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The Distribution of Income and Wealth:
A Survey of Philippine Research

by

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ABSTRACT

Recent economic growth has not been accompanied by social stability; thus (equity-oriented) research is of high social priority. A more just distribution of (material well-being) is not only a valid objective in itself but also a means of attaining more economic growth. The alleged trade-off between equality and growth is quantitatively minor.

Many inequalities are not necessarily socially harmful, and it is important to distinguish between inequities and inequalities. Unfortunately, the empirical research on inequality (a) has succeeded in explaining only 1/5 of aggregate inequality, and (b) has focused on income determinants most of which are unlikely to create the resentments which foster social instability. This problem is due to deficiencies in the distributional data. [The data should balance the present preoccupation with human assets with detailed information on property; should be oriented towards comparisons of social groups; and should include some variables designed for frequent and prompt monitoring.] Improvements in the data are the key to placing the status of the war on inequity high in the social consciousness.

There is a wide range of possible policies for improving equity, some of which the state has attempted to implement more than others. On the basis of overall results, we must conclude that past policies and programs have not been widen enough in scope and/or not intense enough in degree. One problem is that these policies have not been formulated and evolved on an integrated basis. The development plans, for instance, use a production or growth orientation to unify the various sectoral and regional programs; but it should be technically possible to use an equity or anti-poverty orientation as an integrating factor as well. Researchers should now shift from analysis of economic differentials to evaluation of past equity-pertinent policies and to design of new equity-oriented ones.

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THE DISTRIBUTION OF INCOME AND WEALTH:
A SURVEY OF PHILIPPINE RESEARCH

by

Mahar Mangahas and Bruno Barros

1. Introduction: Inequality and Inequity

The proposition that 'more equal' means 'better' is obviously more controversial than 'more' means 'better'. Inequality is a mathematical term with more or less neutral ethical connotations. Defenders of inequality often call attention to its vital role in the functioning of the economic market through factor-price and product-price signals. Work, saving, investment, invention, innovation and organization all count heavily on material incentives.¹ The argument is not that material incentives need to be unequal for different people, but that [they need to be flexible to changing market conditions.] Efficient resource allocation requires a responsiveness to economic opportunities which are bound to develop in a differential manner within sectors of the economy, even when not deliberately discriminatory. Furthermore, the government has certain social reasons for wanting to influence resource allocations, which would be difficult

¹This view is not totally unchallenged by Filipino economists: see Bernardo (1977) on moral vs. material incentives in China.

to do if deprived of using material incentives among its instruments.

The most urgent concern for limitations to economic inequality is due not to disagreement with the above argument but to the obvious social dissatisfactions which have become manifest in socio-political conflict, including armed conflict. It seems impossible to deny that the foundations of the Muslim rebellion and the leftist insurgencies are connected to economic inequities. These uprisings are solidly in the Filipino historical tradition. The historians of the colonial periods have not been averse to reciting sources of inequity between colonists and colonized, and among native Filipinos as well -- one learns how landed wealth was dispensed by the State to a favored few; how dubious money-lending practices exploited the ignorant; how out-and-out landgrabbing made some wealthy on the basis of armed might.² (The main reason why economic inequalities should be studied is that the larger the inequalities, the greater the likelihood that they include inequities, or unjust inequalities, and the greater the danger of inducing or escalating civil conflicts, with well-known disruptive consequences, both economic and political.)

²In the economists' histories, on the other hand (concentrating mainly on the republic), hardly anything nasty seems to happen. One would get the impression that the conditions of rich and poor are rather 'natural', determined by (socially acceptable) differentials in natural talents, industry, thrift, and the random fortunes of the market. Could the relative candidness of the traditional historians be due to the many generations of distance between them and their subject matter?

Inequities can be horizontal or vertical. Horizontal inequities arise when equals are not treated equally, and vertical ones occur when unequals are not treated in an appropriately compensatory fashion, i.e., one which is more liberal towards those initially worse off. Familiar examples would be sex discrimination in employment (horizontal) and controlled prices, equally applicable to rich and poor, for basic commodities (vertical). The present land reform policy, while attempting to reduce concentration in land ownership (vertical inequity), has also given rise to other inequities: (a) horizontal: tenants on landowners' 'retained areas' of 7 hectares and below are ineligible for land transfer; (b) vertical: the buying price per unit of land is the same for both large and small landowners (this led to the offer of a few 'sweeteners', such as a slightly higher cash: bonds ratio, to the small landowners); (c) horizontal: rich rice and corn landlords can be compelled to sell their properties to the Land Bank, but not rich owners of other property, rural or urban.

