed in the 1970s and the economy suffered from serious inflationary pressures and balance of payments difficulties.

Income inequality in Costa Rica is moderate; the Gini coefficient in 1971 was 0.45, which is about at the midpoint for less developed countries as a whole but relatively low by Latin American standards; see Table 2.

The growth in the Costa Rican economy seems not to have engendered any major change in the composition of national income. The share of industry has risen and the share of agriculture fallen somewhat, but not drastically; see Table 4.

The general growth of production and the small reduction in agriculture's share of GDP reflect the growth of export-oriented commercial agriculture. Trade is very important to the Costa Rican economy. The ratio of imports to gross domestic product is about 0.31,which is very high by international standards.[2] Exports increased in value from $89 million in 1960 to $231 million in 1970. About 70% of exports are accounted for by coffee, bananas, meat, and cocoa.

---

[1] By comparison, GDP per capita was $493 for Brazil, $336 for Colombia, $332 for Peru, $206 for Bolivia, and $97 for Haiti.

[2] The countries of the Central America Common Market have an average ratio of imports to GDP of 0.28. Other countries at a similar stage of development range from 0.27 (Kenya) to 0.09 (several South American countries). Source: UNCTAD (1976, Tables 1.2, 6.1A).

Table 4

Costa Rica: Distribution of National Income by Industry

| Industrial Classification | Percentage of Gross Domestic Product | | |
|---|---|---|---|
| | 1960 | 1965 | 1970 |
| Agriculture | 26% | 24% | 23% |
| Industry | 15 | 18 | 20 |
| Construction | 4 | 5 | 4 |
| Wholesale and Retail Trade | 21 | 20 | 21 |
| Transportation | 4 | 4 | 4 |
| Other | 28 | 29 | 28 |
| Total | 100% | 100% | 100% |

Source: National Accounts Statistics, 1975, Vol. III, Table III.

Income distribution data for Costa Rica are available from specially-conducted household surveys in 1961 and 1971. Data on the labor force, employment, wages, and other aspects of the Costa Rican economy are derived from the Population Censuses of 1963 and 1973. In recognition of the two year gap between the data sources, we will refer to these dates as the "early Sixties" and "early Seventies" respectively.

The source for the income distribution data in the early Seventies is the report by Cespedes (1973). For the early Sixties, the source is an unpublished estimate derived from a Survey of Family Income and Expenditures conducted by the Central Agency for Statistics and Censuses in Costa Rica. Although this source is widely-cited in subsequent work by the Economic Commission for Latin America, the World Bank, and others. details of the survey are extremely sketchy.

On the assumption that the income distributions for the early Sixties and early Seventies are derived in similar fashion, we may compare absolute incomes and relative inequality at the two points in time. The basic data are presented in Table 5.

Our concern in this paper is with measuring how much of the economic growth is received by households at different points in the income distribution. The way this is usually done in economic development studies is to draw a Lorenz curve and then to compute one or more relative inequality measures. The Lorenz curves are shown in Figure 4. When Lorenz curves cross, as in the figure, one inequality index may increase while another inequality index may decline. The most frequently used measure of inequality is the Gini coefficient, which is the ratio of the area between the Lorenz curve and the 45° line to the entire triangle.

Table 5

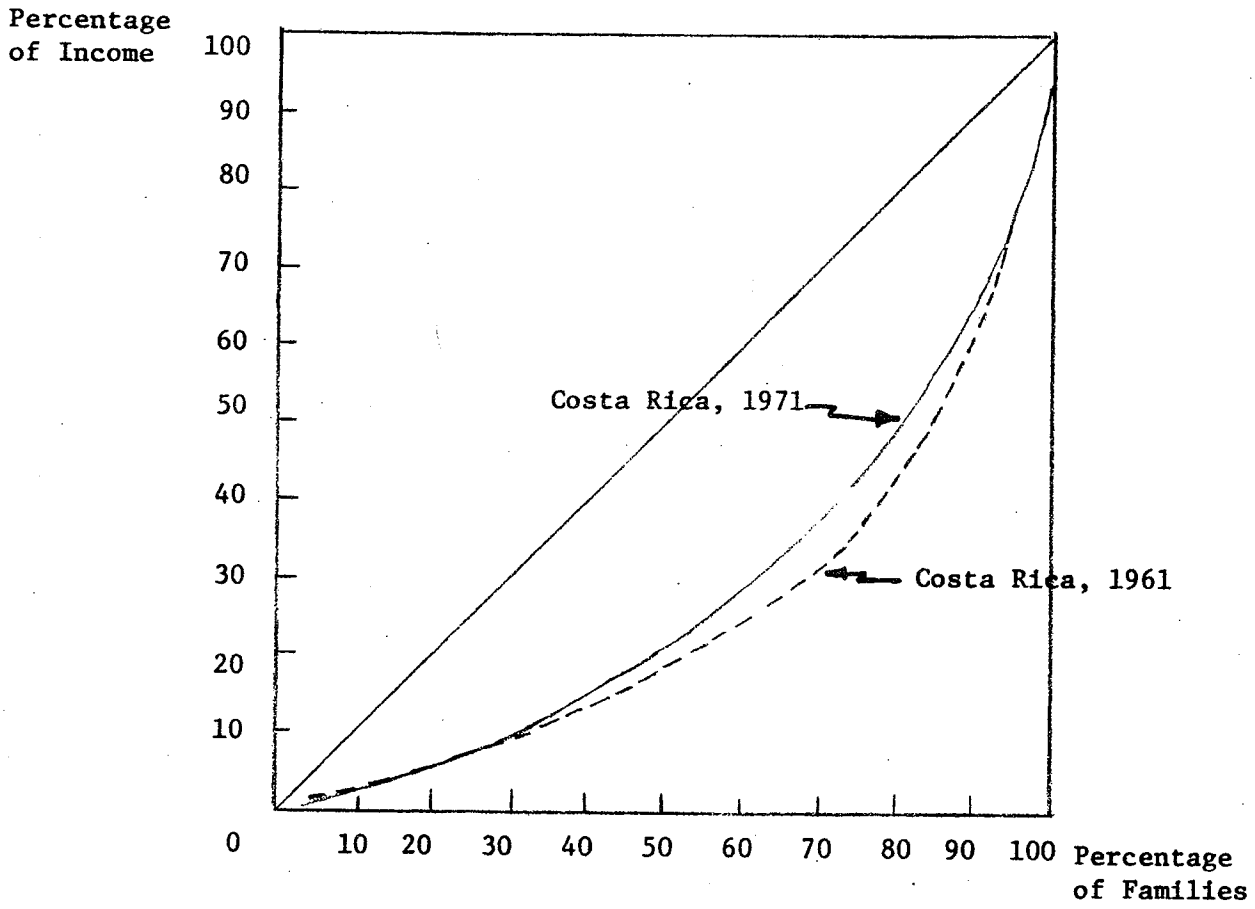
Costa Rica: Income Distribution Change, Early Sixties to Early Seventies.

| Monthly Family Income Decile | Income Share | | Absolute Income (in 1971 colones) | | Change in Absolute Income | Percentage Change in Absolute Income |
|---|---|---|---|---|---|---|
| | Early Sixties a) | Early Seventies b) | Early Sixties * | Early Seventies | | |
| 1 | 2.6% | 2.1% | 195 | 248 | + 53 | + 27% |
| 2 | 3.4 | 3.3 | 255 | 384 | +131 | + 51% |
| 3 | 3.8 | 4.2 | 285 | 490 | +205 | + 72% |
| 4 | 4.0 | 5.1 | 300 | 603 | +303 | +101% |
| 5 | 4.4 | 6.2 | 330 | 730 | +400 | +121% |
| 6 | 5.4 | 7.5 | 405 | 883 | +478 | +118% |
| 7 | 7.1 | 9.3 | 535 | 1085 | +550 | +103% |
| 8 | 9.3 | 11.7 | 700 | 1378 | +678 | + 97% |
| 9 | 14.0 | 16.2 | 1050 | 1895 | +845 | + 80% |
| 10 | 46.0 | 34.4 | 3445 | 4104 | +659 | + 19% |
| Total | 100.0% | 100.0% | 745 | 1175 | +430 | + 58% |
| Top 5% | 35.0% | 22.8% | | | | |
| Top 1% | 16.0 | 8.5 | | | | |
| Gini Co-efficient c) | .521 | .445 | | | | |
| Real GDP Growth | | | | | | +102% |
| GDP per capita, constant colones | | | 2430 | 3840 | 1410 | + 58% |

Notes: a) ECLA (1969)
b) Cespedes (1973)
c) Jain (1975)
* Estimated

Figure A

Costa Rica: Lorenz Curves, 1961 and 1971.




Source: Cespedes (1973).

We can see in the figure and in the table that inequality, as measured by the Gini coefficient, declined by a substantial amount between the early Sixties and the early Seventies. Many would interpret this as evidence that the lower classes did at least we well as the middle and upper classes.

There is a growing awareness among development economists that relative inequality measures like the Gini coefficient provide very little information about changing economic positions of the poorest segments in society. For this reason, overall inequality measures are being supplemented by less aggregative analyses of the income shares of particular decile groups. Such calculations are presented in Table 5 for Costa Rica.

The data on changing income shares would ordinarily be interpreted as follows. We observe a small decline in the share received by the lowest deciles, a very large decline in the share of the richest, and gains for the other seven deciles. This pattern---falling shares at the top and bottom of the income distribution and rising shares in the middle---would be seen by many as evidence that the middle class gained at the expense of the rich and poor.[1] Research would be directed toward

---

[1]For example, we have a 1975 speech by the Minister of Planning: "In the last ten years, however, the relative position of the poorest 40% of the population has not improved. In effect, between 1958 and 1971, the average annual growth of GNP was in the neighborhood of 8%, while the growth in income of the lowest 40% of the population was approximately 5%, which indicates that their relative position worsened. In other words, there was a concentration of income, which was fundamentally in favor of the middle class." (Arias, 1975, p. 11). Also, San Jose data are interpreted as follows: "In other words, the absolute gap in incomes is increasing not only between the poor and middle income groups, but between the middle groups and the rich. The very poor (0-10 percentiles) face not only a widening gap in absolute terms and a loss of relative share, but a stagnation in the absolute level of income itself." (OFIPLAN, p. 60).

finding out how the middle class mobilized themselves to bring about so substantial a redistribution. Concerned scholars evaluating the Costa Rican experience would also note that the smallest gains (in both absolute and relative terms) were received by the lowest deciles---those who presumably have the greatest needs. Costa Rica would be cited as yet another instance of "growth without development."[1]

These inferences from decile income changes, I submit, are largely fallacious. The reasons are simple. One is that absolute poverty calculations give a quite different picture. The proportion of families below an absolute poverty line of 250 constant colones fell from about 20% to 10% from the early sixties to the early seventies. If the poverty line is instead drawn at 500 constant colones, the decline is even more marked--from approximately 65% to 30%. Thus, absolute poverty was alleviated and alleviated rapidly.

Another difficulty with inferences from decile income changes is that the poor may benefit from economic growth by becoming employed in higher-income activities. In the terminology of dualistic development models such as those described in the introduction, this might be termed "modern sector enlargement growth." However, for a variety of reasons--which might include lack of resources, entrepreneurial capacity, or political will--the modern sectors in poor countries may not grow fast enough to create sufficient advancement opportunities for everyone. In modern sector enlargement growth, some of the poor experience income gains, but the growth will be recorded in the higher deciles rather than the lowest. This statistical anomaly may well be a large part of the explanation for the changing patterns in Costa Rica.

Evidence of considerable modern sector enlargement may be gleaned from several pieces of information, presented in Table 6. Consider

---

[1]The terminology is from Seers (1969).

Table 6

Costa Rica: Employment and Income by Occupation, Industry, and Education, Early Sixties and Early Seventies.

| Occupation | Employment (in thousands) Early Sixties[a] Number | % | Early Seventies[b] Number | % | Percentage Change | Approximate[c] Median Income, Early Seventies (in colones) |
|---|---|---|---|---|---|---|
| Professionals and technical | 21 | 5% | 47 | 8% | +126% | 2600 |
| Manager | 5 | 1 | 10 | 2 | + 88 | 1800 |
| Office Workers | 21 | 5 | 34 | 6 | + 62 | 1600 |
| Storekeepers and vendors | 30 | 8 | 46 | 8 | + 52 | 1200 |
| Farmers, Cattlemen, etc. | 187 | 47 | 208 | 35 | + 11 | n.a. |
| Other | 131 | 34 | 240 | 41 | + 83 | 700 |
| Total | 395 | 100% | 585 | 100% | + 48% | 800 |

| Industry | Employment (in thousands) Early Sixties[d] Number | % | Early Seventies[e] Number | % | Percentage Change | Mean[f] Income (in colones) |
|---|---|---|---|---|---|---|
| Agriculture, forestry, hunting & fishing | 194 | 49% | 213 | 36% | + 10% | 793 |
| Mining, electricity, gas & water | 5 | 1 | 7 | 1 | + 40 | 1372 |
| Manufacturing | 45 | 11 | 70 | 12 | + 54 | 1213 |
| Construction | 23 | 6 | 39 | 7 | + 68 | 1203 |
| Commerce | 39 | 10 | 68 | 12 | + 75 | 1539 |
| Services | 68 | 17 | 119 | 20 | + 75 | 1624 |
| Other | 21 | 6 | 69 | 12 | +228 | 1134 |
| Total | 395 | 100% | 585 | 100% | + 48% | |

- continued on next page -

| Worker Categories | Economically Active Population (in thousands)[g] Early Sixties Number | % | Early Seventies Number | % |
|---|---|---|---|---|
| Wage earners | 261 | 66% | 430 | 74% |
| Employers and self-employed | 82 | 21 | 100 | 17 |
| Non-remunerated family worker | 41 | 10 | 32 | 6 |
| New entrants | 11 | 3 | 20 | 3 |
| Total | 395 | 100% | 582 | 100% |

| Education and Literacy | Employment (in thousands) Early Sixties[h),i)] Number | % | Early Seventies[j),k)] Number | % | Percentage Change | Mean[l)] Income (in colones) |
|---|---|---|---|---|---|---|
| No education | 134 | 15% | 131 | 10% | - 2% | 637 |
| Primary, grades 1-3 | 323 | 37 | 335 | 26 | + 4% | 971 |
| Primary, grades 4-6 | 312 | 37 | 587 | 45 | + 88% | |
| Secondary | 80 | 9 | 213 | 16 | +166% | 1695 |
| University | 20 | 2 | 57 | 4 | +185% | Inc. 2823 Com. 5255 |
| Total, age ten and over | 870 | 100% | 1323 | 101% | + 52% | |
| Literate | 745 | 86% | 1188 | 90% | + 59% | n.a. |
| Illiterate | 124 | 14 | 135 | 10 | + 9 | n.a. |
| Total, age ten and over | 869 | 100% | 1324 | 100% | + 52% | |

Sources:
a) Censo de Población, 1963, p. 76
b) Censo de Población, 1973, p. 61
c) Céspedes (1973), p. 113
d) Censo de Población, 1963, p. 261
e) Censo de Población, 1973, p. 67
f) Céspedes (1973), p. 114
g) Calvo (1977, Table 5.22)
h) Censo de Población, 1963, pp. 520-521
i) Censo de Población, 1963, p. 474
j) Censo de Población, 1973, p. 309
k) Censo de Población, 1973, p. 333
l) Céspedes (1973), p. 111

first the occupational distribution of the labor force. A disproportionate share of the low income population is in agriculture. The data show that while the labor force grew by 48%, the number of farmers and cattlemen grew by only 11%. All other occupational groups showed above average gains in employment. Since these are the better-paying occupations, this provides one piece of evidence that the Costa Rican economy grew by expanding the share of modern sector workers in total employment---the essence of modern sector enlargement growth. The industrial data show a similar pattern. The fast-growing sectors in terms of employment were those associated indirectly with the modern sector (construction, commerce, transportation); manufacturing itself increased at a more moderate rate. In other words, there was a relative shift from agriculture to commerce and services. The share of wage earners in total employment increased, with declines in the proportions of non-remunerated family workers and employers and self-employed. Educational data support the supply side of the picture. Despite the rapid growth of population, we find that the number with no education declined absolutely and the number who completed only the first three years of primary education rose by just 4%. In contrast, the number with four to six years of education increased by 88%, the number of secondary school graduates by 166%, and the number of university graduates by 185%. In short, the Costa Rican economy is growing, creating more modern sector job opportunities, and educating the skilled labor force needed.

