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**INCOME DISTRIBUTION IN JAMAICA,
1975-1977***

MEMORANDUM #3

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1. Introduction

In the developing countries of the world, the degree of income inequality has been a topic frequently discussed and a matter of policy concern (Ahluwalia, 1976). Clearly, the process of development may benefit some individuals or segments of the society more than others. The pattern of income distribution in any country is influenced by physical and human capital endowments, the production technology, institutional characteristics, government policies and other aspects of the economic system. Given the variety of factors that determine and influence income levels and inequality and their importance to political stability and economic growth, it is not surprising that considerable attention has been devoted to the explanation of the distribution of income.

Income distribution can be viewed from different aspects, and accordingly several empirical approaches exist for studying the income distribution in an economy. The major approaches are the functional distribution of income, indicating the distribution of aggregate income among the factors of production; personal income distribution, indicating the distribution of income among the owners of the factors of production or individuals; and the geographical distribution of income, indicating the distribution of income by location. The most widely studied has been personal income distribution.

Since independence in 1962, Jamaica has witnessed many changes in the physical and human capital endowments of her population, changes in the taxation policies and production technology, and changes in household structure and the economic system. All these factors have influenced income distribution in Jamaica. What is the income distribution and how has it changed? How has the increase in national income been distributed among the population? Has the increased national income failed to benefit lower income groups? Answers to

these questions are necessary to fully assess the economic welfare of the Jamaican people. This information is also important for understanding poverty and identifying population components unable to meet the minimum food, clothing, medical services, and educational requirements.

The household expenditure surveys conducted in Jamaica in 1975-1977 contain information that can be utilized to estimate the income distribution, the changes that may have occurred over the three years, and the socioeconomic characteristics associated with the changed income distribution. The income distribution reflected by the 1975 household expenditure survey can also be utilized as a baseline for policy analysis in Jamaica. An additional survey, conducted in 1984, can be compared to this baseline to help understand changes that have occurred over the intervening decade.

2. Objectives and Memorandum Outline

This memorandum will not directly implement any of the theories of income distribution. The purpose of this memorandum is more descriptive in nature. The description, based on the survey data, will provide both an idea of how income was distributed in Jamaica during the 1975-1977 period and a basis for further studies of policy and other factors affecting income distribution. The specific objectives of this memorandum are:

1. To quantify the degree of income inequality in each of the three years. The Gini concentration ratio is estimated for 1975, 1976, and 1977.
2. To present income distribution profiles of the population by selected socioeconomic characteristics and by household location for 1975, 1976, and 1977.

3. To present income distribution estimates from selected countries and compare these with income distribution in Jamaica.

In the expenditure surveys for 1975, 1976, and 1977, a large number of households did not report income levels. This is not uncommon in household budget surveys and, as a consequence, many analyses of income distributions use total expenditure data obtained from household surveys (Ginneken, 1976). The analysis in this case was conducted using household expenditure as a proxy for household income. The validity of this proxy is evaluated by comparing the income and expenditure of households that have reported both.

This memorandum is divided into several parts. Section 3 contains a brief discussion of the method of analysis. The Gini concentration ratio, the tabular analysis and the evaluation of expenditure as a proxy for income are outlined. Section 4 presents a brief sketch of the various important theories on income distribution. In Section 5 the available studies on income distribution in the Caribbean are presented. Section 6 contains the results, which are divided into two parts: the first part reviews the results from an exercise conducted to relate total expenditures of households to reported income in a simple linear regression framework; the second part contains the tabular analysis and results on the Gini ratios analyzed for various socioeconomic partitions and the three sample periods. The results on the income distribution in Jamaica are compared with estimates from selected countries of the world in Section 6, and Section 7 concludes the study. An appendix provides the details on the exercise conducted in the first part of Section 5.

3. Method of Analysis

Gini Concentration Ratio

To fulfill the first objective of the analysis of the Jamaican consumer expenditure survey data, the Gini concentration ratio was estimated. The Gini concentration ratio, or simply the Gini ratio (GR), is a commonly used measure of income inequality. The Gini ratio is based on the Lorenz curve, which is obtained by plotting the cumulative percent of income on the vertical axis against the cumulative percent of income recipients (households or individuals) on the horizontal axis (see Gillis, Perkins, Roemer and Snodgrass, 1983).

Income distribution in a given population is said to be perfectly unequal if all the income is received by one income recipient. The Lorenz curve in such a case will coincide with the horizontal axis (see Figure 1). Perfect equality occurs when all income recipients receive the same amount of income. The Lorenz curve in this case coincides with the 45 degree line, also called the line of perfect equality (see Figure 1).