Economic inequities come in various forms and degrees, leading in turn to social stresses of various degrees, some more dangerous than others. Thus it would be advisable for economic research to focus on inequities, especially the more disruptive ones, since the far broader subject matter of economic inequalities is bound to include many which do not raise serious social problems. Complete egalitarianism is not a social necessity.

Unfortunately, however, most studies have been concerned with inequalities in general instead of inequities in particular, as this survey of the literature will show. Those dealing with inequities are few. The politically turbulent period of the late 'sixties, leading up to the declaration of Martial Law in 1972, saw some effort to 'feel the pulse' of social unrest through survey interview techniques developed in social psychology (de Jesus and Benitez, 1970), and through correlation analysis between economic well-being (or its opposite, economic hardship) and incidence of anti-government activity (Averch et al., 1970).

Another approach is to accept that individuals have their personal values, whatever the ideological basis, as to which inequalities are acceptable and which are disturbing, and that the majority view (unanimity not required), as determined through an attitudinal survey, represents the social view. Thus, to Filipinos, differences in rank (in the work hierarchy), educational attainment, job seniority, occupation and ability appear to be socially acceptable grounds for income differentials. Nevertheless, inequality of opportunity for higher education and for better occupations is also regarded as socially unacceptable, and hence income inequality attributable to educational or occupational differences is partially inequitable. Age and family size are also felt to be acceptable, not on the basis of merit but of need. Incomes can also be affected

by random events; here, the Filipino attitude, in general, is not to be resentful of others' good fortune, and, at the same time, to be sympathetic to others' misfortunes.³

It seems clear enough, therefore, that there are many economic inequalities which are socially tolerable. But these do not constitute all, and probably not even the majority (in the statistical sense), of the aggregate inequality. Later sections of this survey will show that the data system has concentrated on the relatively 'tolerable' income-correlates, and that these variables explain only a small part of income inequality. It is safe to assume that within the 'gap between rich and poor' are portions which are perceived as due to accident of birth, unfair exploitation of economic advantage, unfair (perhaps even illegal) access to physical capital, human capital, and natural resources, and so forth. The ground for such an assumption is the presence of actual hostilities, violent for some, latent for others, among our people. The inequities have not been well documented and researched; it may even be argued that the lack of research is one of the many factors which helps to maintain the status quo. In the meantime, one may hope that, if research on economic inequalities helps eventually to reduce them, it may succeed

³The attitudes listed here are drawn from surveys of the Equity research project of the PREPF program (Population, Resources, Environment and the Philippine Future); see Mangahas (1977b). This project avoided testing property income as to socially acceptability on the ground that the Constitution makes it subject to reform and already implies that it is relatively unacceptable.

as well in reducing the inequities imbedded in the inequalities.

2. The Trend in Income Inequality: Kuznets' Hypothesis

The view that income inequality typically gets worse before it gets better, enunciated by Simon Kuznets (1955) a generation ago, has been a most durable one. There has been no lack of theories as to how the process, particularly the worsening component, operates:

(a) The most straightforward explanation is that economic growth, whether fuelled by technological change or resource growth, cannot occur evenly in all economic activities. Kuznets himself has recently emphasized that he derived the inverted-U hypothesis from broad historical and analytical considerations, not from time series data. He describes modern economic growth as "a kind of controlled revolution" in which interest positions and group interests shift rapidly, poverty can increase, and wealth and power can become concentrated in the hands of a few.⁴

⁴ See Kuznets' Introduction to CAMS-JERC (1975). Sicat has expressed a similar view, but in a more neutral manner (1972, pp. 284-5):

"Economic growth, in essence, is characterized by a disruption of the relative positions of all income-earning sectors, by an uneven expansion of economic sectors, and by displacement of some activities by other activities. Consequently, in the case of income earners beginning initially at the same level, those who are related to fast-growing

(b) Another explanation is related to the structure of demand for products. By Engel's Law, the share of the agricultural sector (expressed in terms of proportion of value-added or proportion of employment) will fall as per capita income rises. However, this sector not only has a lower average income level, but also is internally more equal than the non-agricultural sector. Thus Engel's Law tends to worsen overall inequality both by giving increased relative importance to the more unequal sector and by raising the differential in average income between the sectors.