Is there also evidence of income gains among those already in the modern sector and of enrichment (or impoverishment) of those left behind? To answer these questions, we require occupation- or industry-specific wage or income data. This type of data is not available for Costa Rica. Let us now turn to the case of Sri Lanka where such information is available.

## SRI LANKA

The period of analysis in Sri Lanka is the twenty years extending from 1953 to 1973. Income distribution data are available from large scale national household income and consumption surveys for the three years 1953, 1963, and 1973 and from the census of 1971. It happens that the early 1960's marks a turning point in respect to economic and social policy, moving from an open to a closed economy and then approaching welfare statism.

Sri Lanka is a poor, slow-growing country. It is, however, firmly committed to the alleviation of poverty at present and it is making impressive progress. The poor are gaining absolutely and relatively; the reverse is true of the rich. Unlike Taiwan, in which we shall see that poverty alleviation and inequality reduction are due to growth, in Sri Lanka, declining poverty and inequality are due to redistribution. Let us now examine the record.

In the late 1940's and early 1950's, Sri Lanka followed an export-oriented course. The overall development strategy was to stimulate the modern export sector and use the surpluses generated to fund investment elsewhere in the economy. Around 1960, this strategy broke down because the export sector did not generate enough foreign exchange to pay for needed imports. Consequently, the economy turned inward. Severe import restrictions and nearly prohibitive tariffs were instituted in the hopes of improving the balance of payments. Underlying these moves was the perceived insufficiency of domestic savings and capital inflow. Shortages of capital and intermediate goods appeared, living standards were reduced for many, and aggregate economic-growth ground nearly to a halt. By 1963 (the second year for which we have income distribution data) Sri Lanka had closed her economy, redirected production toward locally-produced goods for domestic consumption, and was devoting an unusually large share of its national product to consumer goods.[1]

The inward-looking development policies of the early and mid sixties also ran into difficulties. In part, this was because of an unanticipated deterioration in world prices for Sri Lanka's major exports---tea, rubber, and coconuts, which together account for ninety percent or more of export earnings. In part too, the strategy of industrialization via import substitution had a number of negative features: price distortions, overvalued exchange rates, and low interest rates. The balance of payments situation worsened in the 1960's and economic growth was seriously impeded. Those difficulties persist up to the present.[2]

---

[1]For an in-depth discussion of economic policy at the time, see Snodgrass (1966).

[2]For recent economic developments, see the Central Bank's Review of the Economy for various years.

The Sri Lankan government has come to emphasize income distribution and sought to lessen inequality. According to one expert: "Economic planners in Sri Lanka have the view that the increase in Gross National Product alone is not a sufficient indicator of economic progress because even with a relatively high annual growth rate, the Gross National Product could be unequally distributed resulting in serious income disparities. In view of this, there has been a great deal of emphasis on redistributing existing income and wealth in Sri Lanka because the addition to income, due to the relatively low rate of economic growth, has been inadequate to make an appreciable impact on the incomes of those in the lowest income brackets." [Karunatilake, (1975), p. 702.] Redistributionist policies have been in force in Sri Lanka since the early 1960's but the major push has come since 1970. The measures adopted include both rural development policies (price guarantees for paddy, land reform,rural credit, irrigation, and legislation to protect tenant farmers) as well as more general measures (free rice ration, ceilings on income, wealth, and assets,more progressive taxation, subsidized transport, free education and health services). Some say that Sri Lanka is living far beyond her means.[1] Yet, these welfare policies are part of a deliberate attempt to alleviate poverty through redistribution. The data show that Sri Lanka has been succeeding.

The income distribution data for Sri Lanka come to us from Consumer Finance Surveys.and from a recent census. The surveys have been conducted by the Central Bank at ten year intervals. Although the sampling frames

---

[1]For instance, this characterization was voiced by the ILO Employment Mission in 1971.

are not entirely equivalent,[1] they appear close enough that inter-temporal comparisons appear warranted.[2]

The Consumer Finance Surveys indicate modest economic growth: approximately 15% gains in real mean per capita income from 1953 to 1963 and from 1963 to 1973 (see Table 7). These rates are higher than real per capita GNP figures. The difference is thought to be due to a changing functional distribution in favor of the household sector.

By all accounts and measures, income inequality declined over the period of study. The Lorenz curve clearly shifted inward, (Figure B), the Gini coefficient of inequality declined from 0.46 to 0.35, the income share of the richest decile fell from 41% to 28%, and the income share of the poorest decile increased from 1.9% to 2.8%. As is clear from the data, most of the inequality reduction took place in the decade 1963-73.

We also find substantial reductions in absolute poverty.[3] Drawing the poverty line at Rs. 100 (in constant 1963 prices), the percentage of income recipients with incomes below that line fell from 63% in 1953 to 59% in 1963 and 41% in 1973. Using a higher poverty line (Rs. 200), the corresponding figures are 86%, 84%, and 72%.

---

[1] For details, see Karunatilake (1975, pp. 705-707).

[2] For Sri Lanka there also exists a study of changing income distribution by Rasaputram (1972). That study uses the Consumer Finance Surveys for 1953 and 1963. However, for 1969/70, data were drawn from a Socio-economic Survey. The Socio-economic and Consumer Finance Surveys are not comparable, even in the definition of income. Therefore, Rasaputram's evidence will receive no further mention.

[3] The poverty measure used is the percentage of income recipients below a given amount. Other measures, such as the average income received by the poor or the Sen index of poverty, could not be computed from the available data.

Table 7

Sri Lanka: Income & Income Distribution, 1953-1973

| | | 1953 | 1963 | 1973 |
|---|---|---|---|---|
| (1) | GNP Per Capita, Current Rupees, National Accounts[a] | 605 | 690 | 1120 |
| (2) | GNP Per Capita, Constant Rupees, National Accounts[a],[b] | 665 | 690 | 735 |
| (3) | Mean Per Capita Income, Monthly Current Rupees, Consumer Finance Surveys[c] | 107 | 134 | 228 |
| (4) | Mean Per Capita Income, Monthly, Constant Rupees, Consumer Finance Surveys[c] | 117 | 134 | 150 |
| (5) | Percentage of Total Income Received by Decile Groups of Spending Units :[c] | | | |
| | Lowest | 1.9% | 1.5% | 2.8% |
| | Second | 3.3 | 3.0 | 4.4 |
| | Third | 4.1 | 4.0 | 5.6 |
| | Fourth | 5.2 | 5.2 | 6.5 |
| | Fifth | 6.4 | 6.3 | 7.5 |
| | Sixth | 6.9 | 7.5 | 8.8 |
| | Seventh | 8.3 | 9.0 | 9.9 |
| | Eighth | 10.1 | 11.2 | 11.7 |
| | Ninth | 13.2 | 15.5 | 14.9 |
| | Highest | 40.6 | 36.8 | 28.0 |
| (6) | Gini Coefficient Among Spending Units[c] | 0.46 | 0.45 | 0.35 |
| (7) | Distribution of Absolute Incomes Among Income Recipients (in Constant 1963 Rupees):[c],[d] | | | |
| | Less than 100 | 63% | 59% | 41% |
| | 100-200 | 23 (86%) | 25 (84%) | 31 (72%) |
| | 200-400 | 6 | 12 | 25 |
| | Over 400 | 8 | 4 | 3 |
| | | 100% | 100% | 100% |

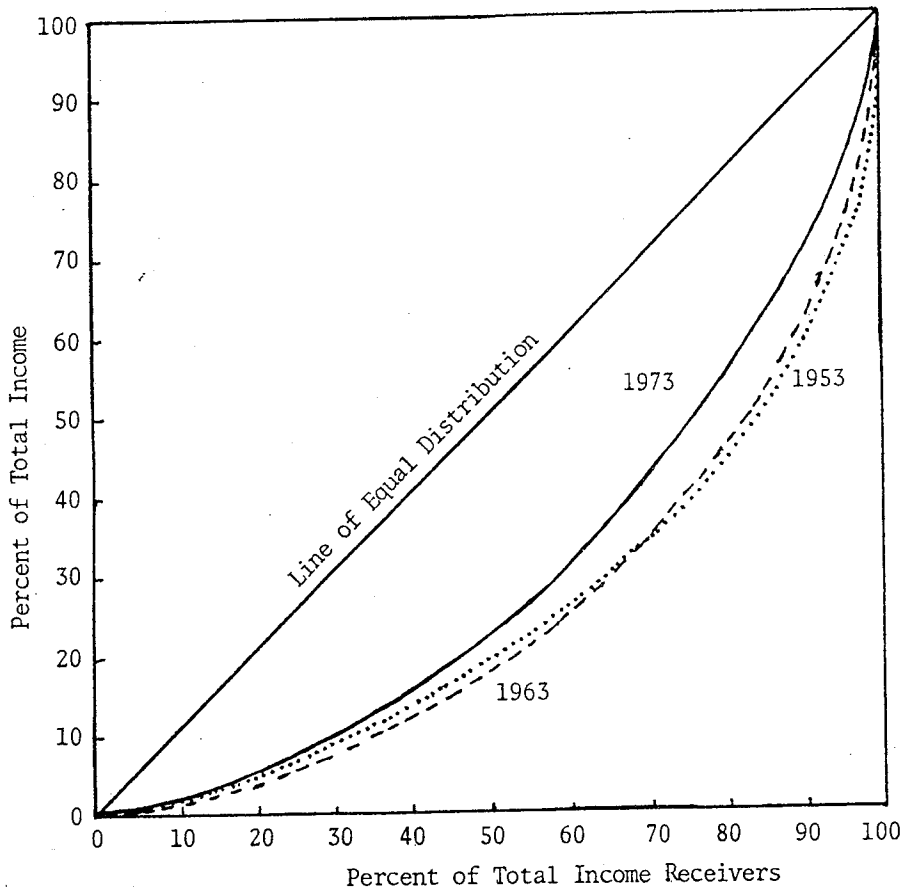
Notes: a) Source: Jain (1975, Table 6).
b) Deflated by price index for Colombo
c) Source: Karunatilake (1975, pp. 712-715)
d) Approximate

Figure B

Sri Lanka:

Lorenz Curve Showing Distribution of Income

1953, 1963 and 1973




Source: Karunatilake (1975, p. 722)

What accounts for Sri Lanka's success in alleviating absolute poverty and relative inequality despite unimpressive aggregate growth? Among the factors that may be examined are education, demographic change, urbanization, changing employment structure, and social welfare policies.

Some aspects of educational change are seen in Table 8 . Illiteracy was reduced from 31% to 23% between 1953 and 1963 and remained at about the same level between 1963 and 1971. The proportion without schooling has exhibited a steady decline (42% in 1953, 37% in 1963, and 24% in 1973) and the proportion with secondary education a steady increase (from 10% in 1953 to 24% in 1973). At the same time, and perhaps because of the greater supply of relatively well-educated workers, educational differentials narrowed, especially from literacy through secondary level.

Another aspect is demographic change. Young workers became less numerous in proportional terms between 1963 and 1973.[1] Since young workers earn less than others,[2] this compositional effect would tend to reduce inequality among income recipients, although not necessarily among families.

Interestingly, urbanization does <u>not</u> appear to be a major component of economic development in Sri Lanka. To the contrary, rural development is the key. Some data on locational aspects of economic activity are given in Table 9 . Most of the population growth (between 65% and 75%) took place in rural areas. In addition, unlike most other countries, urban incomes grew more slowly than rural incomes. Consequently, the bulk of

---

[1] In 1963, 5.5% of income recipients were below age 18 and 20.0% below age 25. The corresponding percentages in 1973 were 3.7% and 18.9%.

[2] Mean two-month income in 1973 was Rs. 133 for those under 14 and Rs. 169 for 14-18 year olds as compared with Rs. 455 for all income recipients.

Table 8

Sri Lanka: Education Data, 1963 & 1973

| (1) Proportion Literate, by Sex[a] | 1953 | 1963 | 1971 |
|---|---|---|---|
| Male | 80.7% | 85.6% | 85.2% |
| Female | 55.5 | 67.3 | 70.7 |
| Total | 69.0% | 76.9% | 78.1% |

| (2) Proportion of Population by Educational Level[b] | 1953 | 1963 | 1973 |
|---|---|---|---|
| No Schooling | 41.6% | 36.6% | 23.6% |
| Primary | 46.8 | 39.3 | 42.7 |
| Secondary | 9.8 | 19.6 | 23.8 |
| Passed GCE/SSC | 0.9 | 3.4 | 8.8 |
| Higher and Technical | 0.9 | 1.1 | 1.1 |
| Total | 100.0% | 100.0% | 100.0% |

(3) Median Income, Current Rupees, by Educational Level[c]

| | 1963 | | | 1973 | | |
|---|---|---|---|---|---|---|
| Educational Level | Median Income, Rs. | As % of Median for Primary | As % of Median for Higher | Median Income, Rs. | As % of Median for Primary | As % of Median fo Higher |
| No Schooling, illiterates | 106 | 63% | 19% | 197 | 57% | 27% |
| No Schooling, literates | 153 | 92 | 27 | 300 | 87 | 41 |
| Primary | 167 | 100 | 30 | 344 | 100 | 46 |
| Secondary | 257 | 154 | 46 | 450 | 131 | 61 |
| Passed GCE/SSC | 475 | 284 | 84 | 617 | 179 | 83 |
| Higher | 563 | 337 | 100 | 740 | 215 | 100 |

a) Source: Statistical Pocket Book of Sri Lanka (Ceylon) (1975, Table 11)
b) Sources: Central Bank of Ceylon (1963, Table 12) and Karunatilake (1975, Table 9)
c) Source: Karunatilake (1975, Table 10)

Table 9

Sri Lanka: Locational Aspects of Economic Activity, 1953,1963, & 1973.

