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# INCOME INEQUALITY IN THE PHILIPPINES: A DECOMPOSITION ANALYSIS

by

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TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF APPENDIX TABLES

APPENDIX
TABLE

# *INCOME INEQUALITY IN THE PHILIPPINES: A DECOMPOSITION ANALYSIS**

*Mahar Mangahas***

## 1.0 *Introduction*

At the national level of aggregation, the degree of income inequality in the Philippines has been high and unchanging over the past two decades. This holds for several measures of inequality, including the Gini ratio, which is the measure selected for analysis here.[1] This study seeks a better understanding of this phenomenon by means of decompositions of the Gini ratio according to certain sets for which published data exist.

The following section discusses preliminary hypotheses, some of which are tested later on. Next is a methodological portion containing the basic decomposition

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[1] For summary figures using alternative measures of income inequality in the Philippines, see Mangahas (Philippine Economic Journal, 1973).

formula for the Gini ratio. The formula is then applied to the Philippine data, and the results are interpreted.

## 2.0 Preliminary Hypotheses

### 2.1 Demographic Factors

It seems useful to consider sets defined according to demographic characteristics, locational criteria, and economic criteria. In the first place, there is an unavoidable minimum[2] degree of income inequality due to the variation across families of (a) the age of the head of the family (as well as other income recipients), (b) the number of persons per family, and (c) the sex composition of those who are employed. In the Philippines, family income increases with the age of the family head, peaking out in age group 55-64, and declining at higher ages.[3] At the same time, incomes are usually more unequal

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[2] An estimate of this would put a useful lower bound on any income inequality measure. For arguments against the use of unrealistic standards of either perfect equality or perfect inequality, see Bowen (1970) and Garvy (1952). Staehle (1937) once proposed a measure which would put inequality at its worst level as soon as half of the families have no income at all.

[3] See Encarnacion (1974).

within older families than within younger families. With the high rate of population growth in the Philippines, the distribution of the population according to age tends to get concentrated more and more towards younger families. This both tends to lower the overall average income per family, and decreases the measured overall state of income inequality.

The number of persons per family is to a large extent related to the age of the head of the family. There also tend to be more workers per family as the size of family increases.[4] However, as the family size rises, the increase in the dependency ratio more than offsets the increase in the number of workers per family. The proportion below a constructed Philippine poverty line is very clearly greater for larger sized families than for smaller sized families.[5] Wages of women tend to be both lower than and more unequally distributed than wages of men.[6] Thus, if the proportion of women among

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[4]See Mangahas, "Family Size As a Determinant of Family Expenditure," in Kintanar et al. (1974).

[5]See Abrera (1974).

[6]See Encarnacion, op. cit., and Schultz (1969).

the employed rises over time, the tendency will be a lowering of overall average incomes and an increase in income inequality.

The second consideration is geographic. This is useful whether or not the between-region inequalities are large, since policy-makers are interested in the economic welfare of separate regions qua regions. The economic and demographic considerations for determining the sets of decomposition can be applied at the regional level as well as at the national level, provided data are available in sufficient detail.

## 2.2 Product Markets

The economic factors are either related to the structure of demand for products, or they are related to factor markets. Under the first grouping fall decompositions according to value-added sector, sector of employment and to some extent occupation. Here interest has focused on the agricultural as opposed to non-agricultural sectors. According to Engel's Law, the share of the agricultural sector, whether expressed in terms of proportion of value-added or proportion of employment, will fall as per capita income rises.

Typically, the agricultural sector is internally more equal than the other sectors, and it tends to have low family income levels. Thus the operation of Engel's Law tends to worsen income inequality since it increases the importance of the relatively unequal sector and also raises the "differential" between this sector and the agricultural sector. It is this scenario which explains the upward sloping portion of the inverted-U profile of income inequality charted against "level of development," variously represented as per capita GDP, the proportion of value-added in agriculture, and the proportion of employment in agriculture.

Kuznets' general hypothesis that income inequality gets worse before it gets better stands up most clearly in inter-country comparisons.[7] Most recently, Paukert (1973) has studied a cross-section of income distributions in 56 countries for approximately 1965. The Gini ratio in this set ranges from .26 (South Korea) to .64 (Gabon). His general findings were: (a) There is an extremely gradual downward trend in income inequality. In many cases no discernible change takes place within the span of a few

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[7]See Kravis (1960) and Williamson (1965).

decades. (b) The LDC's are in general less equal. The rich in such countries are very rich, and their income differential from the poor is very wide. The poor on the other hand are very poor in an absolute sense, and are very equal among themselves. (c) There is a clear cross-sectional inverted-U relationship between income inequality and per capita Gross Domestic Product, with the peak in inequality occuring in the range of $200-$500 per capita GDP.

Figure 1[8] portrays Gini ratios in seven Asian countries against their GDP per capita, in 1965. It indicates a pattern of rising income inequality and GDP per capita that might be interpreted as the rising portion of Kuznet's inverted-U pattern. This is more apparent when the observation for South Korea is treated as an outlier. The Gini ratio in South Korea reportedly rose from .26 in 1966 to .36 in 1970, thus indicating that the 1970 point for South Korea would be more in line with the general pattern of the other countries.

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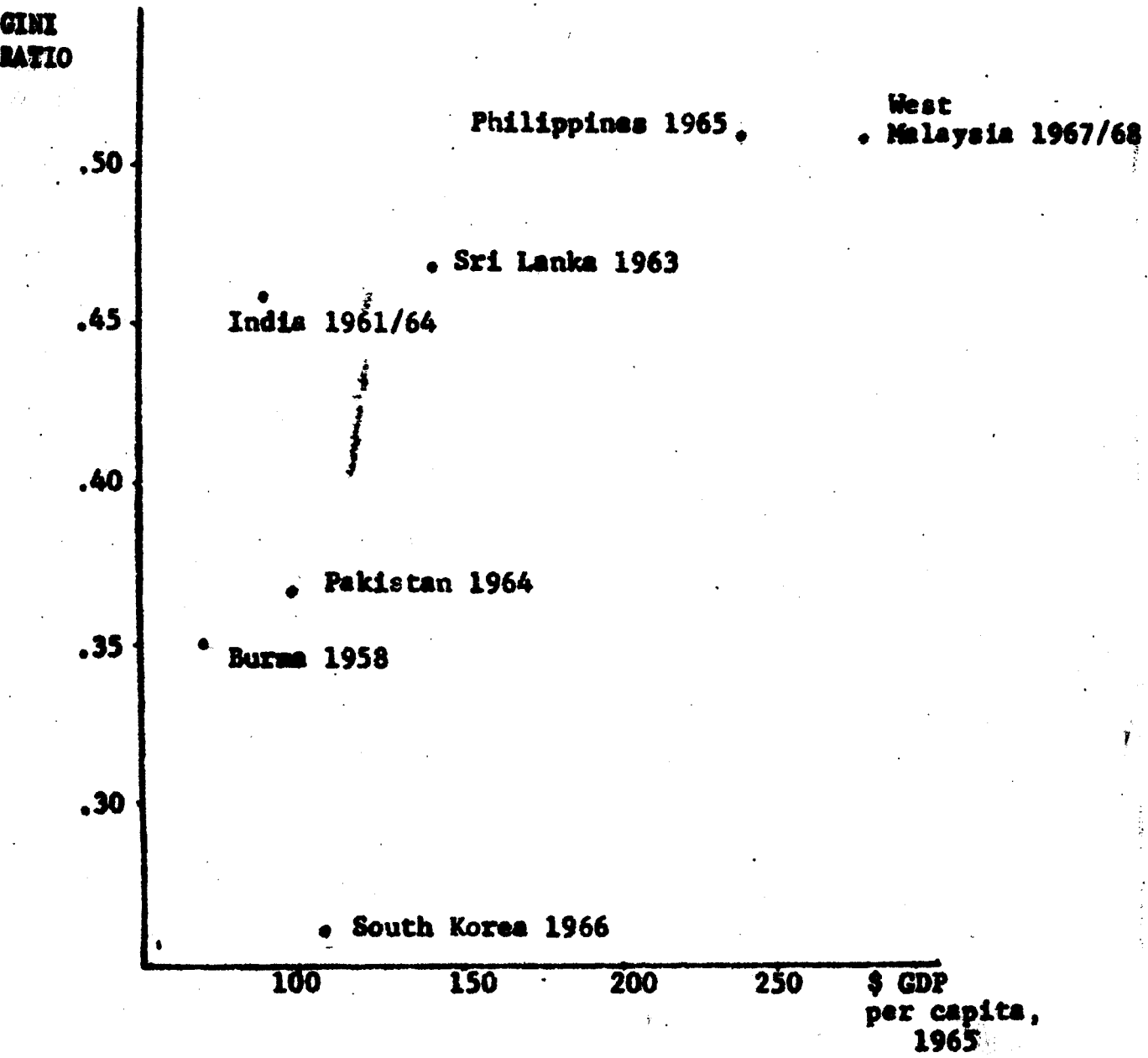
[8]In this figure, the GDP pertain to 1965 and are from Paukert (1973). The Gini ratios are taken from Table 1, for the year closest to 1965. In the case of Sri Lanka, the Gini ratio is plotted at .47, the mid-point of the two estimates for 1963.

FIGURE 1

Gini Ratios Against GDP per Capita in Selected Asian Countries, 1965



Others maintain that there is no regular time pattern of income inequality corresponding to the level of development.[9] Oshima has cited Thailand and Burma as LDC's with only moderate inequality, on account of having a negligible urban sector and no extensive concentration of land ownership (1962); his more recent study of several Asian countries also leads him to conclude that growing inequality in the early stages of economic growth is not inevitable (1970).

Using Thai cross-sectional evidence, McLeary (1972) has found that income inequality is more even in the more developed areas (Bangkok-Thonburi), and gets progressively worse as one looks at other towns and villages (Table 2). Between 1963 and 1969 the gap between areas did widen, but inequality did not get worse within the more developed areas. The Gini ratios for the metropolis and for towns remained more or less unchanged, but rose substantially in villages, from .43 to .51.

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[9]For evidence in Puerto Rico, Argentina and Mexico at variance with Kuznets' hypothesis, see Weisskoff (1970).

The decomposition analysis on Philippine income inequality presented in this paper comes to a similar conclusion: for data disaggregated by area of urbanization, region, and main source of income, there does not appear to be a clear relationship between level of income inequality and average family income. This supports the view taken by the 1973 ILO Employment Mission to the Philippines (1974).[10]

The meager time series data on income inequality in the Asian region (Table 1) do not show a consistent pattern. Improvements in income equality have occurred in Taiwan and in Sri Lanka, and to a small extent in Pakistan. In Sri Lanka, Rasaputram (1972) reports that the Gini Ratio on income receivers fell from .50 (1953) to .49 (1963) and further to only .34 (1970).[11] In the

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[10]This view is also given indirect support by a recent study of Paukert et al. (1974). Running an input-output simulation model of the Philippine economy through numerous alternative assumptions on the distribution of income, they find a very small trade-off between equality and growth.

[11]Part of the improvement is attributed to the Green Revolution, because of which the income share of rural households rose between 1963 and 1970. Government welfare expenditures have also played a prominent role, however. Between 1957 and 1970, such expenditures rose from 42% to 49% of total government expenditures, and from 13% to 16% of the Ceylon GNP.

TABLE 1 . GINI RATIOS IN SELECTED ASIAN COUNTRIES

| Country | Year | Gini Ratio | Source |
|---|---|---|---|
| Bangladesh | 1963/64 | .36 | Soo |
| Burma | 1958 | .35 | Paukert |
| Taiwan | 1953 | .55 | Soo |
| | 1965 | .32 | Soo |
| India | 1953/55 | .40 | Soo |
| | 1956/57 | .33 | Paukert |
| | 1961/64 | .46 | Soo |
| South Korea | 1966 | .28 | Soo, Paukert |
| | 1970 | .36 | Soo |
| Malaysia (West) | 1957/58 | .43 | Soo |
| | | .36 | Paukert |
| | 1967/68 | .51 | Soo |
| Pakistan | 1964/64 | .37 | Soo, Paukert |
| | 1970/71 | .33 | Soo |
| Philippines | 1961 | .50 | This study |
| | 1965 | .51 | This study |
| | 1971 | .49 | This study |
| Sri Lanka | 1953 | .45 | Soo |
| | | .44 | Paukert |
| | | .50 | Rasaputram |
| | 1963 | .45 | Soo |
| | | .49 | Rasaputram |
| | 1970 | .34 | Rasaputram |
| Thailand | 1962/63 | .50 | Soo |
| | | .48 | McCleary |
| | 1968/69 | .55 | McCleary |

SOURCES: Soo (1974); Paukert (1973), McCleary (1972), Rasaputram (1972).

TABLE 2. Gini Ratios for Cash Income in Thailand, 1962/63 and 1968/69

| | 1962/63 | 1968/69 |
|---|---|---|
| All Thailand | .48 | .55 |
| Bangkok-Thonburi | .41 | .40 |
| Towns | .42 | .43 |
| Villages | .43 | .51 |

Source: McCleary (1972).

Philippines there has been no change in the aggregate. In India, South Korea, (West) Malaysia, and Thailand, income inequality appears to have widened. We may note that inequality has changed in opposite directions in the two most rapidly growing areas (Taiwan and South Korea).

## 2.3 Factor Markets

We turn next from product markets to factor markets. Generally speaking, some decompositions will pertain to income from labor, while others will pertain to income from property. With respect to labor, the decompositions of major interest refer to (a) the employed vs. the unemployed; and (b) the level of formal education acquired. One categorization possible for those employed refers to the amount of time worked per week. Incomes are generally greater the greater the working time, and income inequality therefore narrows as the dispersion of hours worked across those employed decreases. The employed can also be categorized into those self-employed and those employed by others, incomes being generally greater among the latter. With development, it is expected that the proportion employed by others will rise over time (this is part of Kuznet's explanation for income inequality even-

tually turning down.) However, closer examination of the self-employed reveals that the income distribution is bimodal; the left-hand peak pertains to incomes of the poor, of peddlers, artisans, farmers, etc., while the right-hand peak pertains to property owners, entrepreneurs, etc. The latter group figures again in the decompositions pertinent to the sharing of income from property. Thus the inequality among those employed by others is smaller than the inequality among those self-employed, and development will tend to decrease the weight of the latter, more unequal group.

Secondly, labor can be categorized according to degree of formal education.[12] Income of course, increases with the extent of education acquired, and inequality is worse when the distribution of formal education is unequal. Incomes from property are generally greater than incomes from labor. Thus overall income inequality is worsened as the share of income from property increases, and, other things equal, as the rate of profit rises relative to the

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[12]Both Encarnacion (1974) and Adelman & Morris (1971) have found this to be a variable of great explanatory power.

real wage. The weight of property is also affected to some extent by the number of independent entrepreneurs, the expectation being that the proportion of such individuals will fall over time.[13] Inequality within incomes from property is determined basically by inequality in the distribution of property.[14]

Finally, those receiving income from either labor or property might be distinguished from those receiving income in the way of transfers. Such recipients are usually in the poorest class and thus equality is improved as the scale of transfer payments expands.[15]

## 3.0 Decomposition of the Gini Ratio[16]

### 3.1 The Decomposition Formula

In recent approaches to the measurement of the contributions of subsectors or regions of the economy to national income inequality, it has proved convenient to use measures which are relatively simple to decompose.

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[13] See Kuznets (1963).

[14] Adelman and Morris (1971) find that the second most important variable explaining income inequality is the "existence and exploitation of rich mineral resources".

[15] See Fei and Ranis (1974). Sri Lanka is a notable case where income inequality has reportedly substantially declined on account of strong government efforts to transfer income. See Rasaputram (1972).

[16] In formulating the decomposition, the author has benefited from criticism by J. Encarnación.

the index of decile inequality, the variance of the logarithm of income, or the information measure of inequality.[17] However, the most common measure of income inequality is the Gini or concentration ratio deriving from the Lorenz curve. The reason for the neglect of the Gini ratio in sectoral analysis has apparently been the feeling that it does not lend itself to between-set and within-set decompositions.[18] This section indicates that the national-level Gini ratio can be expressed as a weighted average of regional Gini ratios and of certain Gini-type differences constructed from pairwise regional comparisons of the size distribution of income.

Let $f_k^*$ be the cumulative proportion of families up to the $k^{th}$ income class, and $y_k^*$ the cumulative proportion of income received by those families, for $k = 1, \ldots, G$. The Gini ratio is defined as

$$L = 1 - 2 \sum_{k=1}^{G} \left[ 1/2 \, (f_k^* - f_{k-1}^*)(y_k^* - y_{k-1}^*) + (f_k^* - f_{k-1}^*) y_{k-1}^* \right]$$

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[17] See Fishlow (1972), Mangahas (Malayan Economic Review, 1973), and Oshima (1970).

[18] See Theil (1967), p. 123.

where $f_0^* = y_0^* = 0$. The summation expression on the right-hand-side is the area underneath the Lorenz "curve", where plotted points are joined by straight lines. This reduces to

$$L = 1 - 2 \sum_{k=1}^{G} \left[ 1/2 \, (f_k^* - f_{k-1}^*) y_k^* + 1/2 \, (f_k^* - f_{k-1}^*) y_{k-1}^* \right]$$

$$L = 1 - \sum_{k=1}^{G} (f_k^* - f_{k-1}^*)(y_k^* + y_{k-1}^*)$$

$$(1) \quad L = 1 - \sum_{k=1}^{G} f_k \, (y_k^* + y_{k-1}^*)$$

where $f_k = f_k^* - f_{k-1}^*$ is simply the proportion of families within the $k^{th}$ income class. We also define $y_k = y_k^* - y_{k-1}^*$ as the proportion of total incomes enjoyed by families within the $k^{th}$ income class.