(c) An additional consideration is the pattern of urban-rural development. As stated by Sicat (1972, p. 298):

"Considering that further economic development will involve a more intense degree of urbanization in the Metropolitan Manila and other relatively less 'urbanized' regions..., the phenomenon of greater income inequality as a consequence of the economic growth process will continue to be observed in the future." (his italics)

(d) A more complex explanation, bringing in occupational structure, government subsidies, and the eventual tightening of the labor market, has been offered by Mizoguchi⁵: In the early stages,

sectors will have much higher levels of income earnings after some time. And in the case of sectors with initially unequal incomes, there will come a time when fast growing sectors with low incomes will exceed the income position of low-growing or stagnating sectors with better income positions before. A growth of income inequality in this case is evident."

⁵ In his introduction to Oshima and Mizoguchi (1978). This stems from Hitotsubashi University's ongoing Income and Assets Distribution Research Project, which began in 1975, and covers several East and Southeast Asian countries.

rural inequality widens as the agricultural sector grows more and more commercialized, and urban inequality also widens, though gradually; he sets the Philippines, Thailand and Malaysia in this category. The next stage is one of rapid industrialization, with a widening of income differentials across occupations and across industries (Korea and Hong Kong). Typically, there are subsidies granted to the agricultural sector, in order to help narrow the gap between rural and urban incomes. However, these subsidies, he asserts, tend to be overproportionately enjoyed by the better-off farmers, thus widening further the rural inequality in incomes (Japan, Korea, Taiwan and the Philippines). The turning point is finally reached when the labor market shifts from surplus to scarcity. There is a regional dispersal of industries and of income opportunities such that (i) regional differences in average income contract and (ii) rural households shift to becoming part-time farming households, raising the proportion of their income derived from non-agricultural sources, with rural income inequality thus narrowing (Japan, Taiwan and Singapore).

(e) An eclectic approach, espoused by Adelman (1976), relying on statistical rather than deductive techniques, has listed eight processes typical of the manner by which economic development worsens inequality. These are derived from cross-national data, and it is striking how similar the Philippine case is to the 'average' LDC. The processes are: (i) a high rate of population growth; (ii) an immiserising inflation, acting more strongly on wage-goods than on

other goods; (iii) geographically imbalanced growth; (iv) overly capital-intensive technology, with the share of property in total income increasing, and a severe unemployment problem; (v) a lack of social mobility; (vi) import-substitution policies, which raise prices of wage-goods; (vii) 'soft' world market prices for export crops; and (viii) a gradual destruction of handicraft industries.⁶

The empirical evidence for the Kuznets hypothesis is somewhat mixed, mainly because time series data on income inequality are extremely limited. Cline (1975) contends that only half of the few available cases with time series show growth accompanied by worsening inequality. The Kuznets hypothesis stands up most clearly in inter-country comparisons, e.g., Paukert's (1973) cross-section, circa 1965, of 56 countries, which clearly displays an inverted-U of inequality graphed against per capita GNP, with inequality peaking at about US\$250-350 per capita GNP (1965 values). The statistical fit is quite rough, and, given the GNP p.c. level, deviations of the Gini ratio by ± 15 points from the inverted-U can be observed.

It so happens, however, that the Philippine point is one of those very close to the curve, appearing just before the peak. Thus,

⁶ General Philippine studies such as Power and Sicat (1971) and the Ranis Report (ILO, 1974) indicate the relevance of these conditions. On the rising trend of the share of property, see Sta. Romana (1975); on the lessening of social mobility, see Lauby (1976); and on the decline of the Philippine handicraft sector, see Resnick (1970).

projecting the Philippine path along the Kuznets curve, at the (then) NEDA target growth rate of 7% per year for GNP, Barlis (1975) estimated that the Philippine Gini ratio would rise from .50 in 1971 to .52-.53 in the 1980's, return to .50 in the 1990's, and fall to .46-.47 by the year 2000.⁷ Alternatively, Sicat's judgment (1972) that the inequality peak would only come with GNP per capita of US \$500-800 (1972 prices) would imply, given current rates of growth, that the peak would not be reached until close to the year 2000.