(1) Population by Location (in millions)[a)]

| | 1953 | 1963 | 1972 |
|---|---|---|---|
| Urban | 1.2 | 1.9 | 2.3 |
| Rural | 6.1 | 7.6 | 9.2 |
| Estate* | 0.9 | 1.2 | 1.4 |
| Total | 8.3 | 10.6 | 13.0 |

(2) Mean Income by Location (in current Rupees)[b)]

| | 1963 | 1973 | Percentage Change 1963-1973 |
|---|---|---|---|
| Urban | 441 | 601 | +26% |
| Rural | 248 | 458 | +84% |
| Estate* | 126 | 227 | +80% |
| All Sri Lanka | 253 | 442 | +75% |

(3) Location of Economic Activity (in thousands of current Rupees)

| | 1963 | 1973 | Percentage Change 1963-1973 | Percentage of Total Change 1963-1973 |
|---|---|---|---|---|
| Urban | 508 | 772 | +52% | 21% |
| Rural | 1266 | 2171 | +72% | 71% |
| Estate* | 193 | 294 | +53% | 8% |
| All Sri Lanka | 1966 | 3237 | +65% | 100% |

a) Source: Karunatilake (1975, p. 728).
b) Source: Karunatilake (1975, p. 734).
c) Computed from (1) and (2).
* "Estate" refers to agricultural plantations. Most of these are small villages but some are so large as to constitute their own towns.

the gain in economic activity (about 70%) was concentrated in rural areas. Agricultural development is due in part to the Green Revolution and in part to the public policies cited above. An assessment of the relative importance of the various parts of the rural development program has not yet appeared.

We may also look into the distribution of employment by industry or occupation. In some countries,[1] these distributions are found to shift decidedly in favor of the higher-paying industries and occupations, reflecting the creation of new income opportunities. In Sri Lanka, however, the data reveal only vague tendencies in this direction (see Table 10). The industry distribution changed only a little over our period of analysis, not enough to make much difference. The occupational distribution changed but in no clear direction. As would be expected, employment in agriculture grew at a below-average rate, its share therefore declining. Where the relative gains occurred is unclear. Middle-level occupations show a mixed pattern: clerical, sales, and transport occupations grew at rates well above average, but service employment declined. At the upper end of the distribution, professional and technical employment increased at an above average rate but administrative and managerial employment exhibited an absolute decrease. From this lack of a pronounced tendency overall, it might be suspected that Sri Lanka's economic development benefited the poor <u>within</u> occupational groups (i.e., traditional sector enrichment) rather than by transfering the poor <u>between</u> occupational groups (i.e., modern sector enlargement). Unfortunately, the requisite cross-tabulations needed to test this speculation do not seem to have been produced.

[1] For example, Costa Rica, as we have just seen.

Table 10

Sri Lanka: Distribution of Employment by Industry and Occupation, 1953, 1963, and 1971.

| Employment Distribution by Industry | 1953[a] | 1963[a] | 1971[b] |
|---|---|---|---|
| Agriculture, mining, and related | 53.4% | 53.2% | 50.8% |
| Manufacturing | 10.1 | 9.8 | 9.6 |
| Services (Public) | 16.1 | 15.5 | 13.5 |
| Commerce, transport, and communication | 11.7 | 13.2 | 13.8 |
| Other | 8.7 | 8.3 | 12.3 |
| Total Gainfully Employed | 100.0% | 100.0% | 100.0% |

| Employment Distribution by Occupation | 1963[c] (in thousands) | | 1971[d] (in thousands) | Change 1963-71 (in thousands) | Percentage Change 1963-71 |
|---|---|---|---|---|---|
| Professional, technical, and related workers | 143 | | 176 | + 33 | + 23% |
| Administrative and managerial workers | 33 | | 12 | - 21 | - 64% |
| Clerical and related workers | 118 | | 189 | + 71 | + 60% |
| Sales workers | 212 | | 277 | + 65 | + 31% |
| Agricultural and related workers | 1654 | | | | |
| Mining and related workers | 5 | 1659 | 1791 | +138 | + 8% |
| Transport and communication workers | 101 | | | | |
| Craftsmen and production workers | 633 | 734 | 892 | +158 | + 22% |
| Service workers | 259 | | 196 | - 63 | - 24% |
| N.E.C. | 41 | | 88 | + 47 | +146% |
| Total Gainfully Employed | 3,199 | | 3,621 | +423 | + 13% |

Sources:

a) Statistical Pocket Book of Ceylon (1968, Table 18)
b) Statistical Pocket Book of Sri Lanka (1975, Table 18)
c) Statistical Pocket Book of Ceylon (1968, Table 19)
d) Statistical Pocket Book of Sri Lanka (1975, Table 19)

Finally, there is the impact of the government's social welfare policies. Taken together, the free rice ration, free education and health services, and subsidized food and transport add up to half the government budget. These expenditures are directed toward the poor. One study[1] estimates that these public goods and services raise the incomes of the poor by about one-third while lowering the incomes of the richest by a corresponding amount (though, of course, by a lesser percentage); see Table 11. But note too that the adjustments for social welfare policies are not sufficient to account for the changes in income distribution between 1953 and 1973, that is, much of the change was due to a changing distribution of earned income and not just to the impact of socially-oriented public expenditures.

Some observers of the Sri Lankan economy question the appropriateness of early attention to social welfare, taking the view that aggregate growth might have been faster had social expenditures been less. This may be so, but confirmation of this view requires detailed modeling of a sort not yet undertaken. In any case, even if the speculation were correct, it is not at all clear whether poverty alleviation would have been greater or less had a poverty-oriented strategy not been followed. All we can go by is the record of poverty alleviation. On that score, Sri Lanka comes out looking quite favorably.

---

[1] Jayawardena (1974).

Table 11

Sri Lanka: Estimated Effects of Social Benefits on Income Distribution, 1963.

| Deciles | Percentage of Income in Spending Unit, 1963 | |
|---|---|---|
| | Unadjusted for Social Benefits | Adjusted for Social Benefits* |
| Lowest | 1.5 | 2.0 |
| Second | 3.0 | 3.8 |
| Third | 4.0 | 2.7 |
| Fourth | 5.2 | 7.5 |
| Fifth | 6.3 | 6.8 |
| Sixth | 7.5 | 7.6 |
| Seventh | 9.0 | 9.5 |
| Eighth | 11.2 | 11.1 |
| Ninth | 15.5 | 15.0 |
| Highest | 36.8 | 34.0 |
| Gini Coefficient | 0.45 | 0.40 |

*These consist of subsidy on rice, losses incurred by public transport, free education and health services.

Source: Jayawardena (1974).

## INDIA

India is a miserably poor country. Per capita income is under $100. 45% of her people receive incomes less than U.S. $50 per year and 90% below U.S. $150. Of the total number of absolutely poor in the world (according to the AID data in Table 1), more than half are Indian. During the 1960s, per capita private consumer expenditure grew by less than 1/2% per annum. India's poverty problem is so acute and her resources so limited that it is hard to imagine whether any internal policy change might be expected to improve things much.

India offers abundant data on the distribution of income and consumption dating back to the 1950s. Given the richness of the data in so poor a country with so large a research establishment, it is not surprising that we find a multitude of income distribution studies. Some of the findings from some of the more important of these are reported in Table 12.

The data in Table 12 differ with respect to the concept of income or consumption employed, the procedures by which the figures were derived, and the years for which the distributions were estimated. The remarkable feature about the relative inequality data is that no clear pattern of change emerges. More specifically:

(1) Overall, as measured by the nationwide Gini coefficient and the income shares of the bottom 20% and the top 20%, relative income inequality shows no pronounced trend, but the indications are toward diminished inequality. Since Lorenz curves crossed, other relative inequality measures would probably have yielded similarly weak results.

(2) The Gini coefficient within the urban sector may have risen somewhat, suggesting greater inequality, but the evidence is mixed.

(3) The Gini coefficient within the rural sector seems to have

Table 12

India: Estimates of Relative Income Inequality, Various Years and Studies

**A. Study by Bhatty (1974) -- Data from NCAER**

| Income Distribution Measure | Year 1961-62 | 1964-65 | 1967-68 | 1968-69 |
|---|---|---|---|---|
| Gini Coefficient of Household Income Distribution, Rural India | 0.41 | 0.35 | 0.46 | 0.43 |

**B. Study by Ojha-Bhatt (1974) -- Data from NSS and National Accounts**

| Income Distribution Measure | Year 1953-55 | 1963-65 |
|---|---|---|
| Share in Personal Disposable Income | | |
| Bottom 20% | 7% | 7% |
| Top 20% | 50% | 48% |
| Gini Coefficient | | |
| National | 0.371 | 0.375 |
| Urban | 0.392 | 0.448 |
| Rural | 0.341 | 0.319 |

**C. Study by Ranadive (1973) -- Data from NSS and National Accounts**

| Income Distribution Measure | Year 1953-54 | 1961-62 |
|---|---|---|
| Share of Total Personal Disposable Income | | |
| Bottom 20% - Estimate A | 7.50% | 7.80% |
| Bottom 20% - Estimate B | 7.20% | 7.60% |
| Top 20% - Estimate A | 44.34% | 45.47% |
| Top 20% - Estimate B | 45.89% | 46.70% |
| Gini Coefficient | | |
| Rural | 0.340 | 0.317 |
| Urban | 0.453 | 0.487 |

TABLE 12 (Continued)

D. Study by Ahmed and Bhattacharya (1972) --

Data from NSS and National Accounts

| Income Distribution Measure | Year 1956-57 | 1963-64 |
|---|---|---|
| Share of Pre-Tax Personal Income | | |
| Bottom 20% | 6.9% | 7.6% |
| Top 20% | 49.4% | 45.6% |
| Gini Coefficient | 0.418 | 0.372 |

E. Study by Bardhan (1974) -- Data from NSS

| Income Distribution Measure | Year 1958-59 | 1960-61 | 1963-64 | 1967-68 | 1968-69 |
|---|---|---|---|---|---|
| Gini Coefficient of Expenditure | | | | | |
| Rural | 0.340 | 0.321 | 0.297 | 0.293 | 0.310 |
| Urban | 0.348 | 0.350 | 0.360 | 0.345 | 0.350 |

F. Study by Minhas (1970) -- Data from NSS, Rural India

| Income Distribution Measure | Year 1956-57 | 1960-61 | 1964-65 | 1967-68 |
|---|---|---|---|---|
| Consumption Share, Rural | | | | |
| Poorest 5% | 1.36% | 1.46% | 1.47% | 1.48% |
| Richest 5% | 15.76% | 16.82% | 13.33% | 13.24% |
| Gini Coefficient, Rural | 0.32 | 0.31 | 0.29 | 0.29 |

declined, suggesting lesser inequality, but the changes are not large. Since the large majority of the population is rural, this suggests that nationwide inequality also diminished somewhat.

In summary, given the contradictory indications as to whether inequality increased or decreased and the small magnitudes of the changes as compared with probable errors in sampling and measurement, it appears warranted to conclude that the pattern of relative inequality in India changed little but what change there was probably was in the direction of lesser inequality.

A leading Indian economist, P.K. Bardhan, takes issue with relative inequality measurements of income distribution. He contends: "For a desperately poor country like India, there are many who believe that no measure of inequality which is in terms of relative distribution and is independent of some absolute poverty standard can be entirely satisfactory".[1] Accordingly, he has calculated estimates of the percentage of the population below a constant absolute poverty line: Rs. 15 per capita per month at 1960-61 prices in the rural sector, Rs. 18 in the urban sector.[2] His results, shown in Part A of Table 13 are striking:

---

[1] Bardhan (1974, p. 119).

[2] In Bardhan (1974, pp. 119-124), he describes how these poverty lines are computed. The minimally-adequate diet for a moderately active adult as recommended by the Central Government Employees Pay Commission consists of 15 oz. of cereals, 3 oz. of groundnut and 6 oz. of vegetables per day, totaling 2100 calories and 55 grams of protein. To figure the family income required to achieve this diet, Bardhan works out the cost per adults, adjusts for family make-up by the adult-equivalent ratio, expands to a requisite family income figure using the ratio of food to non-food expenditures, divides by family size to obtain a per capita amount, and finally deflates by the official Agricultural Labour Consumer Price Index for the appropriate year for the rural poor and by the official Working Class Consumer Price Index for the urban poor.

Bardhan estimates that absolute poverty worsened greatly in India over the 1960s even though relative inequality did not.[1] Note particularly the comparison with Bardhan's own relative inequality estimates in part E of Table 12.

Several other studies have also estimated absolute poverty changes in rural India. Bardhan's conclusion that absolute poverty increased in India during the 1960s was sustained in a paper by Ojha (1970) published contemporaneously with Bardhan's original work (1970). Defining poverty according to consumption of foodgrains rather than in rupees, Ojha found that the incidence of absolute rural poverty increased considerably between 1960-61 and 1967-68 (see Part B of Table 13). Further corroborating evidence may be found in a study by Vaidyanathan (1974), who estimated that real per capita consumption declined for each fractile group in the rural population and the proportion below a constant absolute poverty line increased. (Part C).

Before accepting the conclusion that absolute poverty worsened in India in the 1960s, we should also take note of contradictory evidence presented by another eminent Indian economist, B.S. Minhas. In a 1970 study, Minhas reported a decline in absolute rural poverty (see Part D of Table 13).

After looking into the conflicting data at some length, I would side with Bardhan and others who conclude that Indian poverty increased during the 1960s. Among the possible sources of divergence are the

---

[1] Bardhan (1974, p. 131) notes: "The direction of change in the estimates of poverty is the same if one takes the various alternative minimum standards for the poverty line suggested in the literature." (Emphasis in the original.)