Now define

$$f = \begin{bmatrix} f_1 \\ f_2 \\ \vdots \\ f_G \end{bmatrix} \quad \text{and} \quad y = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_G \end{bmatrix} .$$

Then

$$y^* = \begin{bmatrix} y_1^* \\ y_2^* \\ \vdots \\ y_G^* \end{bmatrix} = \begin{bmatrix} 1 & 0 & \dots & 0 \\ 1 & 1 & \dots & 0 \\ \vdots & \vdots & & \vdots \\ 1 & 1 & \dots & 1 \end{bmatrix} \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_G \end{bmatrix} = Cy \quad ,$$

where C is the matrix with ones on and below the diagonal, and zeros elsewhere. Furthermore,

$$y_{-1}^* = \begin{bmatrix} y_0^* \\ y_1^* \\ \vdots \\ y_{G-1}^* \end{bmatrix} = \begin{bmatrix} 0 & 0 & \dots & 0 \\ 1 & 0 & \dots & 0 \\ \vdots & \vdots & & \vdots \\ 1 & 1 & \dots & 0 \end{bmatrix} \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_G \end{bmatrix} = (C - I)y$$

where I is the G x G identity matrix. In matrix notation, the Gini ratio is then

$$L = 1 - f'(y^* + y_{-1}^*)$$

$$= 1 - f'(Cy + (C - I)y)$$

$$(2) \qquad L = 1 - f'H\,y$$

where

$$H = (2C - I) = \begin{bmatrix} 1 & 0 & 0 & \dots & 0 \\ 2 & 1 & 0 & \dots & 0 \\ 2 & 2 & 1 & \dots & 0 \\ . & . & . & & \\ . & . & . & & \\ . & . & . & & \\ 2 & 2 & 2 & \dots & 1 \end{bmatrix},$$

a matrix with twos below the diagonal, ones on the diagonal, and zeros above the diagonal. In particular, let the vectors f and y refer to national-level data and let $f_j$ and $y_j$ be G x 1 vectors similarly defined for the $j^{th}$ region, with j = 1, ..., R. Then the regional-level Gini ratios are

$$(3) \quad L_j = 1 - f_j' \, H \, y_j \quad , \quad j = 1, \dots, R \quad .$$

If n is the total number of families in the nation, then nf is the G x 1 vector whose $k^{th}$ element is the total number of families in the $k^{th}$ income class. Let X be a G x G diagonal matrix whose $k^{th}$ diagonal element is mean family income in the $k^{th}$ income class. Then nXf is the

G x 1 vector whose $k^{th}$ element is the total family income earned by families belonging to the $k^{th}$ income class. Total family income in the nation is then

(4) $\quad v = \iota'Xf \cdot n$

where $\iota$ is a G x 1 vector of ones. Then y is given by

(5) $\quad y = (n/v)Xf = (\iota'Xf)^{-1} Xf = (1/m)Xf$

where m is the mean family income in the nation. Since f determines y, f is the basic data vector, and may be considered synonymous with "the size distribution of income".

The mean income levels per class, or the diagonals of X, depend on the distribution of families within each class's upper and lower bounds. As a simplification, X may be considered identical for each region and for the nation as a whole; in principle at least one can always arrive at approximately equal X's by simply constructing a large enough number of income classes, with very narrow intervals.

From (2) and (5) we obtain

(6) $1 - L = (1/m) f'HXf = (1/m) f'Pf$

where $P = HX$ may be viewed as a matrix of constants, on account of the argument in the preceding paragraph. With H triangular, X diagonal, and all elements in H and X positive, it follows that the matrix P is positive definite.[19] For the regions, we similarly obtain

$$1 - L_j = (1/m_j) f_j'Pf_j \quad , \quad j = 1, \ldots, R$$

where $m_j = \iota'Xf_j$ is the mean family income in the $j^{th}$ region.

A pure redistribution of income may be defined as one which alters the distribution of families (and hence of income) by income class without altering mean family income. The effect of such a redistribution on the Gini ratio may be seen by differentiating L with respect to the vector f, on the assumption that m is a constant. We obtain

$$\frac{\partial L}{\partial f} = - (2/m) Pf = -(2/m) (2C - I) Xf$$

$$= - 2 (2C - I) y = 2y - 4Cy$$

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[19] Thus, strictly speaking, L may get very close to one, but never quite reaches it.

$$(7)\quad \frac{\partial L}{\partial f} = 2y - 4y^*$$

The redistribution would be described by a vector of changes in the proportions of families by income class: $df = (df_1\ df_2\ \ldots\ df_G)'$, with elements summing to zero since the elements of f always sum to one. Then the effect[20] of df on L is $dL = (2y - 4y^*)'\ df$.

The next problem is to determine how L and the $L_j$ are related. Define

$$\phi = \begin{bmatrix} \phi_1 \\ \phi_2 \\ \vdots \\ \phi_R \end{bmatrix}$$

where $\phi_j$ is the proportion of all families in the nation who live in region j; thus $\sum\phi_j = 1$. Consolidating the

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[20]Here is a numerical example which indicates the sensitivity of the Gini ratio to an instance of 'pure' redistribution. In 1956, mean family incomes in the first, fourth, and ninth (the highest) income classes were ₱348, ₱1724 and ₱9147 respectively. The gap between classes 1 and 4 was therefore ₱1376, and the gap between classes 4 and 9 was ₱7423; the ratio 7423/1376 is 5.3946. Therefore there would be no change in mean family income over all classes if 10,000 families in class 9 were brought down to class 4, and their income losses redistributed to 53,946 families in class 1, bringing the latter up to class 4. The amount redistributed

regional size distributions of income into a G x R matrix F, where

$$f = \{f_1 \; f_2 \; \ldots \; f_R\} \quad ,$$

then we have

$$f = F\phi$$

Therefore (6) becomes

$$(8) \quad 1 - L = (1/m)\phi' F' P F \phi$$

We now recognize that 1 - L is the sum of all the terms of an R x R matrix whose diagonal elements are

$$(9) \quad (1/m)\,\phi_j^{\,2} f_j' P f_j = (m_j/m)\,\phi_j^{\,2}(1 - L_j) \quad , \quad j = 1, \ldots, R$$

and whose off-diagonals are

---

is ₱74.23 million, or 1.27% of total family income of ₱5,824.3 million. Since there were 3,959,000 families in all, this redistribution would change the proportion of families in class 1 by $df_1 = -1.36\%$, in class 4 by $df_4 = -1.61\%$, and in class 9 by $df_9 = -0.25\%$. Before the redistribution, the family-shares were $f_1 = 22.5\%$, $f_4 = 10.5\%$, and $f_9 = 3.9\%$. The simple income-shares were $y_1 = 5.3\%$, $y_4 = 12.3\%$, and $y_9 = 24.2\%$, and the cumulative income-shares were $y^*_1 = 5.3\%$, $y^*_4 = 47.3\%$, and $y^*_9 = 100\%$. Thus the hypothetical redistribution is not a radical one. Its effect on the Gini ratio is approximated by

$$\begin{aligned} dL &= (2y_1 - 4y^*_1)\,df_1 + (2y_4 - 4y^*_4)\,df_4 + (2y_9 - ry^*_9)\,df_9 \\ &= (-0.106)(-0.0136) + (-1.646)(0.0161) + \\ &\quad (-3.516)(-0.0025) \\ &= -0.0163 \; . \end{aligned}$$

Thus we find that a redistribution of income involving a total of 1.61% of families (1.36% as recipients and 0.25% as sources) and a transfer of 1.27% of total incomes lowers the Gini ratio by 1.6 percentage points, which is not an insubstantial amount.

(10) $(1/m)\phi_i\phi_j f_i'Pf_j \quad , \quad i \neq j;\ i, j = 1, \ldots, R \quad .$

Note that

(11) $(f_i - f_j)'P(f_i - f_j) = f_i'Pf_i + f_j'Pf_j - f_i'Pf_j - f_j'Pf_i \ ,$

where the last two terms on the right-hand-side are elements of "Gini cross-ratios" such as those in (10). Then the sum of the elements in (10) is

$$\sum_{i>j} \{(\phi_i\phi_j/m)f_i'Pf_i + (\phi_i\phi_j/m)f_j'Pf_j -$$

$$- (\phi_i\phi_j/m)(f_i - f_j)'P(f_i - f_j)\} \quad .$$

We now focus on the expression $(f_i - f_j)'P(f_i - f_j)$ . Consider two regions whose size distributions of income are identical except that the first region has relatively more families in income class $k_1$ , by an amount $\alpha$ , and, correspondingly, fewer families in a different class $k_2$, i.e., suppose that

$$(f_1 - f_2)' = (\ .. \ \alpha \ .. \ - \alpha \ ..) \ ,$$

containing zeros except in elements $k_1$ and $k_2$ as indicated; arbitrarily we have $k_2 > k_1$ . In this case,

$$(f_1 - f_2)'P(f_1 - f_2) = \alpha^2 \; (.. \; 1 \; .. \; -1 \; ..) \; HX \begin{bmatrix} \cdot \\ \cdot \\ 1 \\ \cdot \\ \cdot \\ -1 \\ \cdot \\ \cdot \end{bmatrix}$$

$$= \alpha^2 \; (.. \; 1 \; .. \; -1 \; ..) \; H \begin{bmatrix} \vdots \\ x_{k_1} \\ \cdot \\ \cdot \\ -x_{k_2} \\ \vdots \end{bmatrix}$$

$$= \alpha^2 \; (.. \; 1 \; .. \; -1 \; ..) \begin{bmatrix} 0 \\ \cdot \\ \cdot \\ 0 \\ x_{k_1} \\ \cdot \\ \cdot \\ 2x_{k_1} - x_{k_2} \\ \cdot \\ \cdot \end{bmatrix}$$

where the column vector has $x_{k_1}$ in the $k_1^{\underline{th}}$ place and $2x_{k_1} - x_{k_2}$ in the $k_2^{\underline{th}}$ place (actually, all terms beginning with the $k_1^{\underline{th}}$ are non-zero, but only the two indicated are essential). Then

$$(f_1 - f_2)'P(f_1 - f_2) = \alpha^2(x_{k_1} - 2x_{k_1} + x_{k_2}) = \alpha^2(x_{k_2} - x_{k_1}) \; .$$

(The result is the same if region one happens to be the richer region.) Now, since the regions are alike except

for income classes $k_1$ and $k_2$ , the difference between their means is $m_2 - m_1 = \alpha(x_{k_2} - x_{k_1})$. Therefore the quadratic form computed between regions one and two is a proportion $\alpha$ of the difference between the two regions' means:

$$(f_1 - f_2)'P(f_1 - f_2) = \alpha|m_1 - m_2| \ .$$

At the extreme, each of the two regions may be internally equal, i.e., $\alpha = 1$ , in which case $(f_i - f_j)'P(f_i - f_j)$ is the range between their respective means. This is a maximum when all families in one region are in the poorest class, while all families in the other region are in the richest class, so that the maximum value is $x_G - x_1$ , the range of mean incomes across all classes. We now define the Gini-difference between regions i and j as

$$(12) \quad D_{ij} = (f_i - f_j)'P(f_i - f_j) \ .$$

This symmetric expression is zero if and only if the percentage distributions of families by income class are identical for the two regions. The expression is at most $x_G - x_1$ when all families in the other region are "equally very poor" and all families in the other region are "equally very rich". Negative values for $D_{ij}$ are excluded by the positive-definiteness of P.

The Gini-difference compares two regions' size distributions of income, not merely their means. Two unequal distributions may have equal means; nevertheless $D_{ij}$ will be positive. For instance, consider five income classes: lower, lower-middle, middle, upper-middle, and upper. Suppose three regions had the same mean income, but (a) region one had all its families in the middle class, (b) region two had half of its families in the upper-middle class and half in the lower-middle class, and (c) region three had half of its families in the lower class and half in the upper class. Then it can easily be shown that $D_{12}$ , $D_{13}$ and $D_{23}$ are all positive, and furthermore that $D_{13} > D_{12}$ , as we would intuitively desire. Lastly, to take an extreme case, suppose all regions in the country had the same mean family income, but different size distributions. Then the variance-decomposition[21] of income inequality would indicate no between-region inequality at all, whereas the various $D_{ij}$ would be positive.

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[21] If the decomposition is taken on the variance of the logs of income, then the supposition is that geometric means of family income are the same across regions.

The sum of the elements in (10) may now be written

$$\sum_{i>j} \{(\Phi_i\Phi_j m_i/m)(1 - L_i) + (\Phi_i\Phi_j m_j/m)(1 - L_j) - (\Phi_i\Phi_j/m)\, D_{ij}\}$$

Combining this sum with the sum of the terms in (9) gives

$$i - L = \sum_i \sum_j \frac{\Phi_i\Phi_j m_j}{m} (1 - L_j) - \sum_{i>j} \frac{\Phi_i\Phi_j D_{ij}}{m}$$

$$= \sum_j \frac{\Phi_j m_j}{m} (1 - L_j) - \sum_{i>j} \frac{\Phi_i\Phi_j D_{ij}}{m}$$

Since $m = \sum \Phi_j m_j$ , therefore

$$L = \sum_j \frac{\Phi_j m_j}{m} L_j + \sum_{i>j} \frac{\Phi_i\Phi_j D_{ij}}{m}$$

$$(13) \qquad L = \sum_j \Theta_j L_j + \sum_{i>j} \frac{\Phi_i\Phi_i D_{ij}}{m}$$

where $\Theta_j = \Phi_j m_j/m$ is the proportion of national family income enjoyed by families in the $j^{th}$ region. This is a decomposition of the national Gini ratio as the sum of an average, weighted by income shares, of the regional Gini ratios and a weighted sum[22] of all possible Gini-

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[22]The sum of the weights is $(1 - \sum \Phi_i^2)/2m$. For R regions of equal size in terms of population, the sum of the weights is $(R - 1)/2Rm$.

differences. Thus the first expression measures the contribution of "within-region inequality" whereas the second measures the contribution of "between-region inequality". Obviously, the decomposition becomes more meaningful when the between-set component is relatively large. In the (ideal) case where all $L_j = 0$, then the Gini ratio simplifies into

$$(14) \qquad L = \sum_{i>j} \Phi_i \Phi_j |m_i - m_j| / m \quad ,$$

which is a simple weighted sum of the absolute differences between pairs of sectoral means.

### 3.2 An Example With Hypothetical Data[23]

The following table contains hypothetical data for four regions with various degrees of internal inequality. The second column contains the diagonal elements of the matrix of mean incomes X, given ten income classes. Region One is internally the most equal of the regions, and the degree of inequality grows progressively and is worst for Region Four. The hypothetical data were chosen to exaggerate somewhat the

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[23]Thanks for computational help and for the chart are due to Miss Georgina Ochoa.

differences between regions one might expect from actual data. (The relative frequencies of families per income classes are plotted against in $x_k$ in Figure 2).

Hypothetical Data

| k | X | $f_1$ | $f_2$ | $f_3$ | $f_4$ |
|---|---|---|---|---|---|
| 1 | 1 | .025 | .05 | .2 | .3 |
| 2 | 2 | .025 | .05 | .2 | .3 |
| 3 | 3 | .05 | .1 | .2 | .125 |
| 4 | 5 | .15 | .3 | .1 | .075 |
| 5 | 9 | .3 | .1 | .1 | .05 |
| 6 | 15 | .2 | .1 | .1 | .05 |
| 7 | 25 | .15 | .1 | .025 | .025 |
| 8 | 40 | .05 | .1 | .025 | .025 |
| 9 | 80 | .025 | .05 | .025 | .025 |
| 10 | 150 | .025 | .05 | .025 | .025 |
| Means | | 18.175 | 22.35 | 11.475 | 10.225 |

From these data the overall mean m is 15.56, and the computed $D_{ij}/m$ are:

| i \ j | 1 | 2 | 3 |
|---|---|---|---|
| 2 | .0392 | | |
| 3 | .1331 | .1034 | |
| 4 | .2020 | .1532 | .0086 |

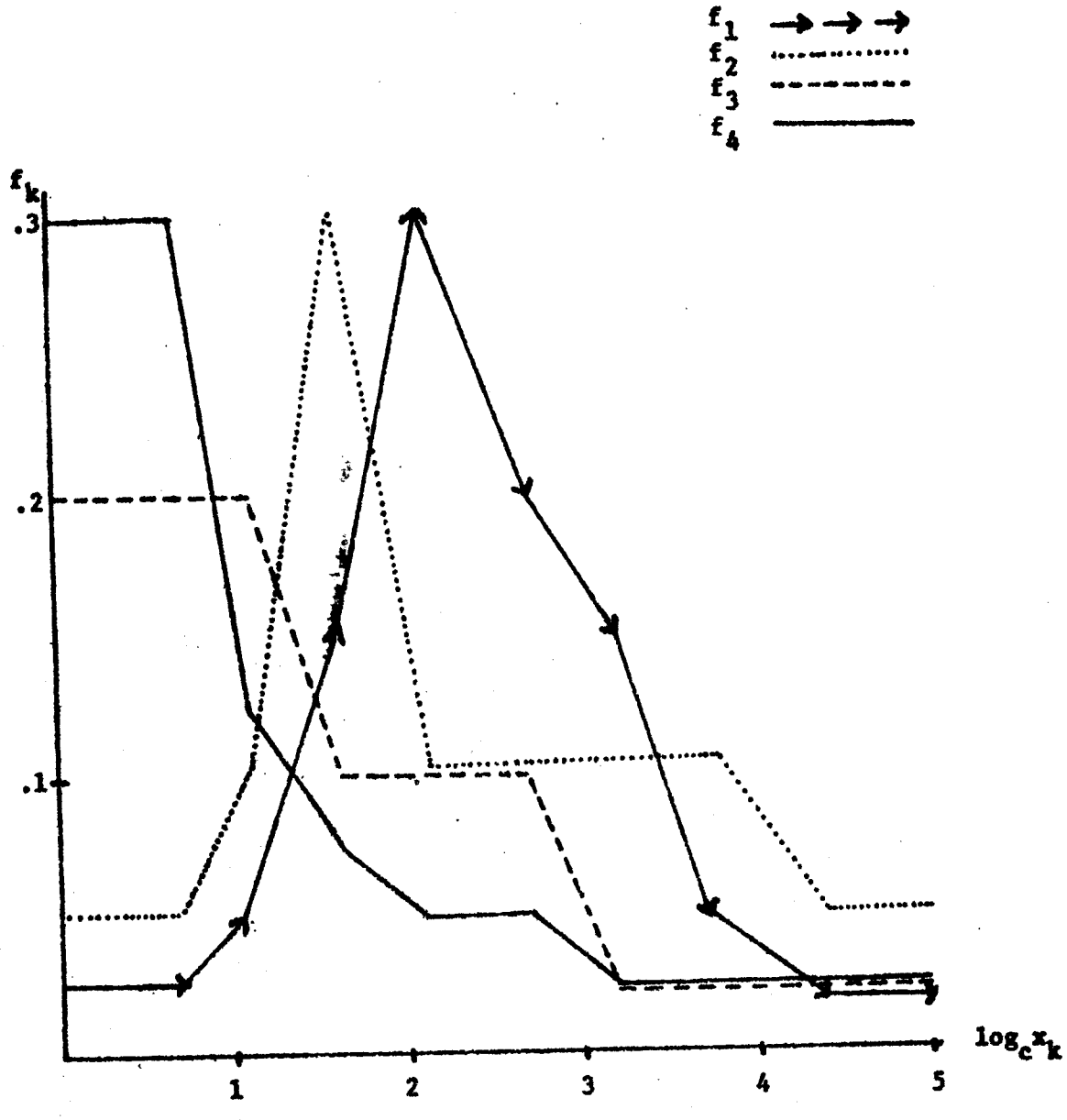


FIGURE 2

Relative Frequencies of Families per Income Class
Against the Natural Log of Income

As desired, $D_{14}$ is the largest Gini difference, and the difference falls as i and j approach each other. The numerical values give a good indication of what to expect from $D_{ij}/m$. In contrast, the differences between pairs of means, as proportions of m, are the following:

| i \ j | 1 | 2 | 3 |
|---|---|---|---|
| 2 | .2684 | | |
| 3 | .4307 | .6991 | |
| 4 | .5111 | .7790 | .0803 |

Note that $D_{32} < D_{31}$ even though $|m_3 - m_2| > |m_3 - m_1|$, and $D_{42} < D_{41}$, even though $|m_4 - m_2| > |m_4 - m_1|$. This indicates that size distributions nos. 3 and 2 are really closer together by the Gini-criterion (see Figure 2) than their means, taken alone, would seem to indicate.