Granting that the Kuznets hypothesis may apply in the Philippine case, historically speaking, the next questions are, first, are explanations (a)-(d) the valid ones? Secondly, do they imply that the dismal prognosis is inevitable, or can development managers find a means to avoid it? To both these questions, it would seem that, as of now, one can only answer both yes and no. The empirical studies of inequality, discussed in the next section, have not succeeded in explaining even half of the overall inequality. They do not invalidate the development theory presented above; but neither do they prove what the crux of the matter is. Moreover, the fewer the proven determinants of inequality, the less the policy options

⁷ NEDA technicians reached similar results using a cross-country-based Kuznets-type equation of Chenery and Syrkin, Patterns of Development, 1950-1970 (Oxford University Press, 1975); these results were used in an early draft of the present 1978-1982 plan, but deleted later (see Mangahas, 1979b).

which may be derived from the research. The main obstacle to the research is shown to be the inadequacy of the data base; the state of the distributional data is discussed in a separate section.

3. Macro-studies of Income Distribution⁸

It is interesting to recall the two general approaches which economic growth studies, popular in the 1950's and 1960's, used. One approach lies in attributing the expansion in output to the growth of inputs and is often referred to as the growth-accounting method. The other employs a deterministic model of income or output generation which may stress some key factors such as the savings rate, population growth, etc.⁹ With time series data from national income accounts, both methods were able to explain a large amount, say 80%, of output growth, and the residual of only 20% was significant enough to provoke more research into technological change.

Analogous to the growth-accounting method is decomposition analysis of income inequality. This usually entails dividing the population of income recipients into various sets, limited, of course

⁸ Besides the papers reviewed in this section, see also Tan (1976), Oshima and Barros (1976), Terasaki and Sta. Romana (1978), Mangahas (1973), Mangahas (1975a,b) and the International Labour Organization (1974).

⁹ The first approach is associated with, for instance, the work by Richard Nelson, and the second with the work of Robert Solow.

by the available data.¹⁰ A summary statistic measuring the inequality in the size distribution of income is then arithmetically decomposed into the portions which are attributable to between-set and within-set differences in income. An alternative to decomposition by sets of recipients is decomposition by type of income received. For instance, total income may be divided into its factor components (rents, wages, profits) and the contribution of each component to overall inequality is then computed.

The second approach by which income inequality has been examined is by considering the distribution of attributes that are thought to determine income. It is common to find regression analyses of the relationship between income and some set of human capital, demographic or labour force characteristics.

Unfortunately, distribution research has not been quite as successful, statistically speaking, as growth research. The proportion of income inequality which has been explained has been more of the order of 20%, and the area of ignorance has been about 80% -- distinctly opposite to the successful experience of the growth researchers. This has not discouraged model-builders from incorporating income distribution in their simulations, a third approach discussed

¹⁰ Some of the more common sets that one encounters are: rural vs. urban location; regional location; occupation; age, sex and schooling attainment of the household head.

below, though it has prevented them from modelling inequality as a fully-flexible and policy-responsive variable.

3.1. Decomposition Analysis

Mangahas (1975b) developed a decomposition of the Gini ratio according to income recipients and applied it to data on recipient-sets from the published 1961, 1965 and 1971 Family Income and Expenditures Surveys. This allowed decompositions according to area of urbanization, region and main source of income. In all three cases he found that inequalities between areas, regions and income sources explained only a small amount (about 5-7 points) of the national Gini ratio of about 50 points, while unexplained inequalities within the cells of these three sets accounted for the remainder.¹¹

Income appeared to be more concentrated at higher levels of urbanization, and did not remain static within each region over time. However there was no visible relationship, across the regions, between degree of income inequality and average family income. Not unexpected income from property was most noticeably concentrated. However, the data did not include the size distribution of property.

¹¹ This conclusion holds up regardless of which inequality measure is decomposed. For instance, Holazo (1974) decomposed the Theil index of 1971 regionally and found that the (unexplained) inequality within regions amounted to 84% of the total.

These results imply that manipulation of the population according to area (migration policy or rural development policy) or region (policy on differential regional development) can be expected to have only a small effect on reducing overall income inequality. While it is true that rural people, and people in certain identifiable regions (Eastern Visayas, Cagayan Valley, Ilocos), are poorer on the average, it is more important to keep in mind that within each and every area and region there is a high degree of income concentration, and that each place has both its rich and its poor.