Table 13

India: Estimates of Absolute Poverty in the 1960s.

| A. Study by Bardhan (1974) | 1960-61 | 1964-65 | 1968-69 |
|---|---|---|---|
| Rural, percentage below Rs. 15 per capita per month* | 38% | 45% | 54% |
| Urban, percentage below Rs. 18 per capita per month* | 32% | 37% | 41% |

| B. Study by Ojha (1970) | 1960-61 | | 1967-68 |
|---|---|---|---|
| Rural, percentage whose consumption of foodgrains was below nutritional norms | 52% | | 70% |

| C. Study by Vaidyanathan (1974) | 1960-61 | 1964-65 | 1967-68 |
|---|---|---|---|
| Rural per capita expenditure (monthly) by fractile group* | | | |
| 0-5% | Rs. 6.3 | 9.0 | 7.0 |
| 5-10% | 8.4 | 10.6 | 8.7 |
| 10-20% | 10.3 | 10.6 | 8.7 |
| 20-30% | 12.5 | 12.4 | 10.6 |
| 30-40% | 14.5 | 13.3 | 12.4 |
| 40-50% | 16.4 | 15.1 | 14.3 |
| 50-60% | 18.8 | 17.5 | 16.4 |
| 60-70% | 21.4 | 22.2 | 19.1 |
| 70-80% | 25.1 | 23.8 | 22.4 |
| 80-90% | 31.8 | 30.2 | 27.7 |
| 90-95% | 40.9 | 35.8 | 34.6 |
| 95-100% | 72.2 | 65.7 | 51.0 |
| All groups | 21.5 | 20.3 | 18.0 |
| Rural population, percentage with per capita consumption below Rs. 20 per month, NSS data* | 60% | 60% | 68% |

| D. Study by Minhas (1970) | 1960-61 | 1964-65 | 1967-78 |
|---|---|---|---|
| Rural, percentage below Rs. 20 per annum | 46% | 39% | 37% |

* In 1960-61 prices.

following:

(i) Bardhan uses a poverty line set at Rs. 15 per month (at 1960-61 prices). Minhas presents poverty data alternately for two figures, Rs. 200 and Rs. 240 per year. Minhas therefore shows more poverty but how this influences computations of changing poverty is not immediately apparent.

(ii) Although Bardhan and Minhas both worked with consumption data from the National Sample Surveys, they did so in different ways. Bardhan used the rural and urban distributions separately. Minhas, however, appears to have constructed an overall income distribution for all India and then estimated rural and urban distributions by applying the ratio of rural to urban consumption to the overall distribution. For this procedure to be correct, it must be assumed that the shapes of the rural and urban distributions are the same, though at different levels. But it is well known that the shapes are not the same, the rural distribution being more equal than the urban. It follows, therefore, that Minhas overstates the incomes of the rural poor and understates the number below an agreed-upon rural poverty line. It is not clear what Minhas' methodology implies for estimates of changing income distribution over time. But there is little doubt that Minhas' estimates are less accurate than those of Bardhan.

(iii) Another important difference between the studies is in the adjustment for inflation. Bardhan used the government's Agricultural Labor Price Index, which doubled between 1960-61 and 1967-68. Minhas, on the other hand, used the implicit National Income Deflator, which

showed a much lower increase (+70%). For this reason, Bardhan tends to show more poverty in the latter 1960s than does Minhas. The qualitative issue is resolved, though, when Minhas' estimated distribution is deflated by the Agricultural Labor Price Index rather than by the National Income Deflator. The use of these different price adjustments accounts for about half the difference between the two estimates of poverty in 1967-68:

Table 14

India: Percentage of Rural Population Below Rs. 200 Per Annum at 1960-61 Prices.

| Estimate | 1960-61 | 1967-68 |
|---|---|---|
| Minhas' distribution estimate | 46.0% | 37.1% |
| Minhas' distribution estimate deflated by Agricultural Labor Price Index rather than by National Income Deflator | 46.0% | 49.2% |
| Bardhan's distribution estimate deflated by Agricultural Labor Price Index | 46.0% | 63.1% |

[Source: Bardhan (1971, Table 1)]

It seems to me that the rural farm laborers price index is more appropriate in India where 80% of the population is rural. When this index is used, even Minhas' distribution estimate indicates increasing absolute poverty. When Bardhan's distribution estimates are used, the increase in rural poverty is even greater.

In summary, whether absolute poverty and relative inequality were alleviated or exacerbated in the 1960s in India depends on the particular study cited. For our purposes, the most important finding is that relative inequality measures are found to suggest one set of conclusions with

respect to changing income distribution while absolute poverty comparisons suggest another. Relative income inequality may have declined a little. Some observers have inferred from this that although India did not grow very fast it had at least "held the line" on income distribution. When the figures are re-examined from an absolute poverty perspective, we see that they did not hold the line at all. Rather, absolute poverty appears by most accounts to have increased considerably.

## BRAZIL

We will begin our study of Brazil at 1960, the date when the first comprehensive overview of income distribution became available. At the time the Brazilian economy was in chaos. Growth was low, inflation rampant, the economic future uncertain, and political instability imminent. Following the military takeover of 1964, one of the first priorities of the new regime was economic stabilization. Whether the policies of the new government were responsible for the subsequent improvement or whether things would have gotten better anyhow is a matter of some discussion, since they both continued old policies (encouraging savings and investment, promoting exports, supporting industrialization) and introduced new ones (indexing, flexible and realistic exchange rates, tax reform). In any event, 1964-67 was a period of marked reduction in inflation, creation of a favorable market environment, and the encouragement of investment from all sources including foreign capital and multilateral lending. The time from 1967 to 1974 marked the so-called Brazilian economic miracle. Real GNP doubled over that period reflecting an average growth rate of 10% per year. Since 1974, economic growth has slowed, due to a combination of factors including the higher cost of imported petroleum after 1974, the frost of 1975 which destroyed nearly all of that year's coffee crop, and serious balance of payments difficulties which caused the government to tighten up on monetary and fiscal policy. Throughout,Brazil has followed a more capitalistic, market-oriented development strategy than nearly any other developing country.

National population censuses were conducted in 1960 and 1970. These provide benchmark data on income distribution, even though they do not conform to turning points in the growth cycle. During the 1960s, income grew by 79%, income per capita by 32%. The income distribution for 1970 was absolutely superior to the 1960 distribution, i.e., a smaller fraction of the population was below any given income level and conversely any given population group had a larger average income than before.

If a poverty line defined according to Brazilian standards is drawn and we examine the distributions above and below the line, the following findings emerge:[1]

(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 (according to my estimates, from 37% to 35 1/2%), but those who remained "poor" experienced a marked percentage increase in real income (from one-third to as much as two-thirds higher).

(3) The percentage increase 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 "non-poor" persons narrowed in terms of ratios although the absolute gap widened.

(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.

---

[1]These are taken from Fields (1977).

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

Although absolute incomes were growing and absolute poverty was being alleviated, relative income disparities were widening. Overall measures of relative inequality showed an increase. The Gini coefficient rose--from .59 to .63 in the economically active population, from .49 to .56 among income recipients. The rich got relatively richer, the income share of the top 3.2% rising from 27% to 33%. Inequality also increased in a number of other dimensions. Skill differentials widened; while incomes of university graduates rose by 52%, incomes of the primary educated rose by only 14%. Occupationally, incomes of non-agricultural employers and self-employed increased by 50%, incomes of non-agricultural employees by 25%, and incomes of landless laborers not at all. Average income rose by 32%, but the real minimum wage fell (by 25% between 1964 and 1970). Geographically, growth was concentrated disproportionately in urban areas, industrial output growing by 96% over the decade as opposed to 53% in agriculture. Regionally, some areas (particularly São Paulo) advanced rapidly while others (especially the Northeast) barely progressed at all, resulting in an interregional per capita income gap of more than four to one. Across all these dimensions, then, inequalities grew as the economy grew.

Brazil's uneven economic growth is manifested in certain marked changes in the employment structure. The occupations that grew were relatively high level ones. Employment in primary occupations (defined as agricultural activities, mining, forestry, and fishing) increased

Figure C

Poverty Gap in Brazil, 1960 and 1970

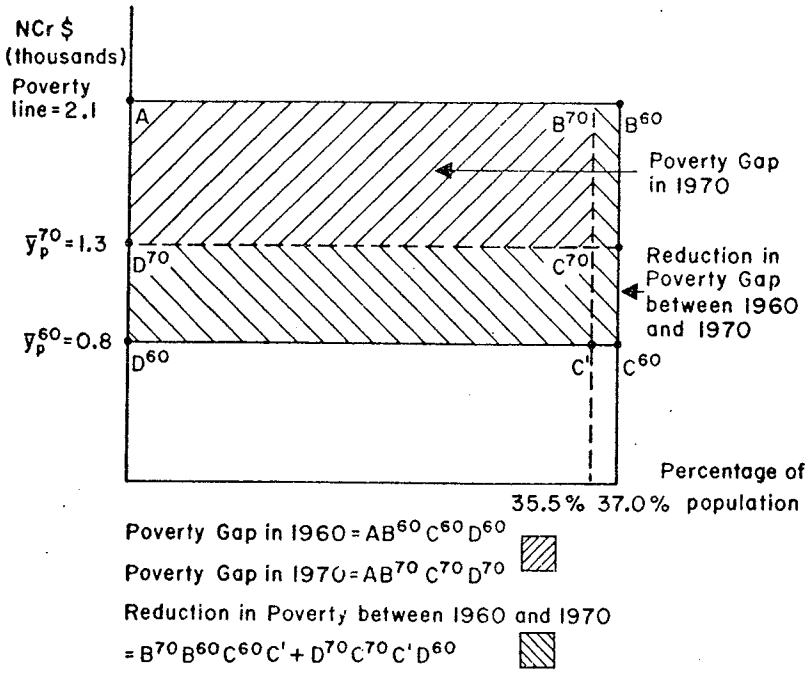


Table 15

BRAZIL: SOME ASPECTS OF ECONOMIC GROWTH

DURING THE 1960s

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

continued

- Table 15 continued -

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

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

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

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

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

- Table 15 continued -

J. Mean Monthly Incomes, 1960 Ncr$[j]

| | 1960 August | 1970 First Quarter | % Change |
|---|---|---|---|
| Agricultural employees | 2.6 | 2.5 | -4% |
| Non-agricultural employees | 8.0 | 10.5 | +31% |
| All employees | 6.6 | 9.4 | +43% |
| Non-agricultural employers and self-employed | 14.0 | 19.5 | +39% |

K. Changes in Relationship Between Education and the Labor Market, 1960-1970[k]

| | % change of labor force in that educational group | % change of relative incomes in that educational group |
|---|---|---|
| Primary | +5% | -17% |
| Secondary | +96% | - 7% |
| University | +79% | +11% |

---

Notes to Table 15

a) Comisión Economica para América Latina (1974), p. 22
b) Brasil (1960), Table 6
c) Brasil (1970), Table 8
d) Brasil (1960), Table 1 and Brasil (1970), Table 1
e) Fundacao Getúlio Vargas (1973), Table 2
f) Brasil (1970), Table V
g) Singer (1971), Tables 2.V, 2.VI
h) Singer (1971), Table I.I
i) Wogart (1974), Table 6
j) Fishlow (1973b), p. 91
k) Malan and Wells (1973), p. 1110

by just 2%; secondary activities (mineral extraction, industrial production and services, and construction) grew by 96%; and tertiary employment (professionals, sellers of services, merchants, transport and communication workers, and civil servants) increased by 107%. The urban labor force grew six times as fast as the rural labor force, due to substantial rural-urban migration. The educational composition of the labor force shifted in favor of college graduates (+79%) as compared with a population growth rate of 33%. Enrollments expanded at all levels; between 1960 and 1972, the number enrolled in primary schools increased by 100%, in secondary schools by 250%, and in higher education by 350%. For the most part public education is now free.

In recognizing these improvements, we should not forget the severe economic conditions that remain. 20% of the Brazilian population received incomes below $75 per capita in 1970. More than 40% of the economically active population continue to be engaged in primary activities. Of those children who enter first grade, no more than 10% finish fourth grade.

In short, the Brazilian economy presents a mixed picture. Aggregate measures of growth and absolute income change look good but relative inequality measures do not. The favored sectors grew larger, absorbing more and more people. Those who were drawn into the enlarging modern sectors or who moved up within them benefited handsomely. On the other hand, whole sectors of the economy made little economic progress; consequently, tens of millions of people experienced at best minor economic gains. As compared with other countries, the Brazilian economy followed a highly uneven growth path.

Why did economic conditions in Brazil change as they did? Why the unevenness? Experts on the Brazilian economy disagree strenuously and often bitterly on a number of dimensions:

(1). Government industrialization and stabilization policy.

The Brazilian government instituted a number of fiscal and other incentives to encourage industrialization and stabilize the economy while pursuing an avowedly capitalistic course. Whether these policies act as stimulants to growth of employment and incomes for the poor or as a way of satisfying the demands of the rich for consumer durables produced by multinational corporations is a key point of debate. Government economists generally take the former position, known in some quarters as the "trickle down" position; see, for example, Brazilian Trends (1973). The consumer demand argument has a number of adherents, among the most prominent of whom are Furtado (1970) and Singer (1977). A third view is that government policy was directed toward a few while disregarding the many; see, for example, the writings of Fishlow (1973a, 1973b).

(2) International trade policies.

A second issue is the impact of public policy with respect to international trade. During the 1960s Brazil shifted toward an export-promotion development strategy and away from a policy of import-substitution. In Brazil as in many other less developed countries, it is generally thought that import-substitution was accompanied by factor price distortions which hindered employment growth by favoring capital-intensive techniques in manufacturing.[1] The export-promotion phase, beginning

---

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

in 1964, raised capital costs by means of monetary correction and lowered labor costs via wage controls. The expected results---more labor-intensive production---indeed took place. Whether or not these are cause and effect is open to interpretation.

(3) Government wage policy.

We have observed that the Brazilian wage structure clearly widened during the 1960s, both because wages in the relatively high-paying sectors and occupations rose and because the real minimum wage fell. Some researchers see this as cause and/or effect of rapid economic growth.[1] Others would adopt a less sanguine position, and hold that constant wages at the bottom of the income distribution and rising wages elsewhere are part of a more general governmental strategy aimed at minimizing expressions of discontent by highly-educated and skilled workers in order to maintain the existing economic order.[2]

(4) Educational Policy.

Langoni (1972,1975) contends that much of the increase in growth and employment can be explained by increased numbers of highly-educated workers receiving higher wages due to their higher productivity. He

---

[1] Morley and Williamson (1975) argue that stability in the minimum wage had the beneficial effect of stimulating employment of the unskilled; thus growth is stimulated by a widening wage structure. Turning to the effects of growth on wage dispersion, they state: "We have two conflicting forces at work. Rapid growth employs the reserve army of the unskilled thus fostering equality. Rapid growth also implies an unbalanced output growth which favors sectors requiring heavy doses of human and physical capital, thus fostering 'wage stretching' and inequality among the employed. Which dominates?" Their empirical estimates for Brazil lead them to conclude that ". . . the 'bulk' of the widening pay differentials among the employed is attributable to conventional market forces stemming from unbalanced output growth favoring those sectors which are intensive in skills and machines rather than nonmarket wage control."