In reality, however, the income distribution is likely to fall within the two extremes, between perfect inequality and perfect equality. In this situation the Lorenz curve appears as shown by the broken line in Figure 1. The measure of income inequality, or the Gini ratio, is then the ratio of the area between the line of perfect equality and the Lorenz curve (area A) to the area below the line of perfect equality, area A+B, i.e.,

$$GR = A/(A+B) \quad (1)$$

Using the Gini ratio (1), 0, perfect equality and 1, perfect inequality, define the

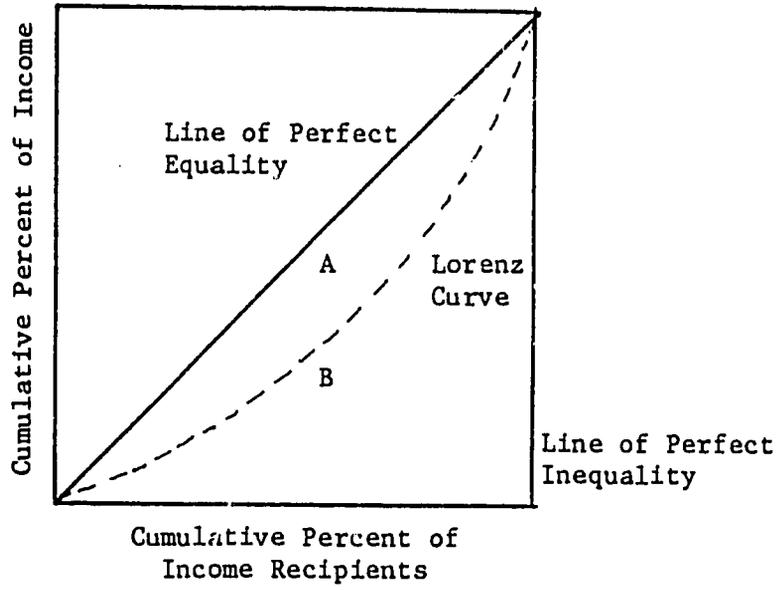


Figure 1. Lorenz Curve.

limits of the income distribution. This convenience in interpretation is a major reason for the wide use of the Gini ratio.

To estimate the Lorenz curve, all income recipients (households or individuals) were allocated into groups. For each group, the share of total income was calculated and the Gini ratio estimated. The estimated value of the GR indicates the degree of inequality in Jamaica estimated from the expenditure surveys. The GR estimated for Jamaica, can be compared with estimates for selected developing countries and, over time, used as a basis for describing the changing and relative income distributions.

Tabular Analysis

A tabular analysis was conducted to provide a profile of the income distribution in Jamaica. The tables developed depict percentage distribution of households and their income or expenditure by selected socioeconomic characteristics and location. The socioeconomic characteristics selected for the tabular analysis were as follows:

- Age of the household head
- Employment status of the household head
- Occupation of the household head
- Household size

In most cases, tables were developed assigning the characteristic of the household head only. This practice is standard and assumes implicitly that the socioeconomic characteristics of the household head describe adequately the socioeconomic status of the full household.

The tables were developed for each survey year and include the estimated Gini coefficients and associated measures of income inequality. These tables

provide a descriptive profile of the income distribution in Jamaica for selected partitions of the sampled Jamaican population.

Evaluating Expenditure as Proxy for Income

Certain numbers of households reported both income and expenditure. For comparing expenditure and reported income, a simple linear regression model was evaluated with expenditure as the dependent variable and reported income as the explanatory variable. The estimated model was evaluated based on the fit and standard error of the income coefficient. The objective of this exercise was to evaluate the feasibility of using income in the analysis or the use of expenditure as a proxy for income.

4. Theories on Income Distribution

Three questions can be posed for studying the income distribution of a population or country. First, what is the income distribution or the degree of income inequality? This question can be answered at household or individual levels and by location. Usually the Gini concentration ratio is calculated as an estimate of the degree of income inequality. The second question is how is the income distributed? Answers to this question can be obtained by cross-classifying households or individuals by selected socioeconomic features. The idea is to provide a picture of how national income is distributed among the different components of society.

The third question is why is the income distribution the way it is? There are no simple and straightforward answers to this third question; much of the current theoretical work on income distribution has, in fact, concentrated on this question. In what follows, some of the more prominent theories of income distribution are discussed briefly (for more detail see Sahota, 1978). No attempt

was made to provide a detailed review of the theories. The brief observations are, however, documented to provide information for further study and applications for analyzing income distribution in Jamaica. The objectives listed in Section 2 emphasize that this memorandum addresses the first two of the major income distribution questions, leaving aside the question of why income is distributed as it is.