These inner degrees of concentration, which have thus far evaded empirical examination, brook largest in the overall inequality. The prime missing explanatory variable from the data sets would appear to be income-earning assets, both natural (land) and reproducible (capital goods), since schooling data is already available to a good extent. Thus the top research priority is for data-development, without which increased sophistication in analytical techniques can hardly be promising.

A second general type of decomposition considers sets of income rather than sets of income-recipients. Fei and Ranis (1974) developed the decomposition of the Gini ratio in particular, and Mangahas and Gamboa (1976) applied it to 1971 FIES data. This

approach studies inequalities within and between, say, Wages and Rents, rather than within and between Workers and Rentiers. Again, for this approach to yield explanatory value, it is crucial that the available classifications do distinguish very strongly between the groups, as would be the case if, for instance, it was found that the incidence of wage income was very high among the low income classes and that the incidence of rental income was very high among the upper income classes. Unfortunately, this was not found to hold in the 1971 FIES data set, where the classifications were Wages, Entrepreneurial Income, Rents and Other Income. Instead, it was found that the level of every type of income is highly correlated with the level of income from all sources combined, and that inequality within each type of income (which is therefore not explainable by type of income) is uniformly high.

There would appear to be at least two data problems here. First, Entrepreneurial Income, which represents combined labor and property income where it is difficult to separate the two, does not distinguish between farmers, the self-employed and small proprietors on the one hand and the agricultural absentee landlords and medium and large businessmen-capitalists on the other. Secondly, the rentals are probably much understated, to the extent that the data may reflect rental values of owner-occupied dwellings more than actual rental receipts.

Thus, the second type of decomposition has not been too fruitful either, not for lack of analytical sophistication but for lack of detail in the basic data. The policy implications are again non-positive: for instance, it cannot be said that there is a real gain to be had from converting people from dependence on one type of income to dependence on another type (such as promoting wage-employment), since each type -- at least insofar as the types are presently classified in the data -- possesses a high degree of internal inequality.

3.2. Income Functions

Studies which have taken the deterministic approach include Encarnacion (1975, 1978), dealing with household head's income, Mangahas and Jayme-Ho (1976), dealing with female earners, and Quizon (1977), dealing with both individual income and overall family income. All made use of the 1968 National Demographic Survey; and Quizon, in addition, used the 1975 PREPF national survey. The procedure was to regress income, often in natural log¹² units, on a

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The justification of the semi-logarithmic form goes back to Mincer (1970), who theorized that, under competitive equilibrium and interest rate r , the annual earnings E_s of an individual with s years of schooling would be related to the annual earnings E_o of one with no schooling by approximately

$$E_s = E_o e^{rs} \quad \text{or} \quad \log E_s = \log E_o + rs.$$

(The empirical results always find schooling to be the most significant determinant, among the available variables; non-schooling variables can be brought in by assuming that $\log E_o$ is a linear function of them.) Lognormality of the income distribution need not be a consideration in the selection of functional form; the semi-logarithmic form is neither a necessary nor a sufficient condition for lognormality.

set of variables including various attributes of the individual, attributes of the individual's family, and characteristics of the labor market (e.g., the regional unemployment rate) in which the individual works.

In general, these regressions result in R^2 's of only .20-.30. Quizon, with the 1975 PREPF data, succeeded in getting a R^2 of .40 using an 'experience' variable (approximate number of years since leaving school) and one of .50 using family income from non-work sources as a proxy for family wealth. It is worth noting that none of these studies had size of assets or wealth in the available data set.

In the equity context, R^2 , or the proportion of total income variance which is explainable by the determinants, is a rough index of the equalizing potential of policies manipulating the determinants. If only 20% of income inequality were understood, then no known policy interventions could go far enough to reduce the inequality by 40% (picture the Gini ratio falling from .50 to .30). Furthermore, since the income-determinants are obviously not fully equalizable -- not everyone can have college education, be a manager, work in Manila, etc. -- the explanatory power of the determinants, in terms of R^2 , has to be a good deal larger than the socially desirable relative reduction in income inequality. Upon simulating changes, within plausible limits, in the sectoral composition of labor, the proportion

unemployed, and the distribution of the population by age, sex, occupation, hours worked, and education, Quizon found that the Gini ratio in his data set fluctuated by only ± 1 point. In alternative experiments, in which he arbitrarily lowered, by about 10%, the income coefficients related to differentials according to sex, occupation and sectoral employment, the Gini ratio responded a bit more, by about 3 points.