[2] See Mericle (1976).

attributes growing relative income inequality in Brazil in large part to the realization of quasi-rents by persons possessing scarce human capital. Since he sees education as the cause of growth, Langoni's main message is that "the simple workings of the development process would, in the Brazilian situation, lead to an increase in income inequality". Furthermore, Langoni sees this as only temporary and anticipates a reduction in inequality once the educational system and the labor market have had time to respond to the sudden surge of growth. This interpretation has been challenged by Fishlow (1973a, 1973b), Malan and Wells (1973), and Wells (1974) for a number of reasons including the following. (i) The fact that income differentials between university graduates and secondary graduates widened considerably over the decade (from 105% to 150%); (ii) The observation that average social rates of return are found to be highest at the lowest educational levels, yet Brazilian policy favors educational investment at the upper levels; and (iii) the finding that education's importance in explaining income distribution change is considerably diminished once occupational adjustments are made.

Could more have been done to ameliorate present-day poverty? Undoubtedly. Why was more not done? The answer varies. Some students of Brazilian political economy see the growth strategy adopted as being in the direct interests of the ruling class. Adherents of this view see the concentrated structure of ownership of the means of production determining the structure of goods produced (largely consumer durables) and the growth effort being aimed at creating a demand for those goods on the part of the middle and upper classes. Others see it as being

the result of a callous but economically defensible decision to augment future productive capacity through current savings and investment at the expense of anti-poverty efforts in this generation. Still others point not to a pre-planned strategy but to circumstances that arose more or less independently, e.g., the availability of foreign loans for factories and industrial equipment but not for potable water and health clinics. On this view, the incentives were to grow unevenly or not at all, and uneven growth was the outcome.

Which view is right? All have elements of truth. The key, in my view, is that Brazilian policy was characterized by inattention to the short-run poverty problem. Call it benign neglect or heartless exploitation according to your emotive valuation. Deliberate unevenness is the central feature of Brazilian growth.

## THE PHILIPPINES[1]

The Philippines ranks in the middle of the income scale of the developing countries: in 1969 its per capita GDP was about U.S. $250. However, its overall growth performance is well above average. Real GNP more than tripled between 1950 and 1973, the date of the most recent distribution statistics. This implies a growth rate of 6% per year (compounded) in real output and 3% per year in real output per capita, broken down by subperiods as follows:

| | Average Annual Real Growth Rate | |
|---|---|---|
| Years | Gross Domestic Product | GDP per Capita |
| 1950 - 1960 | 6.4% | 3.2% |
| 1960 - 1965 | 5.1 | 2.1 |
| 1965 - 1973 | 5.8 | 2.7 |

Few countries in the world --- and only Taiwan and Costa Rica among the countries studied in this paper --- have done better.[2]

Before trying to discover who benefited from the Philippines' growth, we should note the apparent dualism of the Philippine economy. Post-war economic growth followed quite different courses in the two major economic divisions. In the rural sector, where 70% of the people are located, little has changed. Altogether the agricultural sector has grown slowly (about 3% per year in real terms) but steadily. Nonetheless, food is still produced using methods similar to those of previous generations, although high-yielding rice varieties have become quite important in some regions of the Philippines. Non-agricultural rural activities (e.g., cottage industries, small scale commerce) have not sur-

[1] Many studies of Philippine economic development have been undertaken. Among the most useful are those by the ILO (1974), Cheetham and Hawkins (1976), and Averch et al. (1971).

[2] Brazil did better in the late sixties and early seventies but not over the decade of the 1960s.

faced to any appreciable extent, nor are they likely to in the foreseeable future. In contrast to the rural situation, the urban economy developed more rapidly but less evenly. Organized manufacturing in particular grew quickly at first (more than 10% real growth per annum in the 1950s). Growth has slowed in the last decade, but real manufacturing production still grew at a 6% annual rate from 1965 to 1973.

These overall growth figures conceal great diversity of experience. The report of the ILO Mission to the Philippines goes so far as to say (pp. 4-5): "The Philippine economy provides a striking example of the inadequacy of conventional aggregate criteria of economic growth both to judge past development performance and to appreciate future prospects." More disaggregated income distribution data are available and they exhibit a deeply disturbing pattern: despite a tripling of the national product and a doubling of national product per capita, mean family incomes grew by less than 1% per year. We see in Table 16 that mean income evaluated at constant prices went from an index value of 100 in 1956 to a high of 126 in 1965 and then down to 117 in 1971.[1] Evidence like this led the ILO Mission to characterize the postwar period as one of "narrow participation and unbalanced growth" and other authors to regard Philippine development as a "crisis of ambiguity."[2]

Other social indicators also suggest little success in distributing the benefits of growth in the Philippines. A good example is

---

[1]Presumably the figure is even lower today due to recent economic difficulties and the consequent negative rates of growth.

[2]Averch et al.(1971).

## Table 16

## The Philippines: Income Distribution Data, 1956 - 1971.

| Indicator | 1956 | | | 1961 | | | 1965 | | | 1971 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban |
| *Quintile of families (percentage of total family income)* | | | | | | | | | | | | |
| Lowest 20 per cent | 4.5 | 7.0 | 4.5 | 4.2 | 5.9 | 3.8 | 3.5 | 5.0 | 3.8 | 3.8 | 4.4 | 4.6 |
| Second 20 per cent | 8.1 | 11.1 | 8.0 | 7.9 | 11.8 | 7.5 | 8.0 | 9.5 | 8.0 | 8.1 | 8.9 | 9.4 |
| Third 20 per cent | 12.4 | 14.7 | 12.2 | 12.1 | 13.5 | 12.5 | 12.8 | 15.3 | 12.0 | 13.2 | 13.9 | 13.4 |
| Fourth 20 per cent | 19.8 | 21.1 | 20.0 | 19.3 | 21.9 | 19.5 | 20.2 | 23.0 | 18.7 | 21.1 | 21.8 | 21.9 |
| Top 20 per cent | 55.1 | 46.1 | 55.3 | 56.4 | 46.9 | 57.1 | 55.4 | 47.2 | 57.5 | 53.9 | 51.0 | 50.7 |
| Top 10 per cent | 39.4 | 30.1 | 39.6 | 41.0 | 31.1 | 40.9 | 40.0 | 30.0 | 41.7 | 36.9 | 34.4 | 33.4 |
| Top 5 per cent | 27.7 | . | . | 29.0 | . | . | 28.7 | . | . | 24.3 | 22.6 | 22.6 |
| Index of quintile inequality | 0.44 | 0.34 | 0.44 | 0.46 | 0.36 | 0.46 | 0.45 | 0.38 | 0.47 | 0.40 | 0.41 | 0.41 |
| Gini coefficient | 0.48 | 0.38 | 0.49 | 0.50 | 0.40 | 0.52 | 0.51 | 0.42 | 0.53 | 0.49 | 0.46 | 0.45 |
| *Mean income (current pesos)* | *1 471* | *989* | *2 427* | *1 804* | *1 203* | *2 970* | *2 541* | *1 755* | *4 405* | *3 736* | *2 818* | *5 867* |
| Index, current price | 100 | 100 | 100 | 123 | 123 | 123 | 173 | 178 | 182 | 254 | 285 | 242 |
| Index, constant price | 100 | 100 | 100 | 111 | 110 | 111 | 126 | 130 | 133 | 117 | 132 | 111 |
| Mean urban income/mean rural income | 2.45 | | | 2.47 | | | 2.51 | | | 2.08 | | |

Source: ILO (1974, Table 3).

nutrition. The World Bank reports that just after World War II the Philippines was comparable in nutritional status to Malaysia, Japan, and Taiwan. Various studies estimate that there are serious nutritional deficiencies for about 40-45% of the population, though some estimates are even higher.[1] Clearly, the Philippines has lagged behind her neighbors in providing basic needs for her people.

Let us look at relative inequality. Data on nominal incomes by quintile group are presented in Table 17. We see that the three middle quintiles gained relatively as compared with the richest and poorest quintiles. This means that the Lorenz curves for the two years necessarily cross and summary measures of relative inequality will not always agree; so for example the Gini coefficient of inequality showed a small decline between 1961 and 1971 while another index of inequality, the ratio of income of the top quintile to the bottom quintile, was found to increase over the same time.

What about absolute poverty? The data in Table 17 are based on nominal incomes, unadjusted for inflation. Using the change in the Consumer Price Index (+101.6%) as an approximation to the inflation experienced by the poor, it follows that the average real incomes of the poorest quintile groups fell by more than 10%. Average absolute income among the poorest 40% remained unchanged in real terms.

Is the falling real income in the lowest quintile evidence of absolute impoverishment in the Philippines? Before drawing that conclusion from decile data alone, we ought to examine occupation or industry-

---

[1] See Cheetham and Hawkins (1976, Chapter 11).

Table 17

The Philippines: Average Income Per Family

In Current Pesos, 1961 and 1971.

| Quintile Group | Mean in Current Pesos 1961 | 1971 | Nominal Growth * |
|---|---|---|---|
| Lowest | 383 | 687 | + 79% |
| Second | 712 | 1523 | +114% |
| Third | 1090 | 2470 | +127% |
| Fourth | 1738 | 3924 | +126% |
| Fifth | 5094 | 10079 | + 98% |

*The Consumer Price Index rose by 101.6% over that period.

[Source: Mijares and Belarmino (1973).]

specific wages or incomes. In the case of the Philippines, the data show that incomes in constant pesos declined for many groups: salaried employees, wage earners, and skilled and unskilled industrial laborers; see Table 18. In agriculture the picture looks little better: real agricultural wages seem not to have risen in the postwar period but real earnings of households headed by farm laborers were about 20% higher in 1971 than in 1965.[1] Thus, for major groups of the poor, the improvements in economic position are at best modest.

There is one other possible way in which the poor might have been made better off. Elementary economic theory suggests that falling wages would induce employers to hire more workers. Either these persons will have been unemployed and receiving no income at all or they will be attracted from even lower-paying activities. Thus, the poor may share in economic development by becoming employed in large numbers in expanding modern sector jobs which offer relatively advantageous conditions, for example, in skilled occupations, high-paying industries, or in wage and salary jobs more generally. Data on the changing industrial and occupational composition of the Philippine labor force are given in Tables 19 and 20. The signs are not encouraging. Total employment expanded by 4,900,000 between 1956 and 1972. Nearly half the growth took place in agriculture (2,300,000). Of the rest, the occupational breakdown reveals large gains in sales and clerical jobs (1,000,000) and in professional employment (400,000), neither of which would be expected to benefit the poor very much. By industry grouping, employment gains were large in commerce and in domestic and personal services (1,100,000). Manufacturing employment, in contrast, expanded by only 400,000. It seems fair

[1] ILO (1974, pp. 11 and 60).

Table 18

The Philippines: Average Incomes for Select Groups.

| | 1957 | 1961 | 1965 | 1971 | 1975 |
|---|---|---|---|---|---|
| Index of Average Monthly Earnings, Nominal Pesos (1965=100)[a] | | | | | |
| Salaried Employees | 76.2 | 90.8 | 100.0 | 132.3 | 190.2 |
| Wage Earners | 78.9 | 88.1 | 100.0 | 142.1 | 215.3 |
| Index of Average Monthly Earnings, Constant Pesos (1965=100)[a),b] | | | | | |
| Salaried Employees | 105.8 | 113.8 | 100.0 | 82.6 | 65.1 |
| Wage Earners | 109.6 | 110.4 | 100.0 | 88.7 | 73.7 |
| Index of Wage Rates for Laborers in Industrial Establishments in Manila and Suburbs (1965=100)[c] | | | | | |
| Skilled Laborers | 117.5 | 115.7 | 100.0 | 91.3 | 62.5 |
| Unskilled Laborers | 110.2 | 104.8 | 100.0 | 101.3 | 69.6 |

a) Source: Central Bank of the Philippines, Statistical Bulletin (1975, Table 140)
b) Source: Central Bank of the Philippines, Statistical Bulletin (1975, Table 138)
c) Source: Central Bank of the Philippines, Statistical Bulletin (1975, Table 141)

Table 19

The Philippines: Employed Persons by Major Industry Group, Selected Years, in Thousands.

| | October, 1956[a] | October, 1961[a] | October, 1965[a] | November, 1972[b] |
|---|---|---|---|---|
| Agriculture, Forestry, Hunting and Fishing | 4,548 (59.0%) | 5,514 (60.6%) | 5,725 (56.7%) | 6,863 (54.5%) |
| Mining and Quarrying | 31 (0.4%) | 31 (0.3%) | 24 (0.2%) | 36 (0.3%) |
| Construction | 198 (2.6%) | 230 (2.5%) | 295 (2.9%) | 432 (3.4%) |
| Manufacturing | 962 (12.5%) | 1,026 (11.3%) | 1,101 (10.9%) | 1,323 (10.5%) |
| Electricity, Gas, Water, and Sanitary Services | 26 (0.3%) | 19 (0.2%) | 22 (0.2%) | 44 (0.3%) |
| Commerce | 803 (10.4%) | 873 (9.6%) | 1,114 (11.0%) | 1,478 (11.7%) |
| Transport, Storage and Communication | 228 (3.0%) | 278 (3.1%) | 339 (3.4%) | 467 (3.7%) |
| Government, Community, Business and Recreational Services | 392 (5.1%) | 538 (5.9%) | 708 (7.0%) | 1,071 (8.5%) |
| Domestic Services | 332 (4.3%) | 368 (4.0%) | 500 (5.0%) | 617 (4.9%) |
| Personal Services Other than Domestic | 135 (1.8%) | 179 (2.0%) | 227 (2.2%) | 246 (2.0%) |
| Industry Not Reported | 47 (0.6%) | 39 (0.4%) | 47 (0.5%) | 4 (0.03%) |
| Total Employment | 7,702 (100%) | 9,095 (100%) | 10,101 (100%) | 12,582 (100%) |

Sources: a) Statistical Handbook of the Philippines (1971, Table III.4).
b) Statistical Handbook of the Philippines (1976, Table 61).

Table 20

The Philippines: Employed Persons by Major Occupation Group, Selected Years, in Thousands.

| | October, 1956[a] | October, 1961[a] | October, 1965[a] | November, 1972[b] |
|---|---|---|---|---|
| Professional, Technical, and Related Workers | 216 (2.8%) | 309 (3.4%) | 375 (3.7%) | 595 (4.7%) |
| Proprietors, Managers, Administrators and Officials | 352 (4.6%) | 340 (3.7%) | 432 (4.3%) | 136 (1.1%) |
| Clerical, Office and Related Workers | 153 (2.0%) | 273 (3.0%) | 352 (3.5%) | 457 (3.6%) |
| Salesmen and Related Workers | 456 (5.9%) | 537 (5.9%) | 675 (6.7%) | 1,314 (10.4%) |
| Farmers, Farm Laborers, Fishermen, Hunters, Lumbermen & Related Workers | 4,525 (58.8%) | 5,501 (60.5%) | 5,677 (56.2%) | 6,829 (54.3%) |
| Workers in Mine, Quarry and Related Occupations | 30 (0.4%) | 23 (0.2%) | 14 (0.1%) | 20 (0.2%) |
| Workers in Operating Transport Occupations | 145 (1.9%) | 184 (2.0%) | 272 (2.7%) | 507 (4.0%) |
| Craftsmen, Factory Operatives, and Workers in Related Occupations | 1,071 (13.9%) | 1,100 (12.1%) | 1,270 (12.6%) | 1,471 (11.7%) |
| Manual Workers and Laborers, N.E.C. | 171 (2.2%) | 168 (1.8%) | 151 (1.5%) | 226 (1.8%) |
| Service and Related Workers | 541 (7.0%) | 636 (7.0%) | 840 (8.3%) | 1,019 (8.1%) |
| Occupation Not Reported | 41 (0.5%) | 29 (0.3%) | 42 (0.4%) | 7 (0.06%) |
| Total Employment | 7,702 (100%) | 9,095 (100%) | 10,101 (100%) | 12,582 (100%) |

Sources: a) Statistical Handbook of the Philippines (1971, Table III.5).
b) Statistical Handbook of the Philippines (1976, Table 62).

to conclude from this evidence that movement of workers into modern sector employment was not a major aspect of economic growth in the Philippines.