### 3.3 Critical Remarks on the Gini Ratio

Needless to say, the Gini measure is the most popular measure of income inequality; very likely this is due to some extent to the clarity of its depiction in

the Lorenz diagram. It has been shown here that the measure is decomposable[24] and is not insensitive to instances of pure redistribution of income.[25] Nevertheless, there are several criticisms of the Gini ratio which deserve comment.

(a) The Gini ratio is not consistent with some forms of individual utility functions. Atkinson (1970) and Newbery (1972) have shown that, if individual utility functions are strictly concave, then there exists no social welfare function which is additive across income recipients and which ranks income distributions in the same order as the Gini ratio. This implies that it would be inconsistent to use the Gini ratio in a framework which includes an additively separable social welfare function, but it does not imply that there are no social welfare functions which are consistent. Sheshinski (1972) has pointed out that there is no particular significance to an additively separable

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[24]The lack of a decomposition formula may have been the reason for the neglect of the Gini ratio in sectoral analysis in favor of either the variance measure or the information measure. See Theil (1967) and Fishlow (1972).

[25]In contrast to Bronfenbrenner's view (1971).

function, and has given a specific example in which social welfare is a function of (1) mean income and (2) the Gini ratio, with their first partial derivatives as positive and negative respectively. This function is valid for an arbitrary number of individuals with positive incomes and identical utility functions, and the social welfare function is independent of the form of the individual utility function. Naturally, one can get different results with different welfare functions. It is more fruitful to stipulate which welfare function -- or which inequality measure -- one is willing to work with, and reject other possibilities.

(b) Oftentimes Lorenz curves intersect. In this case, Atkinson has observed that there always exist some utility functions which will rank distributions opposite to the ranking given by the Gini ratio. This is another version of the argument that there are some utility functions which are inconsistent with the Gini ratio. To repeat, however, there also exist utility functions which are consistent.

The problem of intersection would be minimized if the two distributions were chosen so as to be as different from each other as possible. In a time series of distri-

butions, of course one has no choice. But, in the Philippine data at least, the problem of intersection is not found so much in income distributions corresponding to different points in time as in income distributions corresponding to different components of a cross-section. In short, when one is dealing with a cross-section one should seek decompositions such that the differences between the income distributions of different elements of the cross-section are as different from each other as possible. This is the only way by which the characteristics of the components of the set can shed light on the reasons for the inequality.

(c) It is sometimes asserted that the numerical procedure for computing the Gini ratio is an underestimate when there are only a few income classes for which data are available.[26] In other words, the Gini ratio is computed by assuming that the available points on the Lorenz curve are connected by straight-line-segments rather than by a smooth curved line. In effect, the straight line between points assumes that <u>within</u> an income class, <u>income is equally distributed</u>. Now, if there are no data on the

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[26]See Bronfenbrenner (1971).

distribution of income within an income class, the assumption of equal distribution is a natural one to take. This amounts to supposing that there is no inequality within the set when one does not know what the inequality is. Any measure which makes this approximation -- not merely the Gini ratio -- will underestimate overall inequality.

(d) Finally, it has been asserted that the Gini ratio tends to emphasize the tail ends of the distribution[27]. This is true, and this is a matter in which some value judgment is inevitable. There is no weighting system which does not imply a value judgment. The assignment of equal weights does not solve the problem; rather, it constitutes a value judgment in itself, and, for that matter, a value judgment which may not be acceptable to very many people.

## 4.0 Analysis of Philippine Income Inequality

### 4.1 The Data

The Bureau of the Census and Statistics[28] has conducted four nationwide family income and expenditures

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[27] See Oshima (1970, who contends that his index of decile inequality is preferable. An example can be constructed in which Oshima's index, which uses equal weights across income classes, would not discriminate between two distributions whose Gini ratios are .48 and .38; see Mangahas (Malayan Economic Review, 1973).

[28] Recently designated the National Census and Statistics Office.

surveys (or FIES): 1957, 1961, 1965 and 1971, ~~The analysis reported here concentrates with the latter three points since these data are published with more disaggregation.~~ The unit of analysis is the family, consisting of a head and other members related by blood, marriage or adoption, and excluding guests, boarders and servants who may be living in the same household. Families by definition do not extend over more than one household. Sample sizes are contained in Table 3.

The family's income counts the income of all members, in both cash and kind, and whether from work or sources other than work. Income is reported before taxes and other deductions such as premiums for insurance, retirement, union dues, welfare funds, etc. It includes all transfer income, whether from institutions or from relatives etc. as gifts (but the income of such relatives is reported gross of their outlays for gifts to others). In the ~~1961, 1965 and 1971~~ surveys the time reference is the calendar year.

Since there are almost no other data[29] as comprehensive, it is necessary that the FIES be analyzed,

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[29]The 1968 and 1973 National Demographic Surveys (NDS) also contain income data, but were not conducted with that as a primary purpose. The problem of incomplete monetization of income in kind appears much more serious in the NDS than in the FIES. See Kintanar et al. (1974).

TABLE 3

Sample Sizes of the BCS Family Income and Expenditures Surveys

| Survey | Total | Urban | Rural |
|---|---|---|---|
| 1961 | 6,977 | 3,541 | 3,436 |
| 1965 | 4,747 | 2,647 | 2,100 |
| 1971 | 11,659 | 4,199 | 7,460 |

even though it is difficult to gauge the accuracy contained. Enumerators undoubtedly had to contend with problems of recall and of the monetization of income in kind. There may be a general tendency for respondents to understate their incomes, leading to ratios of family consumption expenditures to income which are extremely high and out of line with the aggregate savings-personal income ratios reported in the national accounts.[30] The understatement problem appears greatest in 1971. Although the national accounts report real per capita income rising by 2-3 percentage points per year, mean family income in the 1971 FIES, when deflated by the Consumer Price Index, is 8.2% lower than that in the 1965 FIES (Table 4). Regional cases of lower real mean family income in 1971 compared to 1965 are Manila (22.9% less), Bicol (16.2% less), Southern Luzon (9.0% less), Southern Mindanao (9.0% less), and Eastern Visayas (8.8% less). The income inequality measures are affected to the extent that the proportion of understatement is not constant across income classes.

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[30] See M. Mangahas, "Family Size As a Determinant of Family Expenditure," in Kintanar et al. (1974).

Table 4

Mean Family Income Deflated by the Consumer Price Index by Region: 1956-1971

(In 1965 Pesos)

| Regions | 1956[a/] | 1961 | 1965 | 1971 |
|---|---|---|---|---|
| Philippines | 2043 | 2261 | 2541 | 2332 |
| I Metro Manila | 5719 | 5943 | 6590 | 5081 |
| II Ilocos & Mt. Province | 1796 | 1529 | 1633 | 2026 |
| III Cagayan Valley & Batanes | 1770 | 1499 | 1322 | 1537 |
| IV Central Luzon | 2101 | 2143 | 2595 | 2620 |
| V Southern Luzon & Is. | 2094 | 2634 | 3025 | 2753 |
| VI Bicol | 1526 | 1897 | 2024 | 1696 |
| VII Western Visayas | 1872 | 2087 | 1990 | 1991 |
| VIII Eastern Visayas | 1280 | 1404 | 1622 | 1479 |
| IX Northern Mindanao | 1787 | 1962 | 2004 | 1993 |
| X Southern Mindanao | 1569 | 1674 | 2342 | 2132 |

[a/] 1956 Income figures deflated by 1957 CPI.

## 4.2 Decomposition by Area

For lack of a better term, "area" refers to the following sectors: Metropolitan Manila, Other Urban Areas, and Rural Areas. Urban areas outside Manila include chartered cities, provincial capitals, and the poblaciones (centrally located barrios or villages) of municipalities. Rural areas include all barrios not previously considered part of Metropolitan Manila or Other Urban Areas. According to the standard hypothesis, income inequality would be expected to be the greatest in Metropolitan Manila, followed by Other Urban Areas, and followed lastly by Rural Areas. This pattern is found in the data for 1965 (Table 5). In 1961, it seems that inequality in Other Urban Areas was slightly greater than in Metropolitan Manila; but the inequality in Rural Areas was substantially lower than in either of the other two. The 1971 data are surprising in that the inequality in Metropolitan Manila is supposed to have declined from earlier years, while that in Rural Areas is supposed to have increased, such that the Rural Gini ratio becomes greater than the Manila Gini ratio. (One should probably view the 1971 results with skepticism, however, on account of the strong likelihood of underestimation in

Table 3.3 *

**Distribution of Families and Income, Mean Family Income, Gini Ratio and Weighted Gini Ratio by Area: 1961, 1965, 1971**

| Area | Distribution of Families (%) (1) | Distribution of Income (%) (2) | Mean Family Income (₱/annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| | | 1971 | | | |
| 1. Metro Manila | 8.27 | 17.23 | 7785 | 0.4481 | 0.0772 |
| 2. Other Urban | 21.87 | 30.10 | 5141 | 0.4421 | 0.1330 |
| 3. Rural | 69.86 | 52.69 | 2818 | 0.4614 | 0.2432 |
| Total Philippines | 100.00 | 100.00 | 3736 | 0.4910 | 0.4534 |
| | | 1965 | | | |
| 1. Metro Manila | 8.93 | 23.16 | 6590 | 0.4973 | 0.1152 |
| 2. Other Urban | 20.72 | 28.24 | 3463 | 0.4861 | 0.1373 |
| 3. Rural | 70.35 | 48.59 | 1755 | 0.4226 | 0.2053 |
| Total Philippines | 100.00 | 100.00 | 2541 | 0.5051 | 0.4578 |
| | | 1961 | | | |
| 1. Metro Manila | 8.16 | 21.67 | 4790 | 0.4751 | 0.1029 |
| 2. Other Urban | 25.84 | 34.32 | 2395 | 0.4987 | 0.1712 |
| 3. Rural | 66.00 | 44.01 | 1203 | 0.3971 | 0.1748 |
| Total Philippines | 100.00 | 100.00 | 1804 | 0.5023 | 0.4489 |

1971 of Manila incomes in the upper brackets.) In general, therefore, one might say that the expectation that income inequality is worse in Urban Areas than in Rural Areas as supported by the data.

According to the decomposition procedure, within-area Gini ratios must be weighted by the shares of the individual areas in incomes of all families in the nation.[31] The resulting average of within-area inequality coefficients is seen to be quite stable at .45 over the period. Since the national Gini ratio has likewise been stable at .50, only one-tenth, or five percentage points, remains to be attributed to inequality of the income distributions between areas. There has been no trend in the residual inequality between areas. This suggests that there is little to expect from policies which tend to equalize average incomes of the different areas without

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[31] One will note, however, that the range of the area Gini ratios is relatively small, thus making the average insensitive to the weighting scheme used. As an experiment, let us suppose that the proportion of income in rural areas grows by 5 percentage points, that the proportion in Metropolitan Manila falls by 5 percentage points, and that the proportion in Other Urban Areas remains the same. Let us further assume that the Gini ratios in these areas remain the same. Then the result of the shift in income shares, applied to the data for 1965 and for 1961, is a decrease in the weighted sum of income inequalities within regions by only 1/3 of a percentage point. To take an even more extreme experiment, let us exchange the income shares of Metropolitan Manila and Rural Areas, keeping the income share of Other Urban Areas the same. When this assumption is applied to the 1965 and 1961 data, then the weighted sum of within-sector inequalities falls by only 1-1/2 to 2 percentage points.

simultaneously attending to the sources of the inequality within the sectors.

We turn to the income inequality on account of differences in income distributions between areas (Table 6), Recall that $D_{ij}$ the difference between mean incomes in sectors i and j, as a proportion of overall mean income, which would occur if the two sectors were separately, internally perfectly equal. As expected, the greatest difference is between Manila and Rural Areas. This is followed by the difference between Other Urban Areas and Rural Areas; and the difference between Manila and Urban Areas is lowest of all. At the same time, it appears that the difference between Manila and Rural Areas is narrowing, from .61 in 1961 to .48 in 1965, and finally to .34 in 1971. This is an important trend, since the Manila-Rural Areas difference makes up anywhere from half to three-fourths of the total inequality between areas, after the appropriate weights are applied. There also seems to be a narrowing between Other Urban Areas and Manila, from .24 to .15, and finally to .065. So one would say that both the Rural and the Other Urban distributions are approaching the Manila distribution, and that the Other Urban distribution is approaching it

TABLE 3.4

INEQUALITY BETWEEN AREAS MEASURED BY THE GINI DIFFERENCE RELATIVE TO THE MEAN ($D_{ij}/m$): 1961, 1965, 1971

| BETWEEN-AREA INEQUALITY | | |
|---|---|---|
| | Metro Manila 1 | Other Urban 2 |
| **1971** | | |
| 2 Other Urban | 0.0652 | |
| 3 Rural | 0.3374 | 0.1109 |
| **1965** | | |
| 2 Other Urban | 0.1529 | |
| 3 Rural | 0.4830 | 0.0966 |
| **1961** | | |
| 2 Other Urban | 0.2365 | |
| 3 Rural | 0.6052 | 0.0927 |

"faster". (~~As usual~~, this must be qualified by the difficulty with the 1971 Manila data, in which both mean income and income inequality are to some extent understated).

## ~~4.3 Decomposition by Region~~

The data are also decomposed according to 10 geographical regions, the first of which is Metropolitan Manila. This set is identical to that used in the area decompositions. Unfortunately, the other nine geographical regions cannot be further decomposed into their urban and rural subsets. The provincial components of the regions are found in the Appendix.

~~Table 7 contains~~ the ranking of the regions according to mean family income and Gini ratio. As the table indicates, the rankings of mean income are quite stable, in comparison to the rankings according to income inequality. Metropolitan Manila, Southern Luzon, and Central Luzon are consistently the top three regions in terms of mean income, and Cagayan Valley and Eastern Visayas are consistently the lowest two. The only notable changes are Ilocos, which moved in rank over the decade

e 7. Ranking of Mean Family Income and Income Inequality By Region, 1961, 1965, & 197

| Region | Mean Income | | | Income Inequality | | |
|---|---|---|---|---|---|---|
| | 1961 | 1965 | 1971 | 1961 | 1965 | 1971 |
| 1. Metropolitan Mla. | 1 | 1 | 1 | 3 | 1 | 6 |
| 2. Ilocos & Mt. Prov. | 8 | 8 | 5 | 10 | 3 | 1 |
| 3. Cagayan Valley | 9 | 10 | 10 | 5 | 7 | 9 |
| 4. Central Luzon | 3 | 3 | 3 | 9 | 9 | 8 |
| 5. Southern Luzon & Islands | 2 | 2 | 2 | 6 | 4 | 3 |
| 6. Bicol | 6 | 5 | 8 | 2 | 8 | 5 |
| 7. Western Visayas | 4 | 7 | 6 | 4 | 10 | 10 |
| 8. Eastern Visayas | 10 | 9 | 9 | 7 | 2 | 2 |
| 9. Northern Mindanao | 7 | 4 | 7 | 1 | 5 | 4 |
| 10. Southern Mindanao | 5 | 6 | 4 | 8 | 6 | 7 |

from 8th to 5th, and Bicol, which dropped in rank from 6th to 8th.

On the other hand, there have been substantial changes in ranks according to the Gini ratio. (The rank of Metropolitan Manila appeared to have fallen to 6th; but as mentioned earlier, the Manila data have to be taken with great caution). In Ilocos, income inequality is clearly worsening, with the Gini ratio rising from .42 to .46 and finally to .54. The Lorenz curve unambiguously shifts outward (Figure 3), without crossing itself. In fact, Ilocos has shifted its position radically, from the region with the lowest Gini ratio to the region with the highest Gini ratio.

In Cagayan Valley, one of the two poorest regions in the Philippines, there does not appear to have been any trend over 1961-1971. The Gini ratio fluctuates from .44 to .46, with the Lorenz curve crossing itself in several places. However, this region has fallen from fifth to ninth according to the Gini ratio ranking, as a result of a widening in inequality in several other regions. Central Luzon follows Metropolitan Manila and Southern Luzon in order of mean income. Here we find that income inequality is the same as, or a bit less than, that

Table 8

Distribution of Families and Income, Mean Family Income, Gini Ratio and Weighted Gini Ratio by Regions: 1961, 1965, 1971

| Region | Distribution of Families (%) (1) | Distribution of Income (%) (2) | Mean Family Income (₱/annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| **1971** | | | | | |
| Metro Manila | 8.27 | 17.24 | 7785 | 0.4481 | 0.0772 |
| Ilocos & Mt. Prov. | 5.45 | 4.81 | 3299 | 0.5379 | 0.0259 |
| Cagayan Valley | 4.10 | 2.62 | 2390 | 0.4427 | 0.0116 |
| Central Luzon | 13.47 | 14.88 | 4127 | 0.4436 | 0.0660 |
| Southern Luzon & Is. | 13.69 | 15.87 | 4332 | 0.4762 | 0.0756 |
| Bicol | 7.81 | 5.82 | 2784 | 0.4525 | 0.0263 |
| Western Visayas | 10.56 | 9.06 | 3206 | 0.4227 | 0.0383 |
| Eastern Visayas | 15.44 | 10.52 | 2548 | 0.5117 | 0.0539 .6538 |
| Northern Mindanao | 8.22 | 6.74 | 3062 | 0.4527 | 0.0305 |
| Southern Mindanao | 13.00 | 12.45 | 3577 | 0.4436 | 0.0552 |
| All Philippines | 100.00 | 100.00 | 3736 | 0.4901 | 0.4605 .460 |
| **1965** | | | | | |
| Metro Manila | 8.93 | 23.16 | 6590 | 0.4973 | 0.1152 |
| Ilocos & Mt. Prov. | 5.89 | 3.79 | 1633 | 0.4593 | 0.0174 |
| Cagayan Valley | 3.41 | 1.77 | 1322 | 0.4430 | 0.0079 .0071 |
| Central Luzon | 14.42 | 14.73 | 2595 | 0.4272 | 0.0629 |
| Southern Luzon & Is. | 12.49 | 14.86 | 3025 | 0.4563 | 0.0678 |
| Bicol | 7.94 | 6.32 | 2024 | 0.4395 | 0.0278 |
| Western Visayas | 11.12 | 9.71 | 1990 | 0.4271 | 0.0372 .0415 |
| Eastern Visayas | 16.76 | 10.71 | 1622 | 0.4693 | 0.0502 .0523 |
| Northern Mindanao | 7.04 | 6.49 | 2342 | 0.4539 | 0.0295 |
| Southern | | 9.46 | 2004 | 0.4527 | 0.0429 .042 |
| All Phi | | | | | |