Of course, R^2 does not have to be large before a variable can be declared 'statistically significant', or for its observable income-effect to be of meaningful size. In the various income-function trials, education invariably emerged as the most significant factor. This can be seen in the income function example in Table 3.1.

Thus Encarnacion (1978) cites raising the general level of education as a long-run means of reducing inequality. In the short-run, however he considers 'hours of work' as a policy variable, and suggests that the government be an employer of last resort, guaranteeing productive work to anyone who cannot find sufficient work-time.

The example also shows that, after schooling and hours worked, sex is the next variable in terms of coefficient size. In their study of income and labor force participation rates of women, Mangahas and Jayme-Ho (1976) feel that the female income disadvantage is due not

Table 3.1. Example of an Income Function for Luzon, 1965

Base of comparison: Male; age: 15-24; no schooling; self-employed; non-migrant; occupation: farmer (non-owner); sector: agriculture; location: urban; hours worked during survey week: 1-19. Intercept: -1.2785 or ₱278. $R^2 = .28$. Source of example: Encarnacion, 1978, Table 15.

| Log-difference from base x 100* | | Log-difference from base | |
|------------------------------------|-----|-----------------------------|----|
| <u>Schooling</u> | | <u>Sector</u> | |
| Grades 1-4 | 48 | Manufacturing | 27 |
| Grades 5-7 | 59 | and mining | 17 |
| 1-3 years of h.s. | 71 | Construction | 25 |
| H.S. graduate | 75 | Transport etc. | 41 |
| 1-3 years college | 110 | Commerce | 18 |
| College graduate | 153 | Services | |
| <u>Age</u> | | <u>Occupation</u> | |
| 25-34 | 18 | Farmer-owner | -5 |
| 35-44 | 26 | Non-farm service | 5 |
| 45-54 | 29 | and unskilled | 21 |
| 55-64 | 24 | Skilled workers etc. | 21 |
| 65 and over | 31 | Clerical and sales | 39 |
| | | Professionals etc. | |
| <u>Female</u> | | <u>Hours worked</u> | |
| <u>Employee</u> | 11 | 20-39 | 2 |
| <u>Migrant</u> | 9 | 40-49 | 3 |
| <u>Rural</u> | -14 | 50 and over | 4 |

* Roughly similar to percentage difference from the base income

so much to outright discrimination (lower pay for the same work as a man) but to social biases which 'type' certain occupations, generally low-paying, as suitable for women, and which reserve the upper-strata, supervisory-oriented, positions of many occupations for men.¹³ They point out that discrimination against women leads not merely to inefficient resource allocation but also to relative inequity to those families having a high proportion of females, most of all those headed by females (which is the case for about 10% of Filipino families).

3.3. Simulation models

Simulation techniques with macro-models have been used in two studies funded by the International Labor Organization (ILO).

Paukert and others (1975) have constructed an input-output model to examine the effects of hypothetical changes in income distribution on Philippine growth and employment. This pivots on the relationship between the distribution pattern and the structure of consumption, since the latter determines output mix and employment

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They also draw attention to the bias in much female labor force theory itself, which treats female income only as 'supplementary' and the female labor force participation decision as sequentially dependent on the male's income and employment. Whereas, under the increasingly accepted theory of family decision-making, income must be treated under the 'full' concept (including home production) and market-work and home-work allocations among all family members are made jointly, not sequentially. Also see Tidalgo (1975).

within the model. The assumption of differential consumption choices for the poor versus the rich is, of course, mandatory.

Beginning with the actual 1971 situation as a baseline condition, twenty-two alternative income distributions were simulated. The most interesting conclusion is that there seems to be hardly any trade-off between growth and equality, i.e., the growth rate was virtually unaffected by the distributional simulations. Employment effects of redistribution are strong due to a shift in consumption to the output of more labour-intensive industries. Production shifts are labour-intensive-biased. The effect on the trade balance is negative but not strong. Decreases in savings (operating through the estimated consumption/saving functions) cause a mild negative effect on growth and employment.

The other ILO model, named BACHUE, is extensively disaggregated. It is a general model that was estimated first for the Philippines (Rodgers et al., 1978), but since then has also been applied in Kenya, Brazil and Yugoslavia (Moreland, 1978).