We have encountered a lower average absolute income in the poorest quintile, falling or stagnant wages and incomes for major occupational groups, and small increases in employment in job categories likely to benefit low income persons. The apparent conclusion: the poor in the Philippines did not participate much in economic growth, rather they are absolutely poorer.This is a disturbing result whenever it is encountered. When impoverishment is found in a rapidly-growing economy, it is all the more distressing.

What development strategies and policies led the Philippines to alleviate poverty so little while growing so much? The obvious answer is a political one: successive regimes in the Philippines did not take direct measures to spread the benefits of growth. They seem to have hoped that the benefits would filter down to the poor through multiplier effects, forward and backward linkages, and changing internal terms of trade. The Philippine economy is a clear example of how so-called "trickle down growth strategies" can go awry when accompanied by disequalizing policies that favor a select few.

The Philippines has rightly been classified as a labor abundant economy. In such an economy, we would expect that the encouragement of labor-intensive production methods would both enhance growth and increase the economic participation of the poor. But this was not the course followed. Instead, the macroeconomic policy measures in force since the early 1950s (overvalued exchange rates, artificially low interest rates,

investment subsidies) have created incentives for excessive capital-intensity in production and for imports of consumer goods and raw materials. The manufacturing sector has fallen behind the rest of the economy, in terms of both employment and output. This has placed increasing burdens on the agricultural sector to support economic growth, which it has been unable to do. Rural inequality has increased steadily. Although the Philippines extended the acreage under cultivation and introduced high-yielding varieties of rice, participation in these improvements was limited. The barriers to full participation include the unavailability of credit for small farmers, lack of access to modern inputs, an underdeveloped transport and marketing network, and limited irrigation facilities. Even in the rural areas, public investment projects tend to be large and to favor those individuals already in an advantageous position.

Public policy clearly favors urban concentration. Some 80% of industrial activity in the Philippines is located in Manila. Industries benefit from favorable energy distribution and rates and other fiscal incentives, provided they locate in Manila. In marked contrast to, say, Taiwan, in the Philippines, rural industrialization receives little public support.

One other indication of the narrowness of development strategy in the Philippines is the change in the functional distribution of income. Because of a substantial increase in the share of undistributed corporate profits (from 10% of national income in 1961 to 16% in 1971), the functional distribution shifted away from the household sector. This implies a gain for the relatively well-to-do, since non-employment incomes are concentrated in few hands (see Table 21).

Table 21

The Philippines: Percentage Distribution of Families

By Main Source of Income, 1971.

| | |
|---|---|
| Agriculture | |
| Wages and salaries | 10.7% |
| Farming | 34.4 |
| Fishing, forestry, and hunting | 4.3 |
| | 49.4% |
| Non-agriculture | |
| Wages and salaries | 32.3% |
| Entrepreneurial activities | 12.3 |
| | 44.6% |
| Other | 6.0% |
| Total | 100.0% |

[Source: ILO (1974, Table 117).]

The lesson from the Philippines is a clear one. The ILO report puts it well: "Not every type of growth, regardless of its rapidity, is sufficient in itself to ensure a matching of over-all supply and demand." It is, rather, the kind of economic growth that may prove decisive in determining the extent to which the poor participate in economic development. This is a matter of policy, not nature. Certainly, shortages of natural resources may seriously constrain the range of possibilities. But whatever the resource endowments may be, political will may well be decisive for the fate of the poor.

## TAIWAN

Taiwan is in the admirable position of combining rapid economic growth, sharply-reduced inequality, and widespread alleviation of poverty. As such, it is both the only country in our sample and one of the very few low income countries in the world to be developing so rapidly.

We begin our study of Taiwan in the early 1950s, shortly after the move from the Mainland. During the 1950s, real Gross National Product per capita grew by around 3% per year despite rapid population growth. The first income distribution data were published for 1953 and the second for 1961. These data give the impression of declining inequality, but these estimates ought not to be taken seriously, because the 1953 data were based on fitted rather than actual incomes and they are constructed from a sample of only 300 households selected non-randomly. The first reliable income distribution data for Taiwan become available only in the 1960s, and even then, the accuracy of the data from the early 1960s is subject to doubt.

Since 1964, Surveys of Family Income and Expenditure have been conducted regularly. To date, the surveys through 1972 have been published and analyzed. Data from these surveys are shown in Table 22.

Row (1) of the table indicates that per household income nearly doubled in real terms between 1964 and 1972. This remarkable growth performance is well-known. Less well-known are the distributional aspects of that growth. These are reported in rows (2) - (6). We see in rows (2) and (3) that two measures of relative inequality--- the Gini coefficient and the ratio of incomes of the top decile to

Table 22

Taiwan: Income Distribution, 1964 & 1972.

| | | 1964 | 1972 | Rate of Increase, 1964-72 (%) |
|---|---|---|---|---|
| (1) | Mean income per household at constant 1972 prices, measured in thousands of NT$ | 32.5 | 61.0 | + 88% |
| (2) | Gini coefficient | 0.328 | 0.301 | - 9% |
| (3) | Ratio of income share of top 10% to bottom 10% | 8.6 | 6.8 | - 21% |
| (4) | Income share by decile group, cumulative | | | |
| | First decile (lowest) | 3.0 | 3.6 | |
| | Second " | 7.7 | 8.9 | |
| | Third " | 13.5 | 15.3 | |
| | Fourth " | 20.3 | 22.5 | |
| | Fifth " | 28.1 | 30.7 | |
| | Sixth " | 36.9 | 39.9 | |
| | Seventh " | 47.0 | 50.4 | |
| | Eighth " | 58.9 | 62.6 | |
| | Ninth " | 73.9 | 77.3 | |
| | Tenth " (highest) | 99.9 | 100.0 | |
| (5) | Mean income at 1972 constant prices (in thousands of NT$): | | | |
| | First decile (lowest) | NT$ 9.9 ('000) | NT$ 20.6 ('000) | +109% |
| | Second " | 15.2 | 30.2 | + 98% |
| | Third " | 18.9 | 36.1 | + 91% |
| | Fourth " | 22.0 | 41.1 | + 87% |
| | Fifth " | 25.3 | 46.2 | + 83% |
| | Sixth " | 28.5 | 52.1 | + 83% |
| | Seventh " | 32.9 | 59.6 | + 81% |
| | Eighth " | 38.7 | 69.0 | + 78% |
| | Ninth " | 48.8 | 83.4 | + 71% |
| | Tenth " (highest) | 84.5 | 128.8 | + 53% |
| (6) | Proportion of households with incomes below specified amount (in thousands of constant NT$)in specified year: | | | |
| | | NT$20 | 35% | 10% |
| | | 30 | 55% | 20% |
| | | 40 | 80% | 35% |

Sources: Kuo (1975, Tables 5 and 6) and Fei-Kuo-Ranis (1978, Diagram 1).

the bottom decile--both declined, the latter more than the former.[1] This reflects a Lorenz improvement, the 1972 curve lying everywhere inside the 1964 curve; see Figure D. Rows (4) and (6) present the absolute real incomes of various decile groups. We see that the income share of the poorest decile increased, which in a rapidly-growing economy implies even more rapidly-growing incomes among the very poorest. A comparison of the rates of growth of real incomes by decile grouping (row (6)) shows a clear pattern: highest rates of income growth at the lowest end of the income distribution. These decile shares are translated into absolute poverty data in row (6). The record of achievement is extraordinary: in just eight years, Taiwan alleviated absolute poverty among the majority of its poor. As far as I know, no other country in the world has accomplished that.

How do we account for the decline in inequality and poverty in Taiwan? Let us first consider proximate causes. Data on functional income distribution reveal a clear shift in favor of labor income and an almost equal reduction in the importance of agricultural income:

| Functional Income Grouping | Functional Share, 1964 | Functional Share, 1972 |
|---|---|---|
| Wage Income | .432 | .590 |
| Agricultural Income | .275 | .103 |
| Property Income | .240 | .258 |
| Other Income | .053 | .049 |
| Total | 1.000 | 1.000 |

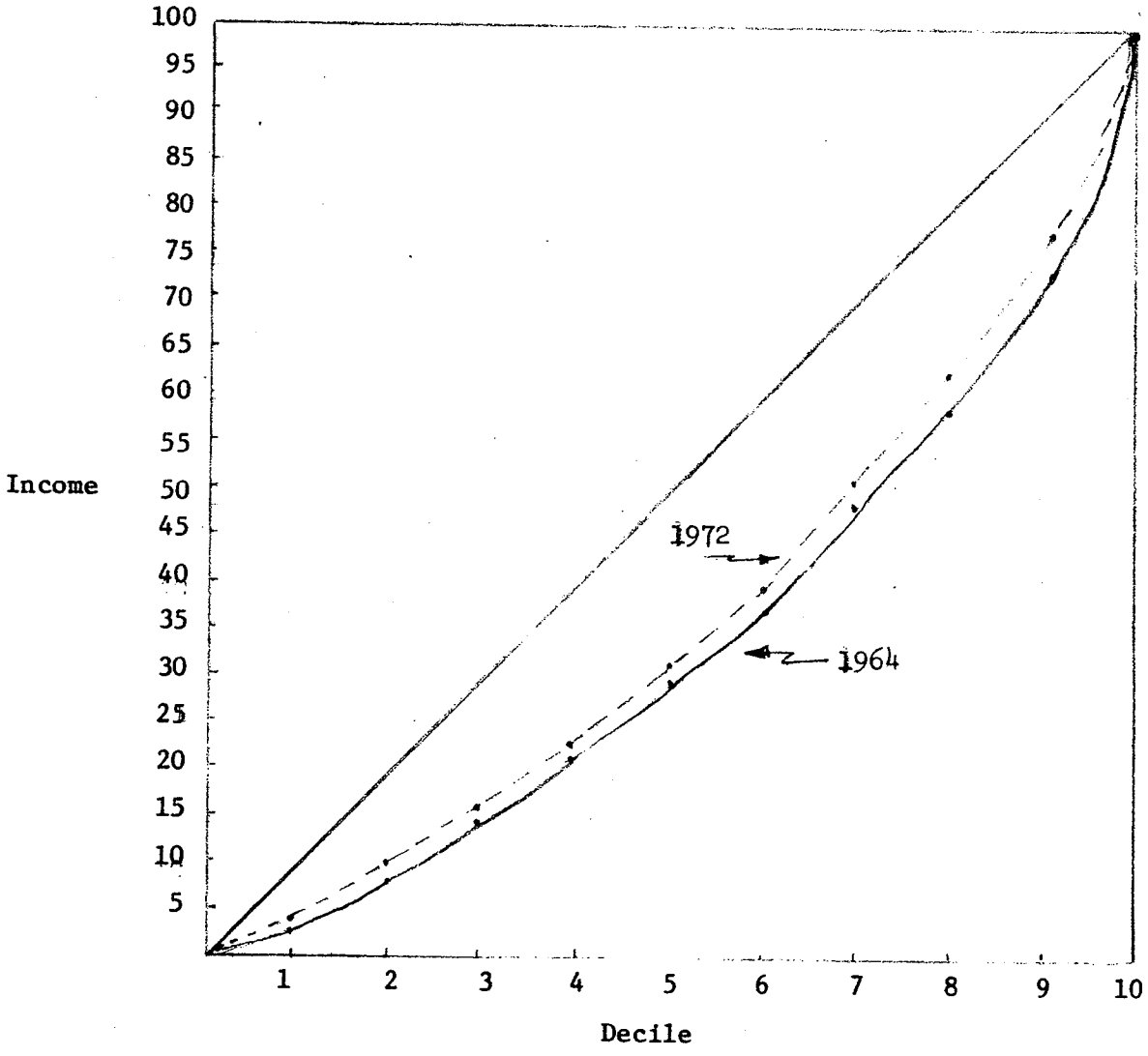
[Source: Fei, Kuo, and Ranis (1978, Diagram 1)]

---

[1] Fei, Ranis, and Kuo (1977) note that most of the change took place after 1968, which marked the end of labor surplus conditions in Taiwan.

Figure D.

Taiwan: Lorenz Curves, 1964 and 1972.




solid line = 1964

dotted line = 1972

This shift has two important implications. One is that because wage income is distributed more evenly than is agricultural income, the rising importance of labor income is likely to reduce inequality in the economy as a whole. Second, since wages are higher on average than agricultural incomes, if the wage income share increased and the agricultural income share declined while inequality was falling, it must be because the population shifted from agriculture to the wage sector. Indeed, the data in Table 23 show just that: a large decline in the share of labor force employed in agriculture, a corresponding gain in the share in industry, and virtual constancy of service's share. Taiwan's ability to create sufficient industrial jobs for the workers released from agriculture contrasts with the experience in most LDCs of growing underemployment in low-level jobs, especially in the cities, in areas like commerce and services.

Another indication of labor force upgrading in Taiwan is the distribution of the labor force by occupational position. Let us divide the economically active population into three groups---wage employees, own account workers, and unpaid family workers; see Table 24. We find that the proportion of paid employees rose from 40% to 60% in thirteen years, the fraction of unpaid family workers fell nearly in half, and the proportion of own account workers fell also. This means that commercialization and industrialization were proceeding rapidly enough to draw more and more of the work force into modern sectors.

Table 23

Taiwan: Sectoral Distribution of Employment, Various Years.

| Pre-1966 Classification System | Agriculture, forestry, fishing | | Mining, manufacturing, transport, communications | | All other industries | |
|---|---|---|---|---|---|---|
| | Number ('000) | % | Number ('000) | % | Number ('000) | % |
| 1953 | 1812 | 61.3% | 339 | 11.5% | 803 | 27.2% |
| 1958 | 1813 | 57.0 | 435 | 13.7% | 930 | 29.3 |
| 1964 | 2010 | 54.2 | 556 | 15.0 | 1144 | 30.8 |
| 1966 | 2050 | 53.0 | 604 | 15.6 | 1216 | 31.4 |

| Post-1966 Classification System | Agriculture | | Industry | | Services | |
|---|---|---|---|---|---|---|
| | Number ('000) | % | Number ('000) | % | Number ('000) | % |
| 1966 | 1617 | 43.5% | 1050 | 28.2% | 1055 | 28.3% |
| 1972 | 1632 | 33.0 | 1847 | 37.3 | 1469 | 29.7 |
| 1975 | 1652 | 29.9 | 2276 | 41.2 | 1593 | 28.9 |

Source: Galenson (1977, Tables 2 and 3).