2543
2458
90

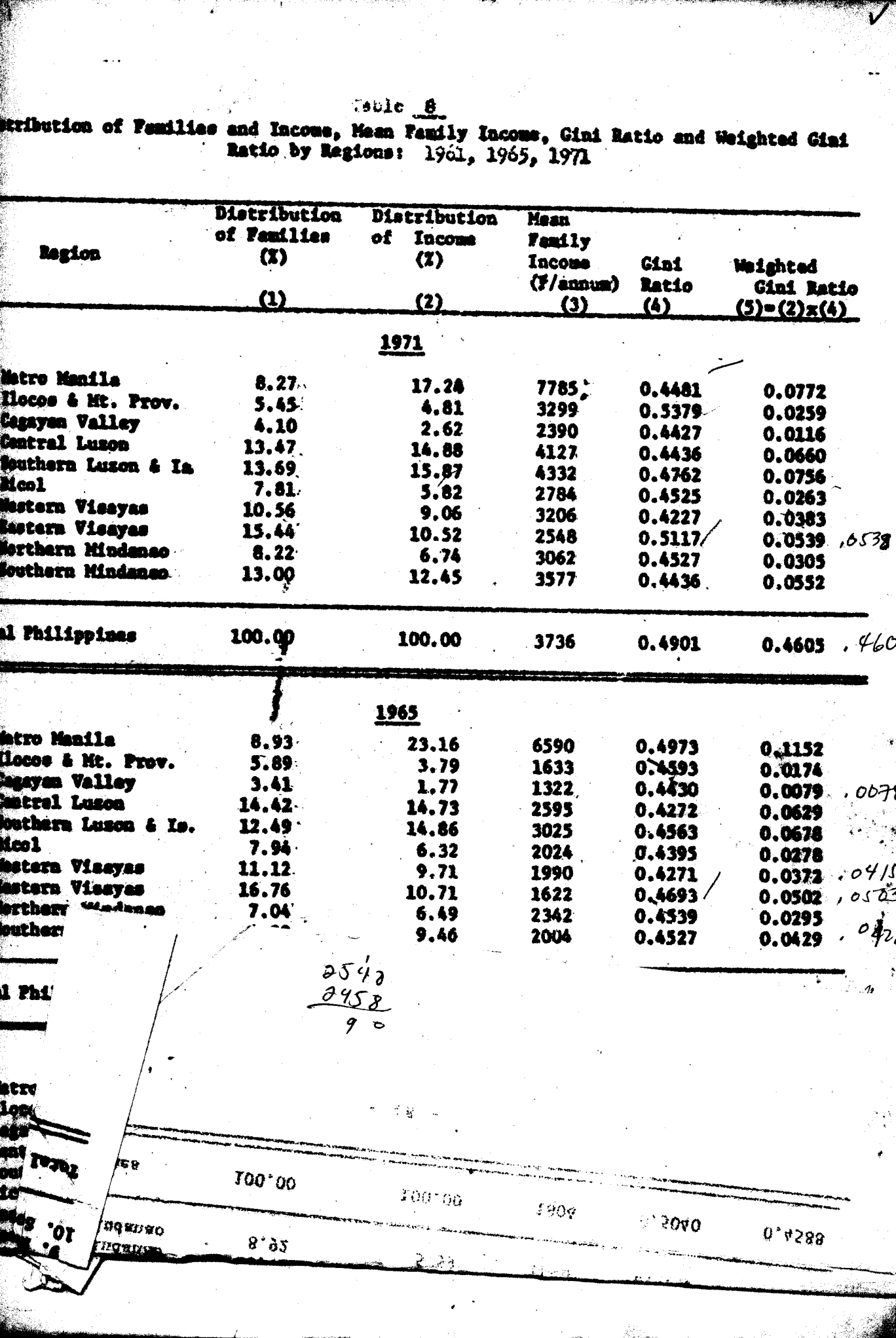


Table 9

...ed by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1961

| & ...v. | 3 Cagayan Valley | 4 Central Luzon | 5 Southern Luzon & Is. | 6 Bicol | 7 Western Visayas | 8 Eastern Visayas | 9 Northern Mindanao |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | 0.0364 | | | | | | |
| | 0.0762 | 0.0090 | | | | | |
| | 0.0067 | 0.0136 | 0.0393 | | | | |
| | 0.0124 | 0.0068 | 0.0297 | 0.0021 | | | |
| | 0.0012 | 0.0414 | 0.0858 | 0.0100 | 0.0152 | | |
| | 0.0200 | 0.0039 | 0.0244 | 0.0061 | 0.0015 | 0.0222 | |
| | 0.0018 | 0.0294 | 0.0645 | 0.0036 | 0.0094 | 0.0035 | 0.0159 |

Table 10

- Regions Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965

| Region | 3 Cagayan Valley | 4 Central Luzon | 5 Southern Luzon & Is. | 6 Bicol | 7 Western Visayas | 8 Eastern Visayas | 9 Northern Mindanao |
|---|---|---|---|---|---|---|---|
| 2. Ilocos & Mt. Prov. | 0.1110 | | | | | | |
| 3. Cagayan Valley | 0.1445 | 0.0037 | | | | | |
| 4/ Central Luzon | 0.0349 | 0.0234 | 0.0406 | | | | |
| 5. Southern Luzon & Is. | 0.0346 | 0.0256 | 0.0424 | 0.0006 | | | |
| 6. Bicol | 0.0066 | 0.0658 | 0.0918 | 0.0123 | 0.0120 | | |
| 7. Western Visayas | 0.0674 | 0.0059 | 0.0168 | 0.0075 | 0.0087 | 0.0337 | |
| 8. Eastern Visayas | 0.0336 | 0.0239 | 0.0409 | 0.0009 | 0.0012 | 0.0111 | 0.0072 |
| 9. Northern Mindanao | | | | | | | |
| 10. Southern Mindanao | | | | | | | |

Table 11

...n Regions Measured by the Gini Difference Relative to the Mean ($D_{ij}/\mu$), 1971

| Region | 3 Cagayan Valley | 4 Central Luzon | 5 Southern Luzon & Is. | 6 Bicol | 7 Western Visayas | 8 Eastern Visayas | 9 Northern Mindanao |
|---|---|---|---|---|---|---|---|
| 3. Cagayan Valley | 0.0882 | | | | | | |
| 4. Central Luzon | 0.0851 | 0.0016 | | | | | |
| 5. Southern Luzon & Is. | 0.0075 | 0.0482 | 0.0458 | | | | |
| 6. Bicol | 0.0246 | 0.0236 | 0.0239 | 0.0086 | | | |
| 7. Western Visayas | 0.0047 | 0.0707 | 0.0678 | 0.0055 | 0.0216 | | |
| 8. Eastern Visayas | 0.0156 | 0.0324 | 0.0328 | 0.0047 | 0.0022 | 0.0121 | |
| 9. Northern Mindanao | 0.0441 | 0.0082 | 0.0088 | 0.0184 | 0.0042 | 0.0345 | 0.0086 |

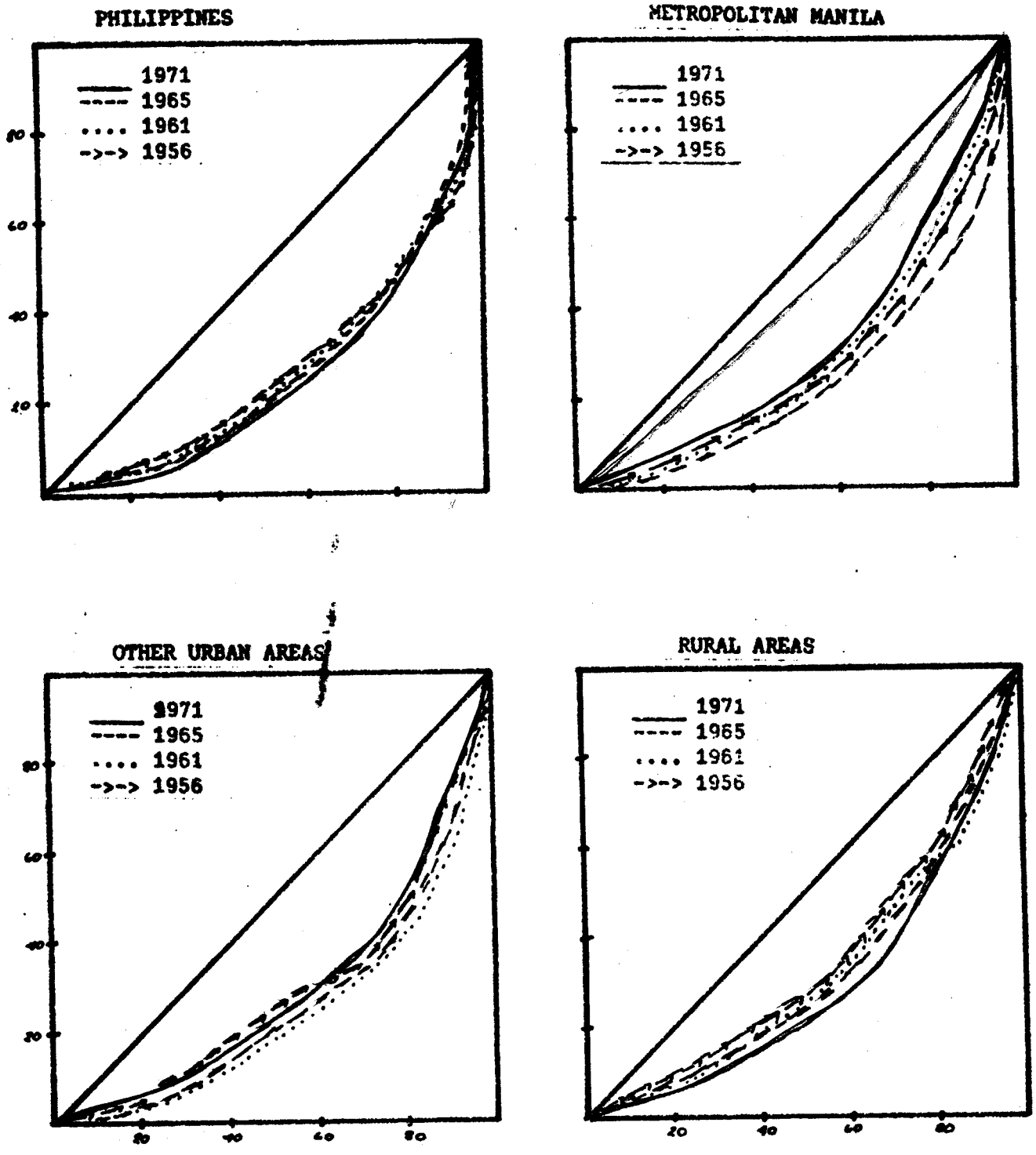
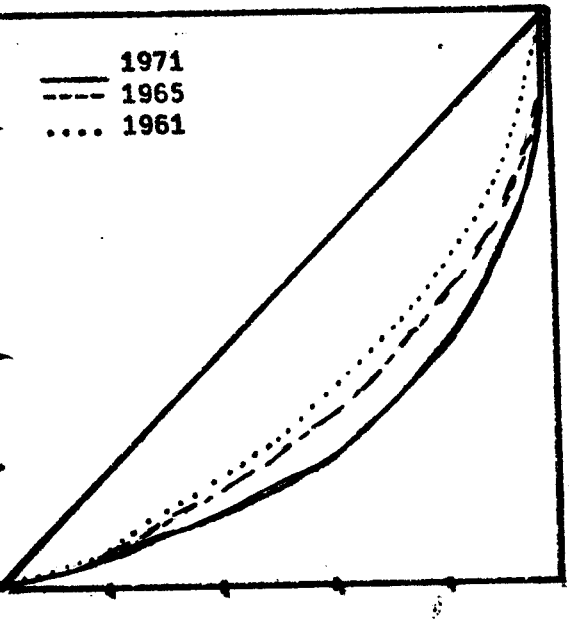


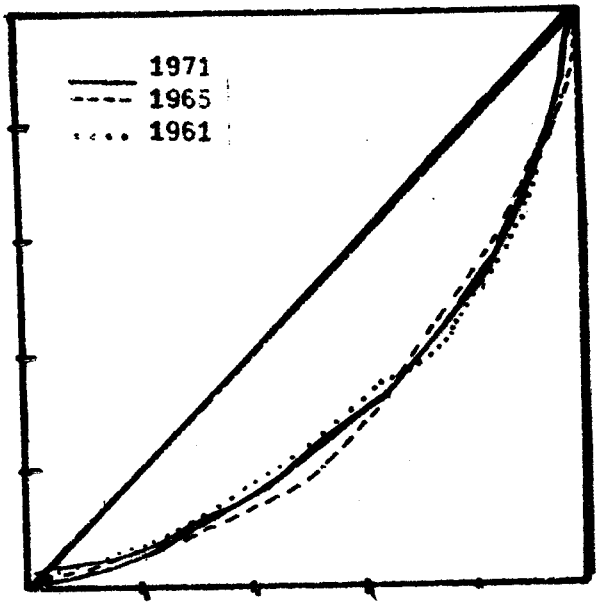

FIGURE 3.2

Lorenz Curves by Area and by Regions, Philippines
1961, 1965, 1971

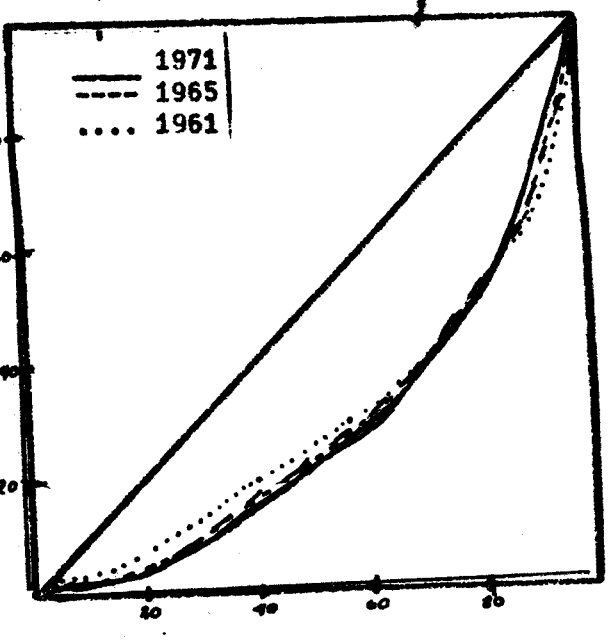
II - ILOCOS & MT. PROVINCE




III - CAGAYAN VALLEY & BATANES




IV - CENTRAL LUZON




V - SOUTHERN LUZON & ISLANDS

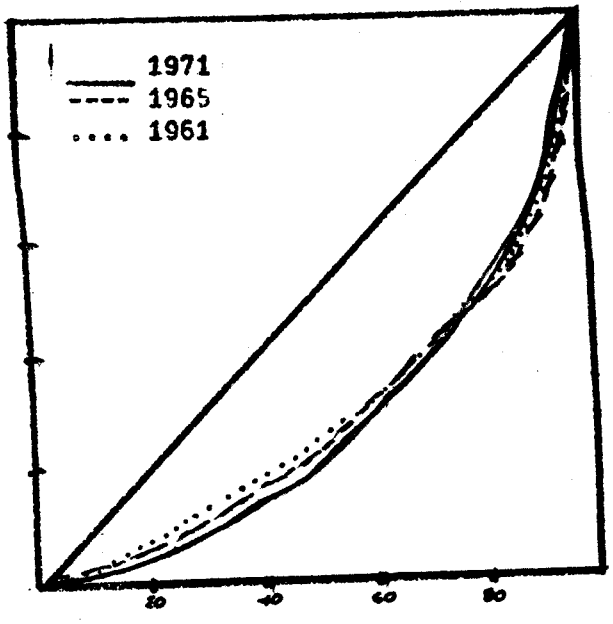
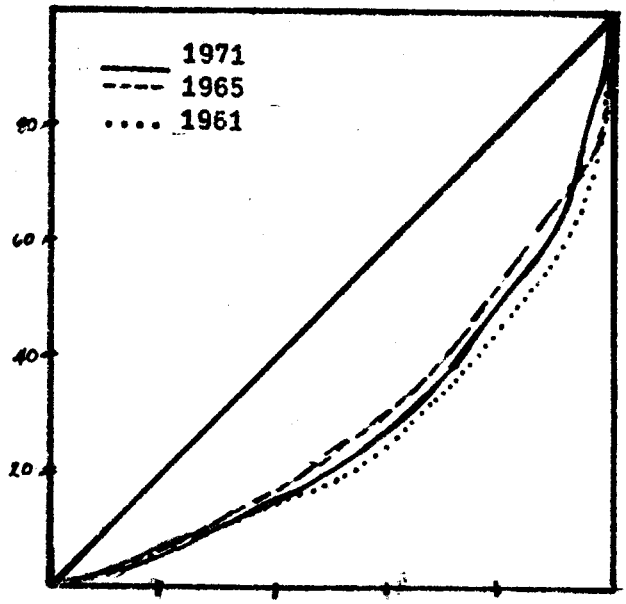
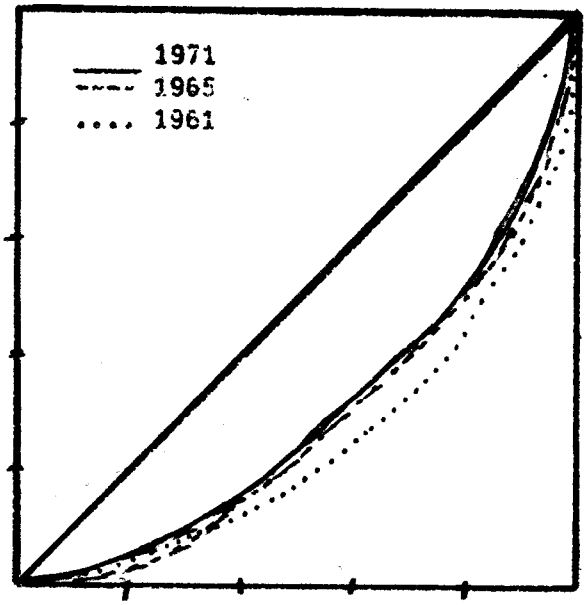