BACHUE is composed of **three** subsystems and focuses on the intermediate to long run.¹⁴ The economic subsystem

¹⁴Adelman et al. (1976) and Rodgers et al. (1978).

is demand-based and multisectoral. It is also linked to population and to employment/income distribution through final demand and output. In the wage and income subsystem the distribution picture is drawn from estimating payments to persons, generated by the labour market condition, and mapping these onto households. The demographic subsystem determines such factors as marriage rates, fertility, migration, education and mortality.

Alternative futures for the Philippines are projected (usually up to the year 2000) by varying policies and conditions in education, population, labour force participation, public works, technology, sectoral development strategy, and overall growth. Among the main findings of BACHUE are the following:

a) The distribution of income is exceedingly stable. (It should be pointed out, however, that the policy options considered are the conventional growth-oriented options, e.g., import-substitution versus export-substitution policy; in particular, land reform and other asset redistribution policies were not tested.)

b) Population growth limitation has relatively little effect on poverty reduction.

c) Rural-urban interactions are important and varied. Sectoral terms of trade can considerably change the relative incidence of urban and rural poverty. Raising the agricultural terms of trade proves to be an effective means of alleviating rural poverty, where

the bulk of the problem is found, but this may also injure the urban poor if a radical restructuring of capital ownership does not take place.

d) Balanced growth policies are needed for effective anti-poverty programs.

e) Rural works programs can reduce both urban and rural poverty.

f) Technology on its own does not affect distribution. Moreover, development of small-scale industries has little distributional effect.

g) Overall rural development programs are helpful until self-sufficiency in food is reached. Thereafter, either price supports, increased demand or limited productivity (in order to keep agricultural prices high) is necessary.

In general, the results of such experiments should be treated with great caution. Computer simulations only give tentative results and, where certain policies are identified as promising, the next step is to test them in the field. On the other hand, if many of the simulations are fruitless (see conclusion (a) above), it would also be erroneous to conclude that the problem is insoluble.¹⁵

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One hopes that a laboratory-proven cure for cancer will be replicated in actual practice; and laboratory failures only mean that newer treatments must be found and tested, not that cancer cannot be cured.

4. Distributional Data¹⁶

There have been at least nine attempts at collecting income data on a nationwide sample survey basis:

- The Family Income and Expenditure Surveys (FIES) in 1956, 1961, 1965, 1971 and 1975, conducted by the National Census and Statistics Office (formerly the Bureau of Census and Statistics).
- The National Demographic Surveys (NDS) of 1968 and 1973, conducted by the University of the Philippines Population Institute.
- The Population, Resources, Environment and the Philippine Future national socio-economic survey (PREPF-GINA) of 1975, a joint undertaking of the U.P. School of Economics, the U.P. Population Institute and the Development Academy of the Philippines.
- The Philippine Social Science Council (PSSC) Survey on Filipino Family Households Distribution of Income and Consumption Expenditure Patterns, 1974, results of which are reported in Parel and Caldito (1976).

¹⁶ Important references for this section are Lim (1978) and Terasaki and Sta. Romana (1978).

Table 4.1 presents mean income levels and Gini concentration ratios obtained from these surveys since 1961. There is no clear trend to be seen. One could simply infer that the Gini ratio has been roughly at .50 or more the past two decades. Before further conclusions may be drawn, each type of survey is discussed in more detail below.

4.1. The Family Income and Expenditures Surveys.

The most widely used source of data is probably the FIES. Sample sizes are rather large; they rose from about 5000 - 6000 households in 1961 and 1965 to 12,000 in 1971. For twenty years or so they were conducted fairly regularly at approximately five-year intervals. Cross-tabulations are possible between income and a number of other variables.¹⁷

Since the FIES is the only source of repeated surveys, there have been many attempts to draw trend-conclusions from it. However, this meets with some serious problems. In the first place, the definition of 'urban' has been growing wider over the years; this

¹⁷ Researchers have been limited to published tabulations only, and have not been given access to data tapes. One odd exception to the rule of NCSO's policy of closely guarding its raw data was the provision of the 1965 tapes to the University of Wisconsin (see Meyer, 1976). Later the U.P. School of Economics was able to acquire a copy of the 1965 data tape from Meyer.