The upgrading of employment in favor of higher-income jobs is shown in occupational data; see Table 25 , columns (1) and (2). The fraction of workers employed as managers and professionals increased from 2.3% of the labor force in 1964 to 11.1% in 1972---a fivefold increase. Salaried workers and owners of small firms also became relatively more numerous. The occupational groups that diminished in importance were the lowest-paying ones---farmers and laborers. This shift in the occupational distribution toward the upper end is evidence of substantial modern sector enlargement.

Where Taiwan differs from other countries is in the pattern of income change by occupation; see columns (3) - (5) of Table 25. Incomes in the lowest occupational categories grew considerably. Farmers' incomes rose by 53% in eight years and laborers' incomes by 123%. Thus, those who remained in low-level occupations shared in economic growth, their combined incomes rising at a faster rate than the combined incomes of managers and professionals. This is evidence of substantial traditional sector enrichment, both absolutely and relatively, on a scale unequaled in any of the other countries studied.

In summary: "All these indicators point to the conclusion that rapid economic growth has led to a marked improvement in Taiwan's employment situation [since the 1950s and 1960s] without any radical redistribution of income or wealth. This is not to say that full employment has been achieved in Taiwan, any more than it has in the industrial market economies. But Taiwan has clearly left the stage of gross unemployment that still characterizes most of the developing world."[1]

---

[1] Galenson (1977, pp. 31-32).

Table 24

Taiwan: Occupational Position of the Labor Force, Various Years

| | Year | | | |
|---|---|---|---|---|
| | 1964 | 1968 | 1972 | 1975 |
| Paid Employees | 41.7% | 50.6% | 57.8% | 59.8% |
| Own Account Workers | 29.8 | 26.9 | 25.4 | 24.3 |
| Unpaid Family Workers | 28.5 | 22.5 | 16.8 | 15.9 |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

[Source: Galenson (1977, Table 14)].

Table 25

Taiwan: Income and Employment by Occupational Group, 1964 & 1972.

| Occupation | (1) Share of Employment 1964 | (1) Share of Employment 1972 | (2) Percentage Change in Employment Share 1964-72 | (3) Average Income per family, thousands of NT$ (constant) 1964 | (3) Average Income per family, thousands of NT$ (constant) 1972 | (4) Average Income in that occupation relative to the mean 1964 | (4) Average Income in that occupation relative to the mean 1972 | (5) Growth rate of Average Income in occupation 1964-72 |
|---|---|---|---|---|---|---|---|---|
| Managers | 1.4% | 3.8% | +171% | NT$87 | NT$116 | 2.69 | 1.92 | + 33% |
| Professionals | 0.9 | 7.3 | +711 | 48 | 83 | 1.46 | 1.40 | + 74 |
| Owner of Small Firms | 11.1 | 12.8 | + 15 | 39 | 67 | 1.20 | 1.10 | + 69 |
| Salaried Workers | 17.9 | 21.0 | + 17 | 38 | 66 | 1.25 | 1.10 | + 74 |
| Farmers | 39.6 | 25.9 | - 35 | 32 | 49 | .99 | .81 | + 53 |
| Laborers | 27.3 | 22.8 | - 17 | 24 | 54 | .74 | .88 | +123 |
| Other Industries | 1.8 | 6.4 | +255 | 20 | 41 | .61 | .68 | +110 |
| Whole Economy | 100.0% | 100.0% | - | NT$32 | NT$61 | - | - | + 87 |

Source: Kuo (1975, Table 15).

What sorts of structural changes in Taiwan's economy accompanied these shifts? We may identify the following factors in Taiwan's growth since the early 1950s: gains in agricultural labor productivity of nearly 250%, which financed rapid growth, industrialization, and reallocation of the labor force out of agriculture; growing external orientation of the economy, industrial exports increasing fourteenfold; changing export composition, shifting from primarily agricultural goods to over 90% industrial; investment in labor-intensive industries including electrical machinery, chemicals, and textiles; end of the labor surplus around 1968, followed by rising wage shares in national income; and high and growing rural industrialization. For further analysis of Taiwan's growth experience, see Fei and Ranis (1975) and Galenson (forthcoming).

What kinds of economic development policies and strategies produced these outcomes? There are four key elements:

(1) Strategy of Decentralized Development.

Taiwan inherited from colonial days the start of a network of roads, railways, irrigation systems, and industrial estates. Farmers' organizations and agricultural extension services were also in place. After independence, Taiwan not only maintained these decentralized systems but also continued their development and added to them (e.g., rural electrification). As one indicator of the extent of decentralized development, we have the fact that in the Fifties and Sixties there were more new rural than urban business establishments in Taiwan. Another is the fact that the majority of Taiwan's industrial workers

are in rural areas, the proportion increasing steadily. Taiwan's strategy of early attention to backward areas contrasts with most other countries' emphasis on urban growth: developing industrial complexes, building housing, and supplying physical and social services in the major cities. One consequence of decentralized development was the unusually low rate of rural-urban migration experienced in Taiwan.

(2) Balanced Rural Development Strategy.

The development of rural Taiwan combined the standard concern with agriculture with unusually heavy attention to non-agricultural activities. In most less developed countries, ninety percent or more of the economically active rural population is employed in agriculture; in Taiwan, the percentage is more like fifty percent. This is seen as providing the goods and services needed to make rural growth viable and preventing the rapid urbanization via rural-urban migration which is found in most other low income countries. It should be recognized that this did not come about through happenstance. Taiwan made major efforts toward agricultural development. Land reform was a key ingredient. Between 1949 and 1953, Taiwan compelled the sale of land by landlords, sold public lands for cultivation, and imposed rent controls. Institutional structures were reorganized in support of land reform, including such measures as agricultural research and extension programs, farmers' cooperatives for purchasing and marketing, and credit to small farmers. Roads and other physical infrastructure were maintained and expanded.

(3). Industrial and Trade Strategies.

Around 1960, Taiwan made a major change in its policies toward industrialization and trade. Before then, heavy reliance was placed on import substitution. The policies of import substitution included high tariffs to protect domestic industries, over-valued exchange rates, artificially low domestic interest rates, and other measures aimed at increasing production at home of goods that used to be imported. This can go on only so long before the domestic market is satisfied. A country must then choose whether to export the additional goods for sale in world markets (so-called "export promotion") or to produce at home more of the raw materials and intermediate goods that are presently imported (known as "secondary import substitution"). Around 1960, Taiwan chose the first option. Exchange rates were made more realistic, interest rates were reformed, and barriers to trade were reduced. In short, the policy was to rely on market prices, lessening distortions of relative prices and technologies, and avoiding premature capital-intensity. The outcome, it is argued, is "the embodiment of labor service in export to the world market. . . conducive to both rapid growth and full employment" and to the alleviation of poverty and reduction in inequality due to the absorption of the poor in new activities.[1]

(4) Human Resource Development.

For a country at its stage of development, Taiwan has invested exceptionally large sums from her own resources in education. At the upper levels, enrollments in higher education increased sixfold from 44,000 in 1962 to 282,000 in 1974. The increased supply of highly-educated workers may well have permitted the growth of employment in high-level occupations. At the lower levels, six grades

[1]The quotation is from Fei and Ranis (1975, p. 52). The more general theme is developed in Fei, Ranis, and Kuo (1977, Chapter Two).

of primary education have been compulsory and free for a decade and a half. School attendance ratios are approaching 100% among children six to twelve. At the intermediate level, three additional years of free education have been available since 1968. The educational composition of the labor force at present is as follows:

| Educational Level | Number ('000) | Percentage |
|---|---|---|
| Illiterate | 581 | 11% |
| Self-educated | 228 | 4 |
| Primary school | 2,613 | 48 |
| Secondary | 1,683 | 31 |
| Higher | 369 | 7 |
| Total | 5,475 | 101% |

[Source: Galenson (1977, Table 10)].

This is a particularly well-educated populace for a country as poor as Taiwan. Many would regard Taiwan's investments in education and the consequent high skill level of the labor force as important factors contributing to both the modern sector enlargement and the traditional sector enrichment components of Taiwan's rapid economic growth.

Are Taiwan's policies and strategies applicable to other countries? Taiwan's economic gains are sometimes thought to be something of a special case due to particular advantages: uniform geography and culture, rich human resources, a rural orientation during colonial development in the past, or a special relationship with the U.S. at present. But, as Ranis (1977) reminds us, Taiwan also has had some

particular disadvantages: poor natural resource endowment, scarcity of land, political upheavals at time of birth, quota restrictions on a key export (textiles), and the drain of high military spending. How these advantages and disadvantages balance out as compared with the "typical" developing country is not easy to discern.

Taiwan's development success--and indeed it is a success in terms of alleviation of poverty, reduction of inequality, and promotion of overall economic growth--offers an important lesson. There can be little doubt that Taiwan's development strategy had the effect of benefiting all her people, more or less. It is doubtful whether the people who were determining policy ever thought of development planning in that way. Still, they took some tough decisions--in particular, land reform and reliance on market prices, both of which were opposed by powerful and vocal special interests. Most countries concentrate on expanding a small modern sector with the intention of redistributing some of the proceeds after the fact. It may take a century until everyone is raised above a basic poverty level. Taiwan, in contrast, developed all major sectors (agriculture and rural industry as well as the urban economy) gradually and evenly. This strategy of broad-based economic growth led to economic well-being of the masses within a single generation. Such a strategy may hold considerable promise for other less developed countries, especially where diminishing returns in leading sectors may have set in.

## CONCLUSIONS

This paper has explored the progress and commitment of six less developed countries in increasing the participation of the poor in economic development. Both absolute poverty and relative inequality measures were used. At issue is a fundamental question: what combinations of circumstances and policies led some countries to upgrade the economic positions of their poor at faster rates than others? The main results are as follows.

(1) Absolute poverty was alleviated in some countries but not in others. The proportion with incomes below a basic minimum level declined substantially in Taiwan, Sri Lanka, and Costa Rica. Brazil alleviated its absolute poverty by raising the average incomes of those who remained poor. Absolute poverty was not ameliorated in the Philippines or India: poverty increased noticeably in both countries.

(2) Relative inequality increased in some countries and declined in others. Large increases in inequality took place in the Philippines and Brazil. On the other hand, large declines in inequality were found for Sri Lanka and Costa Rica. Small inequality declines were reported in Taiwan and India.

(3) The absolute poverty and relative inequality measures agree in some cases and disagree in others. Qualitative agreement (i.e., with respect to direction of change) arises in four countries. In three of these (Sri Lanka, Costa Rica, and Taiwan) both poverty and inequality declined, while in a fourth (the Philippines) both increased. But in two cases, the absolute poverty and relative inequality measures are in conflict. In Brazil, although relative inequality increased, absolute poverty was alleviated. A reverse pattern is found in India. There,

relative inequality showed a slight decline, yet absolute poverty rose substantially. These results suggest that the choice of an absolute poverty or relative inequality measure may make an important difference in assessing the participation of the poor in economic development. Economists and others evaluating development performances should choose between absolute poverty and relative inequality measures in accordance with the value judgments they wish to make.

(4) A high aggregate growth rate is neither necessary nor sufficient for reducing absolute poverty. Included in our sample were both fast and slow growing countries. Their poverty performances are given in the following table:

Table 26

Six Countries: Growth and Poverty Change

| | | GROWTH | |
|---|---|---|---|
| | | HIGH | LOW |
| POVERTY | INCREASING | Philippines | India |
| | DECREASING | Taiwan<br>Costa Rica<br>Brazil | Sri Lanka |

Two deviant cases stand out---the Philippines and Sri Lanka. The Philippines grew rapidly, yet the proportion poor increased. On the other hand, Sri Lanka grew very slowly, yet absolute poverty was substantially reduced. We have no readily calculable index of these countries' commitment to helping the poor toward a better life. Nonetheless, it can fairly be said that in both countries the outcome is clearly linked to public policy--welfare statism as part of a large scale anti-poverty campaign in Sri Lanka, virtual inattention to the poverty problem in the Philippines over the period of analysis.

(5) A high aggregate growth rate is neither necessary nor sufficient for reducing relative inequality, as shown in the following table:

Table 27

Six Countries: Growth and Inequality Change

| INEQUALITY | GROWTH: HIGH | GROWTH: LOW |
|---|---|---|
| INCREASING | Philippines<br>Brazil | |
| DECREASING | Costa Rica<br>Taiwan | Sri Lanka<br>India |

The two fastest growing countries---Taiwan and Costa Rica---experienced declining inequality, as did the two slowest growing countries ---Sri Lanka and India. These four countries pursued development strategies in which rural development figured heavily. Inequality increased in the two countries with high but not spectacular growth rates---the Philippines and Brazil. Both these countries followed uneven development strategies aimed at modern industrial enclaves which engage relatively few.

Table 27 suggests a pattern which may not be entirely accidental. It is arguable, though far from proven, that a distributionally-oriented development program which integrates the poor into the mainstream of the economy may cause a higher growth rate, other things equal. Obversely, a development strategy aimed at a limited segment of the economy may result in a lower growth rate than could be achieved given that country's resource endowment. In the present state of our knowledge, we do not understand the dynamics of growth well enough to evaluate the merits of this argument. Research on this question merits highest priority among development economists and planners.

(6) Commitment toward helping the poor does not necessarily result in progress nor does lack of progress necessarily follow from lack of commitment. India, it seems, was committed to improving conditions for the poor but it did not succeed. Sri Lanka was committed and did succeed. Taiwan did not appear to be particularly committed, yet it seems to have done many of the right things nonetheless. Taiwan is the exception to a more general rule which I would advance as a working hypothesis: In the absence of a firm commitment to developing for the poor and the courage to act on that commitment, it seems only natural that economic systems will perpetuate the flow of resources to the haves with at best some trickle-down to the have-nots.

We should bear in mind that any commitment no matter how resolute or any strategy no matter how well-conceived in its broad outlines will be doomed to failure if specific policy changes are made in the wrong direction or at the wrong time. Consider Taiwan's changed trade strategy and emphasis on rural development. The lesson is not that export promotion is always better and that import-substituting countries can never succeed, nor that rural development will always work. Rather, we should conclude that the shift from import substitution to export promotion is an example of the right policy being pursued at the right time in response to changing conditions (generated in this case internally); the same holds for the attention paid to rural industry and infrastructure. No one policy is right once and for all; the circumstances must be carefully examined. Perhaps, under present conditions, broad-based rural development may be the most appropriate anti-poverty strategy for a developing country to follow. It goes without saying that one rural development strategy is not the same as another. Expert opinion is needed to plan an appropriate policy package in light of the circumstances that led to success or failure elsewhere.