FIGURE 3.3

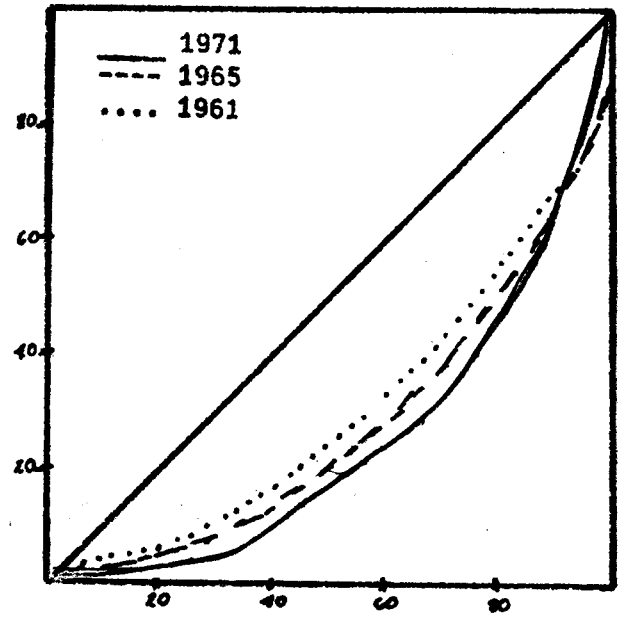
VI - BICOL




VII - WESTERN VISAYAS




VIII - EASTERN VISAYAS




IX - NORTHERN MINDANAO

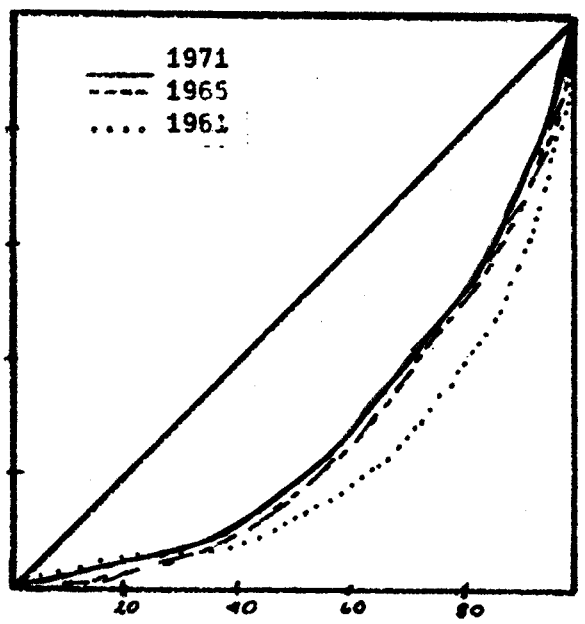



**FIGURE 3.3**
**(cont'd)**

X - SOUTHERN MINDANAO

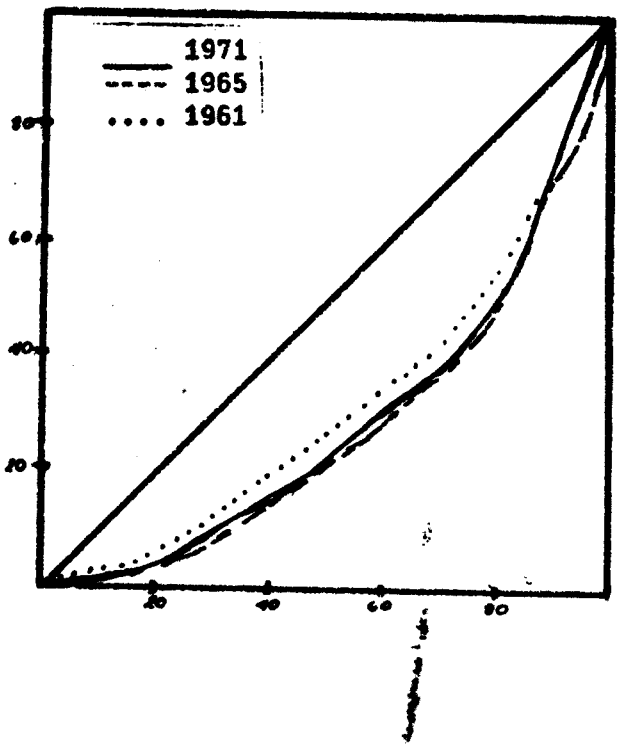



FIGURE 3.3
(cont'd)

in the Cagayan Valley, and that the Gini ratio has also not changed significantly. The Lorenz curves indicate a worsening in the distribution in the first to the 7th deciles, no change in the 8th decile and some improvement in the 9th and 10th deciles. Central Luzon has kept its ranking as a region with lower inequality than most others.

In Southern Luzon, which is second only to Manila in terms of mean income, the Gini ratio has shifted upward from .44 in 1961 to .48 in 1971, moving the region from sixth to third in rank of inequality. The pattern of its Lorenz curve is similar to that in Central Luzon, except that, as measured by the Gini ratio, the worsening of the distribution in the first seven deciles outweighs the improvement in the last two deciles.

In the Bicol region, there was some improvement from 1961 to 1965, with the Gini ratio dropping 5 points from the original .49. The 1971 distribution is a slight retrogression however. On the other hand, there has been a steady improvement in Western Visayas, with the Gini ratio falling from .47 to .42. Since 1965, this region has been established as the least unequal.

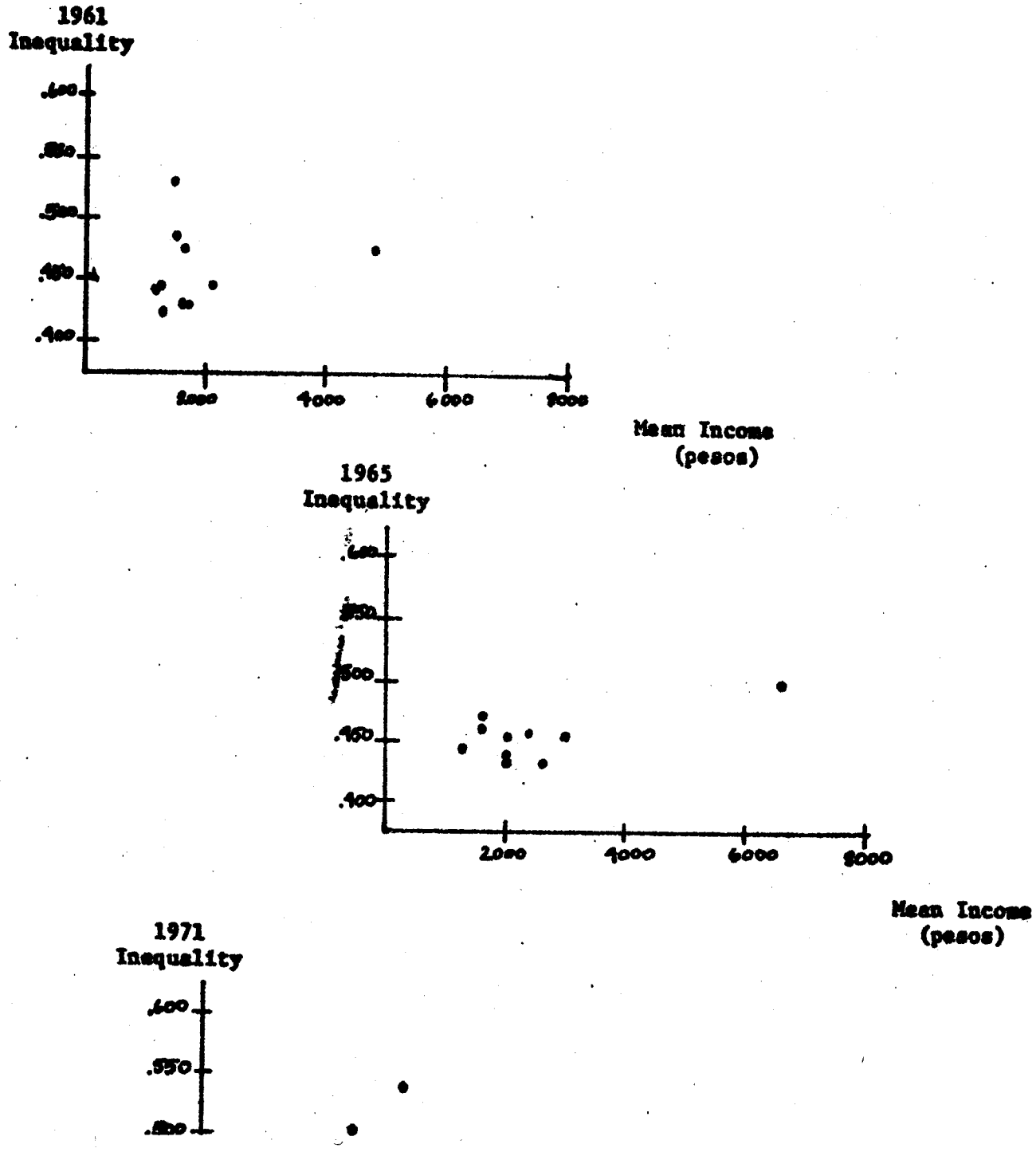
Income inequality has clearly worsened in Eastern Visayas, which, together with the Cagayan Valley, is the poorest region in the Philippines. Its inequality rank has soared from seventh to second. But, although the Eastern Visayas Gini ratio rose from .44 to .51, one will recall that inequality in the Cagayan Valley has been stable.

There seems to have been a marked improvement in Northern Mindanao, where the Gini ratio fell from .53 to .45, lowering the region's rank from most unequal to fourth. In Southern Mindanao, there is no clear trend, with the Gini ratio fluctuating from .43 to .45, and the region has not shifted notably in rank. However, the Lorenz curves show that the first eight deciles experienced more inequality in 1971 than in 1961.

The regional decomposition thus reveals some interesting patterns. If one looks at the problem more closely, income inequality is not at all that static. It is clearly worsening in Ilocos and in Eastern Visayas, where the former would be considered a "middle - income" region and the latter a "low-income" region. Income inequality has worsened somewhat in Southern Luzon, which is the most developed region after Metropolitan Manila.

Inequality has remained the same in Central Luzon, Southern Mindanao, and the Cagayan Valley, which constitute a very wide range of regions in terms of degree of development. There has been some improvement in income inequality in Bicol and Western Visayas, and a marked improvement in Northern Mindanao. The time trends in income inequality in the various regions show a very wide pattern, and there is no clear correlation between the direction of change and the degree of economic development within the region. We have tried to check this by scatter diagrams of the Gini ratio (either absolute value or change) against mean family income (either absolute value or change), against the percent of the employed who are in agriculture, and against the unemployment rate, and invariably have come up with widely dispersed sets of dots (Figure 4). Of course, these negative results do not help us learn more about the determinants of income inequality. But they also warn that there is no easy relationship between development and the state of income inequality.

As in the case of the urbanization areas, the range of Gini ratios across regions is not large, amounting to some 11 percentage points at most. The weighted sum of the ratios is stable at .45-.46 over the three survey years,


1961
Inequality
.600
.550
.500
.450
.400
2000
4000
6000
8000
Mean Income
(pesos)
1965
Inequality
.600
.550
.500
.450
.400
2000
4000
6000
8000
Mean Income
(pesos)
1971
Inequality
.600
.550
.500

Let us turn to the income inequality between regions. Here, we would agree with Oshima's view that the major part of such inequality is due to the great differential between standards of living in the metropolitan areas compared to the rest of the country. From tables containing weighted Gini-differences between areas and between regions, it is obvious that the overwhelming portion of the weighted inequality is found in the column which differentiates Metropolitan Manila from the other areas and regions, i.e., the column $D_{1j}/m$ ($j = 2, 3, \ldots$). However, the weighted inequality between Metropolitan Manila and Other Urban Areas is much smaller than that between Metropolitan Manila and Rural AReas. Thus, it is safe to conclude that the main source of inequality is between the distribution of income in Metropolitan Manila and the distribution of income in the rural sectors of the other nine geographical regions.

The ranking of regions according to the Gini-difference, though not identical to the ranking according to mean income, are in agreement with respect to the regions at the two extremes. Using $D_{1j}$ to measure the difference between the $j^{th}$ region's distribution and the Manila distribution, the regions are ranked after Manila

for 1971 as follows: Southern Luzon, Central Luzon, Southern Mindanao, Western Visayas, Ilocos, Northern Mindanao, Bicol, Eastern Visayas, and Cagayan Valley; the ranks of these same regions in terms of mean income for 1971 are respectively: 2, 3, 7, 6, 5, 4, 8, 9, 10. For 1965 the ranks according to $D_{1j}$ are Southern Luzon, Central Luzon, Northern Mindanao, Southern Mindanao, Bicol, Western Visayas, Ilocos, Eastern Visayas and Cagayan Valley; and the ranks of these regions according to mean income are 2, 3, 4, 6, 5, 7, 8, 9, 10. For 1961, $D_{1j}$ gives the following ranks: Southern Luzon, Central Luzon, Northern Mindanao, Western Visayas, Bicol, Southern Mindanao, Ilocos, Cagayan Valley and Eastern Visayas; according to mean income the ranks respectively are 2, 3, 7, 4, 6, 5, 8, 9, 10.

Aside from the differences between Manila and the other regions, most of the substantial differences found are between either of the two relatively high-income regions, Central Luzon and Southern Luzon, and either of the two relatively low-income regions, Eastern Visayas and the Cagayan Valley. Relative to the national mean, the four Gini-differences which compare these two sets of regions had a range of 3.6-8.6% in 1961; in 1965 the range was 6.6-14.5%, and in 1971 it was 6.8-8.8%. Thus it appears that the income distributions in the relatively high and low income regions diverged between 1961 and 1965, but converged somewhat between 1965 and 1971.

1965, but converged somewhat between 1965 and 1971.

## 4.4 Decomposition by Main Source of Income

For 1961, the data are available for ten income sources (including an 'Other Sources' category constructed to eliminate empty income class cells among its finer components), and for 1965 and 1971, the data for eleven sources are cross-classified by area as well. The categories are related to factor-share groups in the following manner: Wage and Salaries and Practice of Profession or Trade can be considered as income from labor; Trading, Manufacturing, Transport, Other Enterprises, Farming and Fishing, Forestry and Hunting are classified as entrepreneurial activities; and Share of Crops, Livestock and Poultry Raised by Others (or agricultural rents), Rents Received from Land, Buildings, Rooms, etc. (or non-agricultural rents), and Other Sources (principally rental value of owner-occupied houses)[33] can be considered as property incomes.

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[33]Imputed by the BCS at 10% of reasonable resale value.

In the published data, a family is classified under that income source from which the primary part of its income is derived. The family's income is, however, divided into components from different sources, and each component classified under the proper source. It is not uncommon for a family to have multiple sources of income. Thus the total income reported as derived from a given source does not precisely correspond to the total income of the families listed as having that source as their primary source of income. The analysis employed does assume that the said correspondence holds. This is simply for lack of better information; the extent of consequent error is unknown.

Over 1961-1971, the distribution by source shifted away from entrepreneurial activities, chiefly in agriculture. The share of income going to farmers and fishermen fell by 5 percentage points, and that going to traders fell by 2 percentage points. The share of wages and salaries rose by 2-1/2 percentage points and that of professionals rose by 1/2 percentage point. The share of agricultural rentiers fell by about 1/3 of a point, whereas the share of non-agricultural rentiers rose by about the same margin. There was a gain in 2 percentage

points in the share of Other Sources, the majority of the gain due to increases in the transfers component.[34]

The decompositions, found in Tables 12 to 17, are more interesting than earlier ones. There is a larger proportion of inequality explainable by differences in income distributions between sources than by differences between areas or regions: in 1965 and 1971 the between-sector component is about .07, compared to .05 in the earlier decompositions. This is still a small gain, however, so earlier remarks on the need to reduce inequalities within sectors (as sectors are defined by the data) still hold.

We now find much larger variations across sectors in terms of both mean income and the Gini ratio. The lowest incomes are typically found among farmers, fishermen

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[34]Some reservations must be noted with respect to these trends. Over 1965-1971, the data indicate implausible substantial drops in mean nominal family income of three categories: (a) for Manila families in entrepreneurial activities in Transport, the drop is from ₱17,000 to ₱8,700; (b) for Manila professional-families, the drop is from ₱23,500 to ₱14,000; (c) for professional-families in Other Urban Areas, it is from ₱5,300 to ₱850. It is not clear that this should be attributed to the problem of imprecise correspondence between families and incomes.

Table 12

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME, PHILIPPINES, 1961

| Principal Source of Income | Distribution of Families (in percentages) (1) | Distribution of Income (in percentages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5) = (2) x (4 |
|---|---|---|---|---|---|
| 1. Wages & Salaries | 36.00 | 42.00 | 2103.94 | 0.4411 | 0.1853 |
| 2. Trading | 6.20 | 9.80 | 2850.51 | 0.5052 | 0.0495 |
| 3. Manufacturing | 2.00 | 3.10 | 2795.24 | 0.5794 | 0.0180 |
| 4. Transport | 1.20 | 1.40 | 2103.94 | 0.3708 | 0.0052 |
| 5. Other Enterprises (incl. Practice of Profession or Trade) | 1.40 | 2.50 | 3220.32 | 0.5669 | 0.0142 |
| 6. Farming (incl. livestock & poultry raising) | 42.80 | 19.80 | 834.27 | 0.4161 | 0.0824 |
| 7. Fishing, forestry & hunting | 4.50 | 4.60 | 1843.46 | 0.3322 | 0.0153 |
| 8. Share of crops, livestock & poultry raised by others | 1.60 | 2.80 | 3155.92 | 0.5851 | 0.0164 |
| 9. Rents received for land, buildings, rooms, etc. | 0.20 | 1.40 | 12623.67 | 0.5443 | 0.0076 |
| 10. Other Sources* | 4.10 | 12.60 | 5542.10 | 0.4663 | 0.0588 |
| Total Phils. | 100.00 | 100.00 | 1804. | 0.4978 | 0.4525 |

*Rental value of owner-occupied house
Interests and dividends
Profits from the sale of stocks and bonds
Pension or retirement benefits
Backpay and proceeds from insurance
Gifts, support, assistance and relief
Net winnings from gambling, sweepstakes and lotteries
Inheritance in cash or converted to cash
Others.

Table 13

quality between Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/\mu$)
Philippines, 1961

| 3 Manufacturing | 4 Transport | 5 Other Enterprises (incl. Practice of profession or trade) | 6 Farming (inc. livestock poultry raising) | 7 Fishing, forestry, hunting | 8 Share of crops, livestock &poultry raised by others | 9 Rents received for land, buildings, rooms, etc. |
|---|---|---|---|---|---|---|
| 0.0826 | | | | | | |
| 0.0872 | 0.0224 | | | | | |
| 0.0777 | 0.2798 | 0.3191 | | | | |
| 0.0644 | 0.2024 | 0.2375 | 0.0073 | | | |
| 0.0043 | 0.0929 | 0.0979 | 0.0702 | 0.0378 | | |
| 0.4061 | 0.3431 | 0.2131 | 0.7554 | 0.6484 | 0.4243 | |
| 0.0017 | 0.0912 | 0.0890 | 0.0791 | 0.0460 | 0.0054 | 0.3778 |

and wage and salary workers, while the largest incomes are found among the rentiers, especially the non-agricultural rentiers, and followed by professionals. In 1971, for example, mean family income among non-agricultural rentiers in Manila was over ₱59,000 and among farmers in rural areas it was ₱1,900, or roughly a thirty-fold difference.[35] The range of Gini ratios is wide, and widens further over time. For 1961 the range is .33-.58, for 1965 it is .23-.62, and for 1971 it is .24-.80. Again, scatter diagrams for each of the survey points fail to indicate a relationship between income inequality and average family income.[36] In this situation, the weights of the within-sector inequality assume much greater importance. Meaningful reductions in inequality can be obtained through shifts in families from one source of income to another, rather than merely from one geographical district to another. Such shifts in source of income can be effected in various ways, such as

[35]Cost-of-living indices comparing urban and rural areas are not available. No adjustments have been made in the data for cost-of-living differentials.

[36]The scatter diagrams were viewed with special attention to those points with relatively large weights. The four most important points refer to rural-based farmers and to wage and salary workers in Manila, Other Urban Areas and Rural Areas respectively. The results are still unclear when attention is focused on these points: the 1961 scatter shows a rough positive correlation, the 1965 scatter shows no correlation, and the 1971 scatter shows a negative correlation.

the widening of educational opportunities,[37] the transfer of property as a source of income (land reform), etc.

In 1961, the most equal group were fishermen (.33), and the most unequal were agricultural rentiers (.58). Farmers had the second lowest Gini ratio (.41). In 1965 and 1971, where area of residence can also be distinguished, the pattern was maintained to some extent: rural fishermens' Gini ratios, though not the lowest, were .41 and .39 respectively; while other urban agricultural rentiers had ratios of .61 and .57 respectively. The Gini differences of significant size in 1961 pertain to comparisons either with the two poorest groups, farmers and fishermen (sources 6 and 7), or with the richest group, non-agricultural rentiers (source 9). It is noteworthy that the Gini differences between these rural poor folk and agricultural rentiers (source 8) are rather small in comparison with the differences between the said poor families and non-agricultural rentiers. Table 13 gives $D_{68}/m = 7.0\%$ and $D_{78}/m = 3.7\%$ whereas $D_{69}/m = 75.5\%$ and $D_{79}/m = 64.8\%$.

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[37] Recently, Ruperto Alonzo has found that the distribution of educational capital among Filipinos has narrowed considerably over the past two decades.

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[37] Recently, Ruperto Alonzo has found that the distribution of educational capital among Filipinos has narrowed considerably over the past two decades.

For 1965, the income sources with the most inequality are Other Sources[38] (Manila), .62; Agricultural Rents (Other Urban), .61; Trading (Other Urban), .58; Farming (Other Urban), .53; Agricultural Rents (Rural), .52; Other Enterprises (Other Urban), .50; and Non-agricultural Rents (Manila), .50. Of these seven sectors, only the third and the sixth can be considered as related to income from labor. The other sectors are related primarily to property and secondarily to entrepreneurship. Note that agricultural rents are rather unequally distributed, and more unequal in other urban areas than in rural areas. It can be safely presumed that agricultural landlords with large estates do not have their residences in rural areas, but have them mainly in other urban areas, and to some extent also in Manila.

The income sources with the least inequality are Transport (Manila), .23;[39] Other Sources (Rural), .27;

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[38]The category Other Sources is something of a hodge-podge. In order of importance, the principal incomes included here are rental value of owner-occupied homes, transfers, and earnings from financial assets. This category has the second highest mean income among all other categories for 1965.

[39]Transport entrepreneurship is a problematic case. It is reported to be the source with the fourth highest family income in 1965, and the 1971 data report that mean income fell four years later. This cannot yet be explained.

Income from Professions (Manila), .31; Transport (Rural), .32; and Other Enterprises (Rural), .33.

The Gini differences for 1965 between sources are reported in Table 15. (The $D_{ij}$ matrix can be divided into 9 blocks corresponding to the sub-matrices comparing pairs of the three areas Manila, Other Urban Areas and Rural Areas. Since this matrix is block-symmetric, only six sub-matrices need to be reported). In general, Gini differences are largest when one compares Manila sources of income with Rural sources of income. Second to this is the block comparing Manila groups with groups in Other Urban Areas. The smallest differentials are found in the comparisons between groups of Rural Areas. This is as expected.

The greatest differential between Manila groups and Rural groups are found in the Manila columns pertaining to Transport, Income from Professions, and Non-agricultural Rents. It appears that the income distributions in these three sources of income in Metropolitan Manila are highly different from the income distributions of all the rural income-source groups, but most especially Farming and Fishing.

Table 14

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1965

| Principal Source of Income | Distribution of Families (in percentages) (1) | Distribution of Income (in percentages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5) = (2)x(4) |
|---|---|---|---|---|---|
| Total Philippines | 100.00 | 100.00 | 2541 | 0.4972 | 0.4318 |
| **MANILA & SUBURBS*** | | | | | |
| 1. Wages & Salaries | 7.05 | 13.41 | 4832.73 | 0.4419 | 0.0593 |
| 2. Trading | 0.70 | 1.48 | 5371.76 | 0.4481 | 0.0066 |
| 3. Manufacturing | 0.21 | 0.41 | 4960.41 | 0.4853 | 0.0029 |
| 4. Transport | 0.04 | 0.27 | 17149.70 | 0.2340 | 0.0006 |
| 5. Other Enterprises | 0.17 | 0.41 | 6127.56 | 0.3535 | 0.0014 |
| 6. Practice of Profession or Trade | 0.12 | 1.11 | 23501.44 | 0.3142 | 0.0035 |
| 7. Farming (incl. livestock & poultry raising) | 0.04 | 0.06 | 3811.04 | 0.4299 | 0.0003 |
| 8. Rents received for land, buildings, rooms, etc. | 0.07 | 1.04 | 37747.49 | 0.4962 | 0.0052 |
| 9. Other Sources | 0.52 | 4.98 | 24332.05 | 0.6188 | 0.0308 |
| Total Manila & Sub. | 8.92 | 23.17 | 6590 | 0.4973 | 0.1097 |

*Fishing, forestry & hunting and Share of crops, livestock and poultry raised by others are included within Other Sources for Manila and Suburbs, 1965.

Table 14 (contd)

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1965

| Principal Source of Income | Distribution of Families (in percentages) (1) | Distribution of Income (in percentages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5) = (2)x(4) |
|---|---|---|---|---|---|
| **OTHER URBAN AREAS** | | | | | |
| 1. Wages & Salaries | 12.11 | 14.72 | 3088.28 | 0.4316 | 0.0635 |
| 2. Trading | 2.07 | 3.30 | 4050.39 | 0.5804 | 0.0192 |
| 3. Manufacturing | 0.87 | 0.84 | 2453.09 | 0.4253 | 0.0036 |
| 4. Transport | 0.47 | 0.45 | 2432.58 | 0.4635 | 0.0021 |
| 5. Other Enterprises | 0.39 | 0.59 | 3843.62 | 0.5033 | 0.0030 |
| 6. Practice of Profession or Trade | 0.24 | 0.50 | 5293.12 | 0.4486 | 0.0022 |
| 7. Farming (incl. livestock & poultry raising) | 2.65 | 2.00 | 1917.51 | 0.5257 | 0.0105 |
| 8. Fishing, forestry & hunting | 0.57 | 0.42 | 1872.09 | 0.4799 | 0.0020 |
| 9. Share of crops, livestock & poultry raised by others | 0.37 | 0.98 | 6729.41 | 0.6071 | 0.0059 |
| 10. Rents received for land, buildings, rooms, etc. | 0.06 | 0.19 | 8045.54 | 0.3314 | 0.0006 |
| 11. Other Sources | 0.93 | 4.26 | 11638.03 | 0.3485 | 0.0148 |
| Total Other Urban Areas | 20.73 | 28.25 | 3463 | 0.4861 | 0.1274 |

Table 14 (cont'd)

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1965

| Principal Source of Income | Distribution of Families (in percentages) (1) | Distribution of Income (in percentages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| | | RURAL AREAS | | | |
| 1. Wages & Salaries | 19.83 | 14.91 | 1910.33 | 0.3648 | 0.0544 |
| 2. Trading | 3.37 | 3.01 | 2269.29 | 0.3741 | 0.0113 |
| 3. Manufacturing | 2.67 | 1.65 | 1570.09 | 0.4118 | 0.0068 |
| 4. Transport | 0.63 | 0.48 | 1935.77 | 0.3242 | 0.0016 |
| 5. Other Enterprises | 0.28 | 0.24 | 2177.74 | 0.3311 | 0.0008 |
| 6. Practice of Profession or Trade | 0.28 | 0.14 | 1270.35 | 0.4004 | 0.0006 |
| 7. Farming (incl. livestock & poultry raising) | 36.91 | 18.75 | 1290.65 | 0.4535 | 0.0850 |
| 8. Fishing, forestry & hunting | 3.44 | 2.91 | 2149.25 | 0.4097 | 0.0119 |
| 9. Share of crops, livestock & poultry raised by others | 1.61 | 1.74 | 2745.85 | 0.5176 | 0.0090 |
| 10. Rents received for land, buildings, rooms, etc. | 0.07 | 0.24 | 8710.96 | 0.4404 | 0.0011 |
| 11. Other Sources | 1.26 | 4.51 | 9094.08 | 0.2724 | 0.0123 |
| Total Rural Areas | 70.35 | 48.58 | 1755 | 0.4226 | 0.1948 |

Table 15

**...uality between Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965 By Source of Income and By Urbanization Group**

| 1 | 2 Trading | 3 Manu-facturing | 4 Transport | 5 Other Enter-prises | 6 Practice of profession or trade | 7 Farming (incl. livestock &poultry raising) | 8 Rents received for land, buildings, rooms, etc. |
|---|---|---|---|---|---|---|---|
| 2. Trading | | | | | | | |
| 3. Manufacturing | | .4781 | | | | | |
| 4. Transport | | .2076 | 1.3519 | | | | |
| 5. Other Enterprises | | .8468 | 0.0766 | 0.9038 | | | |
| 6. Practice of profess or trade | | .1139 | 3.4831 | 0.5835 | 2.6804 | | |
| 7. Farming (incl. live & poultry raising) | | .5837 | 0.6812 | 0.1384 | 0.3862 | 1.1202 | |
| 8. Rents received for buildings, rooms, e | | .0348 | 2.3145 | 0.1442 | 1.6939 | 0.1952 | 0.5125 |
| 9. Other sources | | | | | | | |

...tween Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/u$), 1965
By Source of Income and By Urbanization Group

| 3 Manufacturing | 4 Transport | 5 Other Enterprises | 6 Practice of profession or trade | 7 Farming (incl. livestock & poultry raising) | 8 Rents received for land, buildings, rooms, etc. | 9 Other sources |
|---|---|---|---|---|---|---|
| ).0252 | 2.8550 | 0.3037 | 2.1889 | 0.0828 | 0.7685 | 0.0484 |
| ).0533 | 2.9243 | 0.3424 | 2.2810 | 0.1433 | 0.8048 | 0.0954 |
| ).1200 | 3.4576 | 0.5427 | 2.7545 | 0.1204 | 1.0916 | 0.1882 |
| ).1283 | 3.5439 | 0.5796 | 2.8297 | 0.1041 | 1.1439 | 0.2010 |
| ).0420 | 2.6634 | 0.2592 | 2.0516 | 0.1777 | 0.6703 | 0.0720 |
| ).1629 | 1.6249 | 0.0257 | 1.1212 | 0.4883 | 0.2393 | 0.0833 |
| ).2800 | 3.6381 | 0.6572 | 2.9505 | 0.2678 | 1.2116 | 0.2982 |
| ).3444 | 3.9722 | 0.8309 | 3.2705 | 0.3623 | 1.4200 | 0.4308 |
| ).0541 | 2.1909 | 0.1525 | 1.6419 | 0.2744 | 0.4446 | 0.0696 |
| ).1376 | 2.8077 | 0.3015 | 2.1287 | 0.2397 | 0.8035 | 0.0748 |
| ).0599 | 2.0137 | 0.0779 | 1.4589 | 0.2990 | 0.3760 | 0.0240 |

## Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965
## By Source of Income and By Urbanization Group

| Rural Areas | 2 'ing | 3 Manu-facturing | 4 Transport | 5 Other Enter-prises | 6 Practice of pro-fession or trade | 7 Farming (incl. live-stock & poultry raising) | 8 Rents received for land, buildings, rooms, etc. | 9 Other sources |
|---|---|---|---|---|---|---|---|---|
| 1. Wages & Salaries | | .1531 | 3.582[illegible] | 0.5979 | 2.8728 | 0.1475 | 1.1633 | 0.2254 |
| 2. Trading | | .1144 | 3.4460 | 0.5311 | 2.7361 | 0.1197 | 1.0815 | 0.1749 |
| 3. Manufacturing | | .2486 | 3.8048 | 0.7291 | 3.0952 | 0.2521 | 1.3036 | 0.3271 |
| 4. Transport | | .2221 | 3.7857 | 0.7040 | 3.0778 | 0.1994 | 1.2938 | 0.3206 |
| 5. Other Enterprises | | .2123 | 3.7779 | 0.7100 | 3.0678 | 0.1855 | 1.2864 | 0.3082 |
| 6. Practice of profess or trade | | .2037 | 3.7266 | 0.6774 | 2.9840 | 0.2065 | 1.2469 | 0.2768 |
| 7. Farming (incl. live & poultry raising) | | .3178 | 3.8828 | 0.7844 | 3.1844 | 0.3446 | 1.3654 | 0.3949 |
| 8. Fishing, forestry hunting | | .3456 | 3.8892 | 0.8077 | 3.2026 | 0.3822 | 1.3783 | 0.4235 |
| 9. Share of crops, liv & poultry raised by | | .2151 | 3.6776 | 0.6590 | 2.9717 | 0.2390 | 1.2279 | 0.2890 |
| 10. Rents received for buildings, rooms, etc | | .2789 | 3.5808 | 0.6359 | 2.8563 | 0.3436 | 1.1950 | 0.2575 |
| 11. Other sources | | .2088 | 3.6607 | 0.6322 | 2.9435 | 0.2384 | 1.2148 | 0.2535 |

...es Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965
Source of Income and By Urbanization Group

| ...g | 4 Trans-port | 5 Other Enter-prises | 6 Practice of pro-fession or trade | 7 Farming (incl. live-stock & poultry raising) | 8 Fishing, forestry hunting | 9 Share of crops livestock & poultry raised by others | 10 Rents received for land, buildings, rooms, etc. | 11 Othe... sour... |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | 0.0746 | | | | | | | |
| | 0.4764 | 0.1954 | | | | | | |
| | 0.0502 | 0.1017 | 0.5471 | | | | | |
| | 0.0968 | 0.1807 | 0.7099 | 0.0128 | | | | |
| | 0.1805 | 0.0286 | 0.1177 | 0.1970 | 0.2947 | | | |
| | 0.2223 | 0.1358 | 0.1790 | 0.3197 | 0.4439 | 0.1894 | | |
| | 0.2605 | 0.0730 | 0.0360 | 0.3271 | 0.4610 | 0.0400 | 0.1033 | |

...ources of Income

Table 15 (contd)

by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965
come and By Urbanisation Group

| | 5 Other Enterprises | 6 Practice of profession or trade | 7 Farming (incl. livestock & poultry raising | 8 Fishing, forestry hunting | 9 Share of crops livestock & poultry raised by others | 10 Rents received for land, buildings, rooms, etc. | 11 Other sources |
|---|---|---|---|---|---|---|---|
| Wages & Salaries | 0.0742 | 0.4933 | 0.0207 | 0.0537 | 0.1783 | 0.2506 | 0.2785 |
| Trading | 0.0545 | 0.4259 | 0.0349 | 0.0803 | 0.1490 | 0.2009 | 0.2293 |
| Manufacturing | 0.1233 | 0.6052 | 0.0029 | 0.0109 | 0.2325 | 0.3432 | 0.3690 |
| Transport | 0.1220 | 0.6115 | 0.0295 | 0.0449 | 0.2482 | 0.3518 | 0.3742 |
| Other Enterprises | 0.1161 | 0.6026 | 0.0230 | 0.0409 | 0.2299 | 0.3417 | 0.3616 |
| Practice of profession or trade | 0.1138 | 0.5531 | 0.0241 | 0.0489 | 0.2103 | 0.2920 | 0.3247 |
| Farming (incl. livestock & poultry raising) | 0.1605 | 0.6635 | 0.0074 | 0.0015 | 0.2679 | 0.4057 | 0.4234 |
| Fishing, forestry hunting | 0.1759 | 0.6878 | 0.0132 | 0.0029 | 0.2800 | 0.4387 | 0.4440 |
| Share of crops, livestock & poultry raised by others | 0.0971 | 0.5380 | 0.0045 | 0.0223 | 0.1979 | 0.2898 | 0.3169 |
| Rents received for land, buildings, rooms, etc. | 0.1651 | 0.4833 | 0.0944 | 0.1323 | 0.2427 | 0.2429 | 0.3020 |
| Other sources | 0.0981 | 0.5117 | 0.0104 | 0.0350 | 0.1987 | 0.2604 | 0.2997 |

l by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1965
Income and By Urbanization Group

| | Sources of Income | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ing | 4 Transport | 5 Other Enter-prises | 6 Prestige of pro-fession or trade | 7 Farming (incl. live-stock & poultry raising) | 8 Fishing, forestry hunting | 9 Share of crops, livestock &poultry raised by others | 10 Rents received for land, buildings, rooms, etc. | |
| 7 | | | | | | | | |
| 5 | 0.0123 | | | | | | | |
| 3 | 0.0551 | 0.0359 | | | | | | |
| 7 | 0.0452 | 0.0392 | 0.0387 | | | | | |
| 5 | 0.0575 | 0.0477 | 0.0501 | 0.0022 | | | | |
| 3 | 0.0330 | 0.0196 | 0.0141 | 0.0157 | 0.0229 | | | |
| l | 0.1834 | 0.1606 | 0.0816 | 0.1116 | 0.1225 | 0.0869 | | |
| 2 | 0.0412 | 0.0347 | 0.0174 | 0.0246 | 0.0356 | 0.0095 | 0.0595 | |

In the 1971 data, the sources of income related to property stand out even more prominently as having the most unequally distributed income. The largest Gini ratios pertain to non-agricultural rentiers both in Rural Areas (.80, from .44 in 1965) and in Manila (.76, from .50 in 1965). Next in line come the agricultural rentiers in Rural Areas (.60, from .52 in 1965) and in Urban Areas Outside Manila (.57, down somewhat from .61 in 1965). Inequality is also relatively large among farmers residing in Urban Areas outside Manila (.57); it may be assumed that this group includes mainly the well-to-do farmers, since their mean family income is almost double that of farmers residing in Rural Areas. The only exception to these findings concerning property income is the case of non-agricultural rentiers in Urban Areas outside Manila, where the Gini ratio is only .35.

The inequality between income distributions of different sources of income can be examined, again, by considering the six major blocks (Table 17). As expected, the largest differentials are found among the cells within the Manila versus Rural block. In this block, inequality between sources is mainly atributable, on the Manila side, to professionals, transport entrepreneurs, and entrepreneurs

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GIN RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1971

| Principal Source of Income | Distribution of Families (in percentages) (1) | Distribution of Income (in percentages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| Total Philippines | 100.00 | 100.00 | 3736 | 0.4849 | 0.4303 |
| **MANILA & SUBURBS*** | | | | | |
| 1. Wages & Salaries | 6.38 | 9.63 | 5639.58 | 0.3605 | 0.0347 |
| 2. Trading | 0.63 | 1.48 | 8777.34 | 0.4758 | 0.0070 |
| 3. Manufacturing | 0.22 | 0.48 | 8151.92 | 0.4482 | 0.0022 |
| 4. Transport | 0.09 | 0.21 | 8718.03 | 0.2391 | 0.0005 |
| 5. Other Enterprises | 0.13 | 0.31 | 8909.63 | 0.3869 | 0.0012 |
| 6. Practice of Profession or Trade | 0.19 | 0.71 | 13961.96 | 0.4032 | 0.0029 |
| 7. Rents received for land, buildings, rooms, etc. | 0.06 | 0.95 | 59158.05 | 0.7556 | 0.0072 |
| 8. Other Sources | 0.57 | 3.46 | 22679.98 | 0.3870 | 0.0134 |
| Total Manila & Suburbs | 8.27 | 17.23 | 7785 | 0.4481 | 0.0691 |

*Farming (incl. livestock and poultry raising), Fishing, forestry & hunting, and Share of crops, livestock raised by others are included within Other Sources for Manila and Suburbs, 1971.