(7). Progress in alleviating poverty is mirrored in changing labor market conditions.[1] The poor may benefit from economic growth because of modern sector enlargement or traditional sector enrichment. "Modern sector enlargement" may be defined as an expansion in the number of relatively high-paying jobs so as to employ a larger percentage of economically active population. "Traditional sector enrichment" is the increase in wages or incomes in the major occupational groups in which the poor are found. Data on the enlargement and enrichment components of development in the six countries are displayed in Table 28. In the two countries with both high rates of modern sector enlargement and indications of traditional sector enrichment (Taiwan and Costa Rica), poverty was alleviated rapidly. The two countries with modern sector enlargement or traditional sector enrichment but not both (Sri Lanka and Brazil) also alleviated poverty. In the two countries with neither modern sector enlargement nor traditional sector enrichment (the Philippines and India) absolute poverty worsened. This pattern implies that research into determinants of employment and growth structures in less developed country labor markets would be of much value in helping to determine causes of poverty and its amelioration or exacerbation in the process of economic growth.

The data needed for such an analysis are easily attainable. Basically, all that is required is information on employment distributions and wage structures singly and in cross tabulations, by occupation and/or industry. With these data in hand, it is a straightforward matter to look at changing

---

[1] For a similar conclusion reached in a quite different way, see Lal (1976, p. 737), who writes that "...efficient growth which raises the demand for labor is probably the single most important means available for alleviating poverty in the Third World." See also Galenson (1977) for yet another approach to the same result.

TABLE 28

SIX COUNTRIES: ENLARGEMENT & ENRICHMENT

COMPONENTS OF CHANGING LABOR MARKET CONDITIONS.

| Country | Modern Sector Enlargement | Traditional Sector Enrichment | Modern Sector Enrichment |
|---|---|---|---|
| Costa Rica | High | Yes | Yes |
| Sri Lanka | Low | Yes | No |
| India | Low, if any | Negative | No |
| Brazil | Low | Yes & No | Yes |
| Philippines | Low | Negative | Yes |
| Taiwan | High | Yes | Yes |

numbers of persons in each occupation/industry group (that sector's "enlargement effect") and at changing wages and incomes within those groups (the "enrichment effects"). More formal procedures are also available. The contribution of the various enlargement and enrichment effects to total economic growth can be quantified by the following procedure:[1]

$$\Delta Y = \underbrace{(f_2^m - f_1^m)\ (W_1^m - W_1^t)}_{\text{Modern sector enlargement effect } (\alpha)} + \underbrace{(W_2^m - W_1^m) f_1^m}_{\text{Modern sector enrichment effect } (\beta)}$$

$$+ \underbrace{(W_2^m - W_1^m)\ (f_2^m - f_1^m)}_{\text{Interaction between modern sector enlargement and enrichment effects } (\gamma)} + \underbrace{(W_2^t - W_1^t)\ f_2^t}_{\text{Traditional sector enrichment effect } (\delta)}.$$

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

$\beta$ = Enrichment of the high income sector
= Change in income within the high income sector, multiplied by the number of persons who were originally in that sector in the base year;

$\gamma$ = 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;

$\delta$ = Enrichment of the low income sector
= Change in income within the low income sector, multiplied by the number of persons who remained in that sector in the terminal year.

---

[1] See Fields (1975).

If there are more than two sectors, the corresponding formula is:

$$\Delta Y = \sum_{i=1}^{n} [\underbrace{W_1^i (f_2^i - f_1^i)}_{\text{Sector i enlargement effect}} + \underbrace{(W_2^i - W_1^i) f_1^i}_{\text{Sector i enrichment effect}} + \underbrace{(W_2^i - W_1^i)(f_2^i - f_1^i)}_{\text{Interaction of sector i enlargement and enrichment effects}}]$$

A key research question of considerable interest is how these various components differ in fast- and slow-growing countries and between countries that are pursuing different development strategies. Research aimed at understanding the causes of changing employment and wage structures in the labor markets of less developed countries is likely to have a major payoff, possibly providing the missing link between the old concerns among development economists with aggregate growth and the new concerns with income distribution.

# BIBLIOGRAPHY

A.I.D. (Agency for International Development), "Implementation of 'New Directions' in Development Assistance," Committee on International Relations, 94th Congress, 1st Session, July 22, 1975.

Ahluwalia, M.S., and Chenery, H., "The Economic Framework," Chapter 2 in H. Chenery, et al., Redistribution with Growth, Oxford University Press, 1974.

Ahmed, M. and Bhattacharya, N., "Size Distribution of Per Capita Personal Income in India," Economic & Political Weekly, Special Number, 1972, reprinted in T.N. Srinivasan and P.K. Bardhan, eds., Poverty and Income Distribution in India, Calcutta, Statistical Publishing Society, 1974.

Arias, O.S., Características del Desarrollo Pasado en Costa Rica y Perspectivas para el Futuro, San Jose, Costa Rica, 1975.

Averch, H. et al., The Matrix of Policy in the Philippines, Princeton University Press, 1971.

Bardhan, P.K., "On the Minimum Level of Living and the Rural Poor," Indian Economic Review, 1970.

_____, "On the Minimum Level of Living and the Rural Poor: A Further Note," Indian Economic Review, 1971.

_____, "The Pattern of Income Distribution in India: A Review," in T.N. Srinivasan and P.K. Bardhan, eds., Poverty and Income Distribution in India, Calcutta, Statistical Publishing Society, 1974.

Berry, R.A., "Changing Income Distribution Under Development: Colombia," Review of Income and Wealth, September, 1974.

Bhatty, I.Z., "Inequality and Poverty in Rural India," in T.N. Srinivasan and P.K. Bardhan, eds., Poverty and Income Distribution in India, Calcutta, Statistical Publishing Society, 1974.

Brasil, Censo Demografico: Resultados Preliminares, Rio de Janeiro, 1960.

Brasil, Tabulacoes Avancadas do Censo Demografico, Rio de Janeiro, 1970.

Brazilian Trends, Sao Paulo, Editora Abril, 1973.

Bureau of Census and Statistics, Statistical Handbook of the Philippines, Manila, 1971.

Calvo, M.F., "Costa Rica: Labor Force Characteristics and Evolution 1950-1973," in J. Buttari, ed., Employment in Latin America: A Review at National and Regional Levels, Program of Joint Studies on Latin America Economic Integration, Rio de Janeiro, March 1977.

Central Bank of Ceylon, Survey of Ceylon's Consumer Finances, Colombo, 1963.

Central Bank of the Philippines, Statistical Bulletin, vol. XXVII, December 1975.

Céspedes, V.H., Costa Rica: La Distribución del Ingreso y el Consumo de Algunas Alimentos, Universidad de Costa Rica, 1973.

Cheetham, R. and Hawkins, E., The Philippines: Priorities and Prospects for Development, World Bank, Washington, D.C., 1976.

Comisión Económica para América Latina, Proyecto Sobre Medición y Análisis de la Distribución del Ingreso en Paises de América Latina, Tabulados de Trabajo, Brasil, Documento Número E/CEPAL/L.115.8, Nov. 1974.

Department of Census and Statistics, Colombo, Ceylon, Statistical Pocket Book of Ceylon, 1968.

Department of Census and Statistics, Colombo, Sri Lanka, Statistical Pocket Book of Sri Lanka, 1975.

ECLA (Economic Commission for Latin America), Economic Survey of Latin America, 1968, New York, 1969.

Fei, J.C.H. and Ranis, G., Development of the Labor Surplus Economy, Irwin, 1964.

_____ and Ranis, G., "A Model of Growth and Employment in the Open Dualistic Economy: The Cases of Korea and Taiwan," Journal of Development Studies, January 1975.

_____, Ranis, G., and Kuo, S.W., Equity with Growth: The Taiwan Case, unpublished manuscript, 1977.

_____, S.W. Kuo and G. Ranis, "Growth and the Family Distribution of Income by Factor Components," Quarterly Journal of Economics, forthcoming.

Fields, G.S., "On Inequality and Economic Development," Economic Growth Center, Yale University, Center Discussion Paper No. 233, August 1975, also issued as "Desigualdad y Desarrollo Económico," Centro de Estudios sobre Desarollo Económico, Universidad de Los Andes, Documento No. 38, Feb. 1977.

_____, "Assessing Progress Toward Greater Equality of Income Distribution," Paper prepared for U.S. Agency for International Development, December 31, 1976, to be published in W. McGreevey, ed., Measuring Development Progress (tentative title).

_____, "Who Benefits from Economic Development?---A Reexamination of Brazilian Growth in the 1960s," American Economic Review, September 1977.

Fishlow, A., "Distribuicao da Renda no Brasil: Um Novo Exame," Dados, No. 11, 1973 (a).

_____, "Some Reflections on Post 1964 Brazilian Economic Policy," in A. Stepan, ed., Authoritarian Brazil, Yale University Press, 1973 (b).

Fundacao Getulio Vargas, Atualizacao Parcial do Sistema de Contas Nacionais, 1971-1972, Junho, 1973.

Furtado, C., Economic Development of Latin America, Cambridge University Press, 1970.

Galenson, W., "The Labor Force, Wages and Living Standards," mimeo, Cornell University, 1977.

_____, ed., The Economic Development of Taiwan 1945-1975: The Experience of the Republic of China, forthcoming.

Griffin, K., "Increasing Poverty and Changing Ideas about Development Strategies," Paper presented at the Conference on Distribution, Poverty, and Development, Bogota, June 1977.

International Labor Office, (ILO), Sharing in Development in the Philippines, Geneva, 1974.

Jain, S., Size Distribution of Income: A Compilation of Data, Washington, World Bank, 1975.

Jayawardena, L., "Sri Lanka", in H. Chenery et al., Redistribution with Growth, Oxford University Press, 1974.

Karunatilake, N., "Changes in Income Distribution in Sri Lanka," in Income Distribution, Employment, and Economic Development in Southeast Asia, Papers and Proceedings of the seminar sponsored jointly by the Japan Economic Research Center and the Council for Asian Manpower Studies, July 1975.

Kuo, W., "Income Distribution by Size in Taiwan Area: Changes and Causes" in Income Distribution, Employment, and Economic Development in Southeast and East Asia, Papers and Proceedings of the seminar sponsored jointly by the Japan Economic Research Center and the Council for Asian Manpower Studies, July 1975.

Kuznets, S., Modern Economic Growth, Yale University Press, 1966.

Lal, D., "Distribution and Development: A Review Article," World Development, 1976.

Langoni, C., "Distribuicao da Renda e Desenvolvimento Economico do Brasil," Estudos Economicos, Octubro 1972.

_____, "Income Distribution and Economic Development: The Brazilian Case," Paper presented at the World Econometric Society Congress, Toronto, 1975.

Lewis, W.A., "Economic Development with Unlimited Supplies of Labor," The Manchester School, May 1954.

Lipton, M., Why Poor People Stay Poor, Harvard University Press, 1976.

Malan, P., and Wells, J., "Langoni e a Distribuicao de Renda no Brasil," Pesquisa e Planejamento Economico, December 1973.

Mericle, K.S., "Corporatist Control of the Working Class: The Case of Post-1964 Authoritarian Brazil" in James M. Malloy, ed., Authoritarianism and Corporatism in Latin America, University of Pittsburgh Press, 1976.

Mijares, T.A., and Belarmino, L.C., "Some Notes on the Sources of Income Disparities among Philippine Families," Journal of Philippine Statistics, September 1973.

Minhas, B.S., "Rural Poverty, Land Redistribution and Development Strategy: Facts and Policy," Indian Economic Review, April 1970.

Morley, S.A. and Williamson, J.G., "Demand, Distribution, and Employment: The Case of Brazil," Economic Development and Cultural Change, October 1974.

_____, "Growth, Wage Policy and Inequality: Brazil During the Sixties," Social Systems Research Institute, University of Wisconsin, Madison, Workshop Paper No. 7519, July 1975.

OFIPLAN (National Planning Office of Costa Rica), Urban Assessment of San Jose, Costa Rica: Focus on Poverty, Report to U.S. Agency for International Development, San Jose, September 21, 1977.

Ojha, P.D., "A Configuration of Indian Poverty," Reserve Bank of India Bulletin, January 1970.

_____ and Bhatt, V.V., "Pattern of Income Distribution in India: 1953-55 to 1963-65," in T.N. Srinivasan and P.K. Bardhan, eds., Poverty and Income Distribution in India, Calcutta, Statistical Publishing Society, 1974.

Paukert, F., "Income Distribution at Different Levels of Development: A Survey of Evidence," International Labour Review, August-September 1973.

Philippines, National Census and Statistics Office, Statistical Handbook of the Philippines, Manila, 1976.

Ranadive, K.R., "Distribution of Income - Trends Since Planning," Paper presented to ISI Seminar on Income Distribution, February 1973.

Ranis, G., "Equity with Growth in Taiwan: How Special is the 'Special Case'?", Economic Growth Center, Yale University, Center Discussion Paper No. 264, 1977.

Rasaputram, W., "Changes in the Pattern of Income Inequality in Ceylon (1953-63)," Marga, Vol. 1, No. 4, Hansa Publishers, Colombo, 1972.

República de Costa Rica, Ministerio de Industria y Comercio, 1963 Censo de Población, April 1966.

República de Costa Rica, Ministerio de Economía, Industria y Comercio, Censos Nacionales de 1973, December 1974.

Schultz, T.W., Transforming Traditional Agriculture, Yale University Press, 1963.

Seers, D., "The Meaning of Development," International Development Review, December 1969, reprinted in C.K. Wilber, ed., The Political Economy of Development and Underdevelopment, Random House, 1973.

Singer, P.I., "Forca de Trabalho e Emprego No Brasil, 1920-1969," Centro Brasileiro de Analise e Planejamento, Sao Paulo, 1971.

_____, "Emprego, Producao e Reproducao da Forca de Trabalho," Paper presented at the Conference on Distribution, Poverty, and Development, Bogota, June 1977.

Snodgrass, D.R., Ceylon: An Export Economy in Transition, Richard D. Irwin, Inc., 1966.

UNCTAD, Handbook of International Trade and Development Statistics, 1976.

Vaidyanathan, A., "Some Aspects of Inequalities in Living Standards in Rural India," in Srinivasan, T.N. and Bardhan, P.K., eds., Poverty and Income Distribution in India, Calcutta, Statistical Publishing Society, 1974.

Wells, J., "Distribution of Earnings, Growth and the Structure of Demand in Brazil during the 1960s," World Development, January 1974.

Wogart, J.P., "Contrasting Employment Patterns in Brazil: 1940-1970," Department of Economics and Institute of Inter-American Studies, University of Miami, mimeo, 1974.