Table 1. (cont'd)

DISTRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1971

| Principal Source of Income | Distribution of Families (in per-centages) (1) | Distribution of Income (in per-centages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| **OTHER URBAN AREAS** | | | | | |
| 1. Wages & Salaries | 13.47 | 16.19 | 4490.77 | 0.4098 | 0.0663 |
| 2. Trading | 2.58 | 3.31 | 4793.47 | 0.4711 | 0.0156 |
| 3. Manufacturing | 1.05 | 1.11 | 3949.80 | 0.4099 | 0.0045 |
| 4. Transport | 0.31 | 0.36 | 4338.93 | 0.5382 | 0.0019 |
| 5. Other Enterprises | 0.52 | 0.75 | 5388.89 | 0.5114 | 0.0038 |
| 6. Practice of Profession or Trade | 0.22 | 0.05 | 849.16 | 0.4500 | 0.0002 |
| 7. Farming (incl. livestock & poultry raising) | 1.33 | 1.32 | 3708.21 | 0.5741 | 0.0076 |
| 8. Fishing, forestry & hunting | 0.57 | 0.48 | 3146.36 | 0.3929 | 0.0019 |
| 9. Share of crops, livestock & poultry raised by others | 0.33 | 0.63 | 7132.93 | 0.5695 | 0.0036 |
| 10. Rents received for land, buildings, rooms, etc. | 0.15 | 0.48 | 11956.15 | 0.3516 | 0.0017 |
| 11. Other Sources | 1.33 | 4.93 | 13849.59 | 0.4365 | 0.0215 |
| Total Other Urban Areas | 21.86 | 29.61 | 5141 | 0.4421 | 0.1286 |

le 16 (cont'd.)

TRIBUTION OF FAMILIES AND INCOME, MEAN FAMILY INCOME, GINI RATIO AND WEIGHTED GINI RATIO BY SOURCE OF INCOME AND BY URBANIZATION GROUP, 1971

| rincipal ource of Income | Distribution of Families (in per-centages) (1) | Distribution of Income (in per-centages) (2) | Mean Family Income (in Pesos per annum) (3) | Gini Ratio (4) | Weighted Gini Ratio (5)=(2)x(4) |
|---|---|---|---|---|---|
| **RURAL AREAS** | | | | | |
| ages & Salaries | 23.12 | 18.96 | 3064.02 | 0.4002 | 0.0759 |
| rading | 3.00 | 2.90 | 3611.75 | 0.5006 | 0.0145 |
| anufacturing | 1.82 | 1.48 | 3038.31 | 0.5032 | 0.0074 |
| ransport | 0.91 | 1.05 | 4311.11 | 0.4757 | 0.0050 |
| ther Enterprises | 0.35 | 0.32 | 3416.04 | 0.6409 | 0.0021 |
| ractice of rofession or rade | 0.28 | 0.37 | 4937.25 | 0.3476 | 0.0013 |
| arming (incl. ivestock & oultry aising) | 33.05 | 16.81 | 1900.37 | 0.4674 | 0.0786 |
| ishing, forestry & hunting | 3.70 | 2.84 | 2867.86 | 0.3946 | 0.0112 |
| hare of crops, ivestock & oultry aised by thers | 1.33 | 1.37 | 3848.67 | 0.5960 | 0.0082 |
| ents received or land, uildings, ooms, etc. | 0.07 | 0.26 | 13877.68 | 0.8031 | 0.0021 |
| ther Sources | 2.24 | 6.80 | 11342.33 | 0.3868 | 0.0263 |
| l Rural Areas | 69.87 | 53.16 | 2818 | 0.4614 | 0.2326 |

...between Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1971
By Source of Income and By Urbanization Group

| 2 ding | 3 Manu-facturing | 4 Trans-port | 5 Other Enter-prises | 6 Practice of profession or trade | 7 Rents received for land, buildings, rooms, etc. |
|---|---|---|---|---|---|
| | 0.2933 | | | | |
| | 0.2284 | 0.0832 | | | |
| | 0.4862 | 0.0872 | 0.1441 | | |
| | 0.1244 | 0.0795 | 0.0999 | 0.2748 | |
| | 0.1299 | 0.0632 | 0.0299 | 0.1412 | 0.0547 |

by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1971
ncome and By Urbanization Group

| 2 Trading | 3 Manu-facturing | 4 Trans-port | 5 Other Enter-prises | 6 Practice of pro-fession or trade | 7 Rents received for land, buildings, rooms, etc. | 8 Other sources |
|---|---|---|---|---|---|---|
| 0.1174 | 0.0269 | 0.4516 | 0.3807 | 0.7206 | 0.2041 | 0.2586 |
| 0.1506 | 0.0422 | 0.5263 | 0.4285 | 0.8064 | 0.2507 | 0.3042 |
| 0.1875 | 0.0618 | 0.6050 | 0.4924 | 0.8693 | 0.3108 | 0.3522 |
| 0.2606 | 0.1109 | 0.7382 | 0.5747 | 1.0364 | 0.3993 | 0.4492 |
| 0.1307 | 0.0361 | 0.4619 | 0.4148 | 0.7073 | 0.2260 | 0.2649 |
| 0.0492 | 0.0484 | 0.1913 | 0.2192 | 0.3786 | 0.0855 | 0.1019 |
| 0.3486 | 0.1818 | 0.8741 | 0.6907 | 1.1350 | 0.5244 | 0.5371 |
| 0.3955 | 0.2055 | 0.9621 | 0.7668 | 1.2709 | 0.5781 | 0.6179 |
| 0.1194 | 0.0302 | 0.4593 | 0.3816 | 0.7020 | 0.2148 | 0.2476 |
| 0.1018 | 0.0923 | 0.2238 | 0.2756 | 0.5136 | 0.0565 | 0.1682 |
| 0.0930 | 0.0195 | 0.4318 | 0.3247 | 0.6268 | 0.2153 | 0.2124 |

Equality between Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1971, By Source of Income and by Urbanization Group

| | 1 Wages & Salaries | 2 Trading | 3 Manufacturing | 4 Transport | 5 Other Enterprises | 6 Practice of profession or trade | 7 Rents received for land, buildings, rooms, etc. | 8 Other sources |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | 0.3021 | 0.1349 | 0.8068 | 0.6479 | 1.1097 | 0.4526 | 0.5040 |
| | | 0.3334 | 0.1617 | 0.8637 | 0.6818 | 1.1430 | 0.5053 | 0.5335 |
| | | 0.4631 | 0.2596 | 1.0618 | 0.8488 | 1.3479 | 0.6637 | 0.6858 |
| | | 0.2070 | 0.0836 | 0.6537 | 0.4811 | 0.9193 | 0.3493 | 0.3749 |
| | | 0.4592 | 0.2549 | 1.0472 | 0.8429 | 1.3444 | 0.6431 | 0.6787 |
| | | 0.1116 | 0.0326 | 0.3979 | 0.3707 | 0.6815 | 0.1743 | 0.2424 |
| | | 0.5382 | 0.3211 | 1.1717 | 0.9357 | 1.4578 | 0.7538 | 0.7692 |
| | | 0.5406 | 0.3245 | 1.1738 | 0.9356 | 1.4643 | 0.7548 | 0.7724 |
| | | 0.4464 | 0.2515 | 1.0358 | 0.8144 | 1.3079 | 0.6461 | 0.6584 |
| | | 0.6260 | 0.3894 | 1.3026 | 1.0457 | 1.5915 | 0.8587 | 0.8705 |
| | | 0.2630 | 0.1267 | 0.7305 | 0.5724 | 0.9645 | 0.4261 | 0.4278 |

ured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1971
Income and By Urbanization Group

| ring | 4 Transport | 5 Other Enterprises | 6 Practice of profession or trade | 7 Farming (incl. livestock & poultry raising) | 8 Fishing, forestry hunting | 9 Share of crops, livestock &poultry raised by others | 10 Rents received for land, buildings, rooms, etc. |
|---|---|---|---|---|---|---|---|
| | 0.0712 | | | | | | |
| | 0.2569 | 0.0767 | | | | | |
| | 0.0490 | 0.1058 | 0.3235 | | | | |
| | 0.0242 | 0.1293 | 0.3736 | 0.0257 | | | |
| | 0.0544 | 0.0107 | 0.0904 | 0.0821 | 0.1079 | | |
| | 0.2606 | 0.1142 | 0.0585 | 0.3700 | 0.3983 | 0.1177 | |
| | 0.0633 | 0.0243 | 0.0968 | 0.0899 | 0.1202 | 0.0140 | 0.1558 |

## Income Sources Measured by the Gini Difference Relative to the Mean ($D_{ij}/m$), 1971
## By Source of Income and By Urbanization Group

| 4 | 5 Other Enterprises | 6 Practice of profession or trade | 7 Farming (incl. livestock & poultry raising) | 8 Fishing, forestry hunting | 9 Share of crops, livestock & poultry raised by others | 10 Rents received for land, buildings, rooms, etc. | 11 Other sources |
|---|---|---|---|---|---|---|---|
| | 0.0723 | 0.2766 | 0.0299 | 0.0116 | 0.0601 | 0.2917 | 0.0722 |
| | 0.0923 | 0.3115 | 0.0088 | 0.0084 | 0.0729 | 0.3466 | 0.0808 |
| | 0.1644 | 0.4373 | 0.0115 | 0.0176 | 0.1394 | 0.4782 | 0.1484 |
| | 0.0645 | 0.2226 | 0.0501 | 0.0382 | 0.0467 | 0.2449 | 0.0401 |
| | 0.1581 | 0.4272 | 0.0131 | 0.0235 | 0.1330 | 0.4557 | 0.1462 |
| | 0.0257 | 0.0666 | 0.1841 | 0.1742 | 0.0319 | 0.0718 | 0.0530 |
| | 0.2142 | 0.5115 | 0.0229 | 0.0339 | 0.1855 | 0.5600 | 0.1929 |
| | 0.2181 | 0.5147 | 0.0239 | 0.0329 | 0.1880 | 0.5605 | 0.1955 |
| | 0.1617 | 0.4264 | 0.0088 | 0.0238 | 0.1362 | 0.4747 | 0.1398 |
| | 0.2727 | 0.6059 | 0.0509 | 0.0608 | 0.2451 | 0.6549 | 0.2502 |
| | 0.0738 | 0.2441 | 0.0085 | 0.0435 | 0.0490 | 0.3003 | 0.0520 |

urces Measured by the Gini Difference Relative to the Mean ($B_{ij}/m$), 1971
y Source of Income and By Urbanization Group

| 2<br>ding | 3<br>Manu-facturing | 4<br>Transport | 5<br>Other Enter-prises | 6<br>Practice of pro-fession or trade | 7<br>Farming (incl. live-stock & poultry raising) | 8<br>Fishing, forestry hunting | 9<br>Share of crops, livestock &poultry raised by others | 10<br>Rents received for land, buildings, rooms, etc. |
|---|---|---|---|---|---|---|---|---|
| 0137 | | | | | | | | |
| 0283 | 0.0740 | | | | | | | |
| 0161 | 0.0038 | 0.0760 | | | | | | |
| 1485 | 0.2472 | 0.0861 | 0.2398 | | | | | |
| 0318 | 0.0042 | 0.1071 | 0.0089 | 0.3117 | | | | |
| 0325 | 0.0052 | 0.1067 | 0.0102 | 0.9133 | 0.0008 | | | |
| 0149 | 0.0017 | 0.0716 | 0.0051 | 0.2502 | 0.0048 | 0.0060 | | |
| 0610 | 0.0204 | 0.1465 | 0.0239 | 0.3836 | 0.0101 | 0.0136 | 0.0208 | |
| 0184 | 0.0367 | 0.0428 | 0.0384 | 0.1423 | 0.0557 | 0.0564 | 0.0321 | 0.0962 |

of other enterprises; and, on the rural side, to non-agricultural rentiers, fishermen, and farmers. The most important Gini difference is between Manila professionals and rural non-agricultural rentiers, at 159.2%. Between Manila professionals and rural fishermen, it is 146.4%, and between Manila professionals and rural farmers it is 145.8%.

The second most important block compares income sources in Manila with those in Other Urban Areas. The most relevant Manila groups are again professionals, transport entrepreneurs and entrepreneurs of other enterprises. The most relevant income sources in Other Urban Areas are fishing, farming, and transport entrepreneurship. It is noteworthy that the column pertaining to non-agricultural rentiers (col. 7) in Manila is not of large importance, even though this is the source with the largest mean family income among all the sources in the areas (₱59,000/year). The reason for this is that non-agricultural rentier income is very unequally distributed (the Gini ratio is .76), and therefore the distribution has a very strong overlap with the income distribution of families of the other sources of income. Income distributions are more different when their relative

frequency distributions are on the narrow side, with a smaller amount of overlap, and the Gini difference is sensitive to this. For instance, even if the average income of a wage and salary family in Urban Areas outside Manila is only one-tenth the average income of Manila non-agricultural rentier families, the distribution of income among the latter is so wide that there are many such urban non-agricultural rentier families who are not much better off than the typical Manila wage and salary family. The same remarks apply to the lack of importance of other rows and columns pertaining to rentier income.

The third most important block compares income sources in Other Urban Areas to income sources in Rural Areas. Here the most relevant groups on the Other Urban side are non-agricultural rentiers and professionals; on the Rural side the most relevant are non-agricultural rentiers, fishermen, and farmers. The largest Gini difference is between rural non-agricultural rentiers and Other Urban non-agricultural rentiers, at 65.5%. The second largest difference is between rural non-agricultural rentiers and professionals in Other Urban Areas at 60.6%.

The other three blocks compare Manila income sources among themselves, Other Urban income sources among themselves, and Rural income sources among themselves. In Manila the most important differential is between professionals and wage and salary families. The Gini difference between professionals and wage workers is 52.1%, whereas the Gini difference between non-agricultural rentiers and wage workers is only 10.8%. Within the Other Urban sector, the important differentials are between non-agricultural rentiers and fishermen and between non-agricultural rentiers and farmers. The former Gini difference is 39.8% and the latter is 37.0%. The smallest Gini differences are found between the various groups within Rural Areas. Here the largest Gini difference is between professionals and non-agricultural rentiers, at 38%. The smallest difference, of course, is between farmers and fishermen, a mere .08%.

## 5.0 Conclusion

Decomposition formulas corresponding to various measures of income inequality can be thought of simply as methods of accounting. Once the measure of inequality has been chosen, the accounting technique for decomposition

follows. The accountant has very little choice on the matter. Where he does have a choice is on the definition of the sets or categories according to which the decomposition will be performed. There is obviously no point in decomposing income recipients into left-handed recipients and right-handed recipients. The accountant must be guided by some economic and demographic intuition as to which sets are liable to have distributions of income very different from each other. Then equity-oriented policy can be guided by the characteristics of the sets; if the sets are locationally defined, for instance, then policies can focus on migration between locations. Of course, if the accountant does not collect primary data himself, his choice of sets will be constrained to those which are feasible to construct from existing data.

This study has employed decompositions of the Gini ratio according to published disaggregations of the distribution of family income according to area of urbanization, region, and main source of income. The following conclusions emerge:

(a) Classifications according to urban/rural, region, and source of income succeed in explaining only 5-7 percentage points of the Philippine Gini ratio of .49-.50. When so much of the income inequality is

accounted for within groups rather than between groups, the selection of the modes of grouping is rendered extremely questionable. (Perhaps the statisticians are not so much to blame as the economic theorists and policy makers who have neglected income distribution so long as to fail to provide an adequate data base for the solution of its problems).

(b) The data tend to support the view that income inequality is greatest in Metropolitan Manila, followed by Other Urban Areas, and then followed by Rural Areas. However the Gini ratios of these different areas are so close to each other that inter-area migration has a negligible potential for reducing overall income inequality. This conclusion also applies to inter-regional migration.

(c) Income inequality has not remained static within each region over time. Some have experienced clearly worsening inequality and others have experienced clearly narrowing inequality. These are very interesting trends which need clarification, but unfortunately the regional data are not available more disaggregatively.

(d) Main source of income is just a bit more useful than geographic location in explaining income inequality. Inequality within sources is still over-

whelmingly the dominant factor. However, the range of Gini ratios, as well as average incomes, according to income source is rather wide; this implies greater leverage for policies designed to alter the distribution of families and of income according to income source.

(e) Sources of income related to property stand out as pockets of both extremely large average incomes and extremely high levels of inequality. This is an important subject which needs to be subjected to further research.

I LOVE YOU !!

M. R.

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TABLE A.1 -- Provinces by Region, 1956, 1961, 1965 and 1971

| 1956 | 1961 | 1965 and 1971 |
|---|---|---|
| | **REGION I** | |
| **Metro Manila** | **Metro Manila** | **Metro Manila** |
| Manila | Manila | Manila |
| Quezon City | Quezon City | Quezon City |
| Pasay City | Pasay City | Pasay City |
| Caloocan City | Caloocan City | Caloocan City |
| Makati, Rizal | Makati, Rizal | Makati, Rizal |
| Mandaluyong, Rizal | Mandaluyong, Rizal | Mandaluyong, Rizal |
| Parañaque, Rizal | Parañaque, Rizal | San Juan, Rizal |
| San Juan, Rizal | San Juan, Rizal | Navotas, Rizal |
| | **REGION II** | |
| **Ilocos and Mt. Province** | **Iloeos and Mt. Province** | **Ilocos and Mt. Province** |
| | Abra | Abra |
| | Ilocos Norte | Ilocos Norte |
| | Ilocos Sur | Ilocos Sur |
| | La Union | La Union |
| | Mt. Province | Mt. Province |
| | **REGION III** | |
| **Cagayan Valley & Batanes** | **Cagayan Valley & Batanes** | **Cagayan Valley & Batanes** |

TABLE A.1 (cont'd)



| 1956 | 1961 | 1965 and 1971 |
|---|---|---|
| | REGION V | |
| Southern Luzon and Neighboring Islands (Marinduque, Mindoro, Palawan) | Southern Luzon and Islands | Southern Luzon and Islands |
| | Batangas | Batangas |
| | Cavite | Cavite |
| | Laguna | Laguna |
| | Marinduque | Marinduque |
| | Occidental Mindoro | Occidental Mindor |
| | Oriental Mindoro | Oriental Mindoro |
| | Palawan | Palawan |
| | Quezon | Quezon |
| | Rizal | Rizal |
| | REGION VI | |
| Bicol (including Masbate) | Bicol | Bicol |
| | Albay | Albay |
| | Camarines Norte | Camarines Norte |
| | Camarines Sur | Camarines Sur |
| | Catanduanes | Catanduanes |
| | Masbate | Masbate |
| | Sorsogon | Sorsogon |
| | REGION VII | |
| Western Visayas | Western Visayas | Western Visayas |
| | Aklan | Aklan |

TABLE A.1 (cont'd)



| 1956 | 1961 | 1965 and 1971 |
|---|---|---|
| | *REGION IX* | |
| Northeastern Mindanao | Northeastern Mindanao | Northern Mindanao |
| | Agusan | Agusan |
| | Bukidnon | Bukidnon |
| | Lanao | Lanao del Norte |
| | Misamis Oriental | Lanao del Sur |
| | Misamis Occidental | Misamis Occidental |
| | Surigao del Norte | Misamis Oriental |
| | Surigao del Sur | Surigao del Norte |
| | | Surigao del Sur |
| | REGION X | |
| Southwestern Mindanao & Sulu | Southwestern Mindanao | Southern Mindanao |
| | Cotabato | Cotabato |
| | Davao | Davao |
| | Sulu | Sulu |
| | Zamboanga del Norte | Zamboanga del Norte |
| | Zamboanga del Sur | Zamboanga del Sur |

SOURCE: The PSSH Bulletin Series Nos. 4 and 14, Family Income and Expenditures, 1956 and 1961; The BCS Survey of Households Bulletin, Series Nos. 22 and 34, 1965 and 1971.

ıtion of Families and of Total Family Income,
Class, by Region: 1961

| and nce Income | III- Cagayan Valley | | IV- Central Luzon | | V- Southern Luzon and Islands | |
|---|---|---|---|---|---|---|
| | Families | Income | Families | Income | Families | Income |
| 383,198 | 215 | ₱256,295 | 582 | ₱997,448 | 548 | ₱1,146,249 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 6.6 | 26.0 | 7.8 | 11.5 | 2.5 | 8.1 | 1.4 |
| 17.8 | 38.3 | 22.7 | 28.1 | 12.1 | 24.2 | 9.0 |
| 19.8 | 14.2 | 14.4 | 19.7 | 14.1 | 18.2 | 10.7 |
| 13.7 | 6.1 | 8.7 | 16.0 | 16.0 | 17.0 | 14.0 |
| 6.5 | 4.9 | 9.3 | 8.7 | 11.3 | 9.4 | 10.0 |
| 10.5 | 3.2 | 7.2 | 4.4 | 6.9 | 5.4 | 7.1 |
| 13.5 | 3.6 | 10.5 | 4.5 | 9.0 | 7.4 | 12.3 |
| 3.9 | 0.8 | 2.9 | 2.6 | 6.7 | 3.3 | 7.2 |
| 0.6 | 1.6 | 7.1 | 1.8 | 5.8 | 2.9 | 7.6 |
| 4.0 | 1.0 | 5.5 | 1.8 | 7.1 | 2.1 | 6.8 |
| 2.0 | - | - | 0.1 | 0.4 | 0.6 | 2.6 |
| 1.1 | 0.4 | 3.9 | 0.9 | 8.1 | 1.3 | 11.3 |
| 18 | | 813 | | 1,264 | | 1,486 |
| 42 | | 1,189 | | 1,713 | | 2,092 |

| Western Visayas | | VIII- Eastern Visayas | | IX- Northeastern Mindanao | | X- Southwestern Mindanao & Sulu | |
|---|---|---|---|---|---|---|---|
| es | Income | Families | Income | Families | Income | Families | Income |
| | ₱1,056,198 | 700 | ₱816,340 | 286 | ₱418,973 | 395 | ₱616,667 |
| .0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| .9 | 3.7 | 25.4 | 7.5 | 29.1 | 7.2 | 13.9 | 3.3 |
| .8 | 15.4 | 37.8 | 23.4 | 30.6 | 15.3 | 29.2 | 13.6 |
| .1 | 13.9 | 16.0 | 16.6 | 16.5 | 13.9 | 23.3 | 18.7 |
| .1 | 12.8 | 9.5 | 14.0 | 8.6 | 10.1 | 13.3 | 14.8 |
| .4 | 8.8 | 3.9 | 7.6 | 4.9 | 7.2 | 8.2 | 11.7 |
| .7 | 7.9 | 1.8 | 4.1 | 0.9 | 1.7 | 3.8 | 6.6 |
| .0 | 8.4 | 2.7 | 7.6 | 3.9 | 9.3 | 2.6 | 5.7 |
| .8 | 5.0 | 0.8 | 3.0 | 1.6 | 5.1 | 2.4 | 6.7 |
| .8 | 2.9 | 0.7 | 3.5 | 2.4 | 8.6 | 0.6 | 2.3 |
| .0 | 4.1 | 0.5 | 3.2 | 0.4 | 2.1 | 1.7 | 7.6 |
| .5 | 2.4 | 0.5 | 4.2 | - | - | 0.4 | 2.4 |
| .9 | 14.7 | 0.3 | 5.3 | 1.2 | 19.4 | 0.5 | 6.6 |
| | 1,009 | | 825 | | 842 | | 1,147 |
| | 1,614 | | 1,166 | | 1,463 | | 1,560 |

14, Family Income and Expenditures, 1961.

...tribution of Families and of Total Family Income,
...come Class, by Region: 1965

| ...os and ...vince | | III- Cagayan Valley & Batanes | | IV- Central Luzon | | V- Southern Luzon a... Islands | |
|---|---|---|---|---|---|---|---|
| | Income | Families | Income | Families | Income | Families | Income |
| | ₱493,987 | 175 | ₱231,655 | 739 | ₱1,919,053 | 640 | ₱1,935,716 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ... | 2.8 | 23.3 | 5.9 | | | | |
| ... | 12.8 | 28.1 | 14.1 | 6.6 | 0.8 | 6.9 | 0.8 |
| 2 | 14.9 | 20.4 | 19.5 | 15.9 | 4.6 | 10.3 | 2.6 |
| 9 | 14.2 | 15.0 | 20.5 | 15.4 | 7.4 | 12.6 | 5.2 |
| 7 | 7.7 | 3.1 | 5.2 | 12.4 | 8.3 | 16.2 | 9.3 |
| 0 | 6.7 | 4.5 | 9.6 | 11.4 | 9.9 | 14.4 | 10.8 |
| 5 | 12.1 | 0.7 | 1.6 | 9.9 | 10.3 | 9.9 | 8.8 |
| 6 | 9.9 | 1.8 | 5.7 | 10.7 | 13.9 | 12.7 | 14.6 |
| .0 | 3.0 | 2.0 | 8.3 | 7.2 | 12.2 | 6.3 | 9.2 |
| .1 | 4.6 | 0.7 | 3.3 | 3.3 | 7.0 | 2.9 | 5.2 |
| .2 | 0.9 | 0.3 | 2.2 | 3.3 | 9.0 | 2.5 | 5.6 |
| .1 | 10.5 | 0.3 | 4.1 | 1.6 | 5.4 | 1.5 | 4.5 |
| | | | | 2.3 | 11.2 | 3.9 | 23.5 |
| | 1,155 | | 975 | | 1,984 | | 2,139 |
| | 1,633 | | 1,322 | | 2,595 | | 3,025 |

| tern ayas Income | VIII- Eastern Visayas Families | VIII- Eastern Visayas Income | IX- Northern Mindanao Families | IX- Northern Mindanao Income | X- Southern Mindanao & Sulu Families | X- Southern Mindanao & Sulu Income |
|---|---|---|---|---|---|---|
| ₱1,133,563 | 859 | ₱1,393,454 | 361 | ₱845,558 | 615 | ₱1,231,613 |
| 0 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| .7 1.5 | 21.0 | 3.9 | 10.0 | 1.5 | 14.9 | 2.4 |
| .1 7.7 | 22.8 | 10.7 | 19.9 | 6.4 | 18.9 | 7.2 |
| .0 13.7 | 18.8 | 14.2 | 15.8 | 8.3 | 17.3 | 10.7 |
| .0 13.0 | 13.4 | 14.1 | 12.6 | 9.4 | 14.4 | 12.4 |
| .2 10.4 | 7.4 | 10.2 | 10.0 | 9.6 | 11.6 | 13.0 |
| .7 10.5 | 5.9 | 9.8 | 7.8 | 9.0 | 5.0 | 6.8 |
| 3.4 14.8 | 5.4 | 11.7 | 9.9 | 14.2 | 8.0 | 13.5 |
| 2.3 5.0 | 1.5 | 4.2 | 4.3 | 8.0 | 4.0 | 8.9 |
| 2.0 5.6 | 1.5 | 5.3 | 2.7 | 6.2 | 1.5 | 4.1 |
| 1.5 5.0 | 0.9 | 3.8 | 2.9 | 8.2 | 3.2 | 11.1 |
| 1.2 5.6 | 0.7 | 3.7 | 2.9 | 11.4 | 0.4 | 1.7 |
| 0.8 7.1 | 0.7 | 8.4 | 1.3 | 7.8 | 0.9 | 8.4 |
| 1,458 | 1,167 | | 1,670 | | 1,468 | |
| 1,990 | 1,622 | | 2,342 | | 2,004 | |

s Bulletin, Series No. 22, 1965.

ibution of Families and of Total Family Income,
ne Class, by Region: 1971

| s and rince Income | III- Cagayan Valley & Batanes | | IV- Central Luzon | | V- Southern Luzon and Islands | |
|---|---|---|---|---|---|---|
| | Families | Income | Families | Income | Families | Income |
| ,142,678 | 260 | ₱620,373 | 855 | ₱3,529,629 | 869 | ₱3,763,519 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 0.5 | 5.6 | 0.8 | 4.2 | 0.4 | 3.9 | 0.3 |
| 4.2 | 15.4 | 4.8 | 8.9 | 1.6 | 8.6 | 1.6 |
| 6.8 | 23.6 | 12.4 | 9.1 | 2.7 | 11.2 | 3.2 |
| 6.3 | 17.6 | 12.8 | 8.0 | 3.4 | 10.1 | 4.1 |
| 5.3 | 9.8 | 9.1 | 9.9 | 5.3 | 8.6 | 4.5 |
| 4.0 | 6.7 | 7.8 | 8.1 | 5.4 | 8.2 | 5.2 |
| 9.7 | 8.2 | 11.6 | 15.0 | 12.6 | 14.6 | 11.6 |
| 9.1 | 4.7 | 8.8 | 10.6 | 11.5 | 8.3 | 8.5 |
| 7.6 | 1.8 | 4.2 | 7.2 | 9.6 | 5.1 | 6.4 |
| 11.1 | 3.5 | 10.2 | 8.0 | 13.3 | 8.8 | 14.0 |
| 3.0 | 0.8 | 3.1 | 4.7 | 10.2 | 4.3 | 8.8 |
| 11.5 | 1.7 | 8.0 | 3.9 | 11.2 | 4.4 | 12.3 |
| 4.6 | 0.1 | 0.7 | 1.0 | 4.2 | 2.0 | 8.0 |
| 16.3 | 0.3 | 5.6 | 1.3 | 8.6 | 1.8 | 11.5 |
| ,814 | 1,652 | | 3,118 | | 2,960 | |
| ,299 | 2,390 | | 4,127 | | 4,332 | |

TABLE A

| estern isayas | | VIII- Eastern Visayas | | IX- Northern Mindanao | | X- Southern Mindanao | |
|---|---|---|---|---|---|---|---|
| | Income | Families | Income | Families | Income | Families | Income |
| | ₱2,147,428 | 980 | ₱2,495,547 | 522 | ₱1,598,148 | 825 | ₱2,951,896 |
| 0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| .4 | 0.4 | 13.7 | 1.7 | 4.3 | 0.5 | 3.2 | 0.3 |
| .7 | 2.1 | 18.9 | 5.5 | 14.6 | 3.6 | 11.8 | 2.6 |
| .8 | 5.6 | 13.1 | 6.4 | 14.1 | 5.7 | 9.6 | 3.3 |
| 1.8 | 8.0 | 14.1 | 9.5 | 12.8 | 7.3 | 13.6 | 6.7 |
| 3.8 | 9.6 | 7.7 | 6.8 | 11.1 | 8.2 | 10.9 | 6.9 |
| 0.9 | 9.4 | 6.8 | 7.3 | 8.2 | 7.3 | 9.2 | 7.0 |
| 2.5 | 13.5 | 8.7 | 11.7 | 13.5 | 15.2 | 13.5 | 13.0 |
| 6.6 | 9.2 | 4.4 | 7.6 | 7.5 | 11.1 | 8.0 | 9.9 |
| 4.3 | 7.3 | 3.4 | 7.3 | 4.8 | 8.7 | 5.5 | 8.3 |
| 4.7 | 9.9 | 4.5 | 12.1 | 4.9 | 11.1 | 6.5 | 12.5 |
| 2.9 | 8.0 | 1.7 | 6.1 | 1.6 | 4.7 | 3.8 | 9.6 |
| 2.2 | 8.7 | 1.9 | 8.8 | 1.1 | 4.4 | 2.6 | 8.9 |
| 0.4 | 2.3 | 0.6 | 4.2 | 0.4 | 2.3 | 0.8 | 3.8 |
| 0.8 | 6.0 | 0.4 | 5.1 | 1.0 | 9.7 | 1.0 | 7.2 |
| | 2,332 | | 1,652 | | 2,186 | | 2,549 |
| | 3,206 | | 2,548 | | 3,062 | | 3,577 |

s Bulletin, Series No. 34, 1971.

...ntage Distribution of Families and of Total Family Income,
...rban and Rural: 1956, 1961, 1965, 1971

| ...ural Areas | | 1961 | | | | | |
|---|---|---|---|---|---|---|---|
| | | Philippines | | Other Urban Areas | | Rural Areas | |
| ...ilies | Income | Families | Income | Families | Income | Families | Income |
| 531 | ₱2,601,799 | 4,426 | ₱7,981,766 | 1,144 | ₱2,740,544 | 2,921 | ₱3,512,793 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 28.8 | 10.1 | 17.0 | 3.3 | 11.3 | 1.6 | 21.2 | 6.3 |
| 38.0 | 27.7 | 29.3 | 12.0 | 20.0 | 6.2 | 36.0 | 22.0 |
| 15.7 | 19.2 | 17.8 | 12.2 | 16.8 | 8.7 | 18.8 | 19.1 |
| 8.5 | 14.8 | 12.0 | 11.5 | 15.7 | 11.3 | 10.5 | 15.0 |
| 3.7 | 8.4 | 6.7 | 8.3 | 8.8 | 8.2 | 5.4 | 10.0 |
| 2.2 | 6.0 | 4.1 | 6.2 | 6.2 | 7.0 | 2.8 | 6.2 |
| 2.0 | 7.0 | 5.0 | 9.4 | 7.8 | 11.2 | 2.8 | 8.0 |
| 0.4 | 1.6 | 2.4 | 5.8 | 4.4 | 8.2 | 0.9 | 3.4 |
| 0.7 | 5.3 | | | | | | |
| - | - | 1.8 | 5.5 | 2.9 | 6.7 | 0.7 | 3.3 |
| - | - | 1.9 | 7.1 | 2.9 | 8.2 | 0.6 | 3.2 |
| - | - | 0.7 | 3.4 | 1.0 | 3.7 | 0.1 | 1.1 |
| - | - | 1.4 | 15.3 | 2.3 | 19.0 | 0.2 | 2.4 |
| | 779 | | 1,105 | | 1,559 | | 900 |
| | 989 | | 1,804 | | 2,395 | | 1,203 |

| 1971 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rural Areas | | Philippines | | Other Urban Areas | | Rural Areas | |
| milies | Income | Families | Income | Families | Income | Families | Income |
| 606 | ₱6,327,716 | 6,347 | ₱23,714,284 | 1,388 | ₱7,135,239 | 4,434 | ₱12,493,416 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 14.5 | 2.6 | 5.2 | 0.5 | 2.6 | 0.2 | 6.6 | 0.8 |
| 21.9 | 9.4 | 12.1 | 2.4 | 4.4 | 0.6 | 15.8 | 4.2 |
| 18.8 | 13.2 | 12.2 | 4.1 | 7.1 | 1.7 | 15.0 | 6.6 |
| 14.4 | 14.1 | 11.8 | 5.5 | 8.1 | 2.8 | 13.9 | 8.5 |
| 9.0 | 11.5 | 9.6 | 5.8 | 9.2 | 4.1 | 10.1 | 8.0 |
| 6.8 | 10.5 | 8.1 | 6.0 | 8.8 | 4.7 | 7.9 | 7.7 |
| 7.2 | 14.1 | 12.5 | 11.5 | 15.1 | 10.1 | 11.4 | 13.9 |
| 3.5 | 8.9 | 7.5 | 8.9 | 9.3 | 8.1 | 6.5 | 10.2 |
| 1.6 | 5.1 | 5.0 | 7.3 | 7.8 | 8.2 | 3.8 | 7.4 |
| 1.3 | 5.2 | 6.4 | 11.7 | 10.2 | 13.6 | 4.3 | 10.5 |
| 0.4 | 2.0 | 3.6 | 8.5 | 6.3 | 10.8 | 2.0 | 6.5 |
| 0.4 | 3.4 | 6.1 | 27.7 | 11.1 | 35.1 | 2.7 | 15.6 |
| | 1,359 | | 2,454 | | 3,650 | | 1,954 |
| | 1,755 | | 3,736 | | 5,141 | | 2,818 |

come and Expenditures, 1956 and 1961; The BCS Survey of Households Bulletin,

TABLE A.7 -- Computed Values of Mean Family Income Per Income Class, Philippines: 1961, 1965, 1971

| | 1961 | 1965 | 1971 |
|---|---|---|---|
| Philippines | ₱ 1803 | ₱ 2541 | ₱ 3736 |
| under ₱500 | 357 | 319 | 343 |
| ₱500 to 999 | 738 | 754 | 757 |
| ₱1,000 to 1,499 | 1233 | 1233 | 1258 |
| ₱1,500 to 1,999 | 1724 | 1728 | 1756 |
| ₱2,000 to 2,499 | 2241 | 2238 | 2256 |
| ₱2,500 to 2,999 | 2722 | 2722 | 2752 |
| ₱3,000 to 3,999 | 3408 | 3437 | 3459 |
| ₱4,000 to 4,999 | 4424 | 4414 | 4436 |
| ₱5,000 to 5,999 | 5520 | 5483 | 5521 |
| ₱6,000 to 7,999 | 6969 | 6822 | 6891 |
| ₱8,000 to 9,999 | 8625 | 8987 | 8849 |
| ₱10,000 and over | 19805 | 19874 | |
| ₱10,000 to 14,999 | | | 11899 |
| ₱15,000 to 19,999 | | | 17217 |
| ₱20,000 and over | | | 31585 |

SOURCE: Computed from data adjusted to give Gini Ratios by Source of Income (obtained from the PSSH Bulletin Series No. 14, Family Income and Expenditures, 1961 and the BCS Survey of Households Bulletin, Series Nos. 22 and 34, 1965 and 1971).

TABLE A.8 Employment in Agriculture and Unemployment Rates, by Region

| Region | Employed in Agriculture as Percent of Employed May 1973 | Totally Unemployed As Percent of Labor Force, May 1973 |
|---|---|---|
| Philippines | 52.9 | 4.5 |
| I. Manila & Suburbs | 0.8 | 10.3 |
| II. Ilocos-Mt. Province | 65.9 | 3.6 |
| III. Cagayan Valley-Batanes | 77.8 | 2.5 |
| IV. Central Luzon | 38.2 | 6.3 |
| V. Southern Luzon & Islands | 40.5 | 6.4 |
| VI. Bicol | 61.2 | 1.5 |
| VII. Western Visayas | 58.7 | 3.1 |
| VIII. Eastern Visayas | 57.5 | 3.4 |
| IX. Northern Mindanao | 69.0 | 3.3 |
| X. Southern Mindanao | 74.5 | 2.6 |

Source: The BCS Survey of Households Bulletin, Series No. 38, Manila, March 1974, Table 39.