Among the earliest theories for explaining income distribution was the ability theory. According to this theory human abilities, both mental and physical, are assumed to be distributed normally in the population. Accordingly, the theory postulates, earnings should also follow the same normal distribution. Empirically, however, it has been shown that earnings are in fact distributed log normally. Attempts have been made to explain the discrepancy between the two distributions, but the lack of consensus on the meaning and measurement of abilities has limited the scope of this theory to provide an adequate explanation for the observed inequality.

The stochastic theory of income distribution attributes the skewed distribution of earnings or income to chance. The essential point in this theory is that there is an equal chance of being rich or poor. Stated differently, this theory views income distribution as being generated by a stochastic process. Socioeconomic variables play only a minor role in this theory. The view is that the distribution of income is more an underlying distribution function of human and physical capital endowments.

The theory of individual choice attributes the skewed distribution of income to the selections individuals make from available alternatives. However, when viewed in terms of measured income, an individual may appear worse off, when in terms of choice the individual may have a higher utility. In short, utility

and income are distributed potentially differently, with perhaps certain segments of the population having a high preference for leisure or other measures of performance.

The human capital theory is considered by many to be a relatively complete explanation of income distribution (Kuznets, 1982). It views the individuals as optimizing agents who invest in themselves "on the basis of estimates of the probable present value of alternative life-cycle income streams, discounted at some appropriate rate" (Sahota, 1978, p. 12). The skewed distribution of incomes depends on the expected life-cycle, income streams, and the discount rates. The expected life-cycle and income streams, in turn, depend on the level of human capital investments. Investment in education is assigned a major role in this theory. Objections to the human capital theory are that individuals are not long term decision makers as the theory assumes; that the theory is silent on the sources of the causes of human investment even though it assigns a major role to human investment; that the role assigned to schooling is critically important in the human capital theory, pointing out that ability and institutions are as important in human capital accumulation as education.

The inheritance theory assigns a key role to wealth and asserts that inherited wealth (material) is the major cause of the skewed distribution of incomes. Material wealth inherited interacts with ability, human capital investment and education. This theory holds that any explanation of income distribution should include the inherited wealth (Sahota, 1978). Finally, the life cycle theory attributes the skewed distribution of incomes to life cycle earnings. A fundamental premise for the life cycle theory is the proposition that life cycle earnings rise with age, reach a peak and begin to decline as the earner approaches retirement.

Other theories, of course, exist. The important issue for all the theories is to provide an adequate description of why income is distributed the way it is. The value of these theories is the implications they provide for income distribution policy. Obviously, depending upon the theory or determinants of the income distribution chosen, very different policies would be prescribed for addressing income distribution and inequity problems.

5. Income Inequality in the Caribbean

There are two fairly complete but dated studies on income distribution in Jamaica and Trinidad-Tabago. Both studies utilized data obtained from household expenditure surveys conducted separately in the two countries around 1958, which for Jamaica was prior to independence.

The Gini ratios were estimated to be .53 and .40, respectively, in Jamaica and Trinidad-Tabago (Ahiram, 1964, 1965). Jamaica's per capita annual income in 1958 was \$U.S. 295, making it the country with the highest per capita income among the developing countries at that time (Ahiram, 1964). The Gini coefficient of .53, on the other hand, showed that Jamaica was the country with the highest degree of income inequality. In Jamaica, the lowest 20 percent of the households had about 2 percent and the highest 5 percent had about 30 percent of the measured aggregate income. The comparable figures describing the income distribution for Trinidad-Tabago were, respectively, 3 percent and 23 percent.

About 40 percent of the Jamaican households surveyed in 1958 had incomes of less than \$U.S. 100 per capita per year. The degree of income inequality was greater in rural (Gini ratio = .56) than urban Jamaica (Gini ratio = .50). Inequality was greater among nonwage earners (Gini ratio = .62) than wage

earners (Gini ratio = .53). In contrast, for Trinidad-Tabago the inequality was more pronounced in urban areas (Gini ratio = .49) than in rural areas (Gini ratio = .41).

6. Results

The groupings of households used in the income distribution analysis were for selected socioeconomic variables and location. The socioeconomic variables selected were, again, age of the head of household, employment status of the head of household, occupation of the head of household, and household size.

For each of the socioeconomic variables and location, households were ranked by six ordinal groups, as shown in the tables. The percentage of households in each category for the selected variables and the mean incomes and standard deviations of incomes for these groups are reported. Gini concentration ratios were calculated for each of the categories for the selected partitioning variables.

Expenditure as a Proxy for Income

For each of the three surveys, 1975, 1976, and 1977, linear regression equations were estimated with total expenditure (E) as the dependent variable and total reported household income (Y) as the independent variable for the three geographic regions and for family sizes of one through eight. Only households reporting both income and expenditure were included in the regression analysis. Results for these simple linear regression analyses are presented in Appendix I.

In the regression equations, the intercept represents the autonomous expenditure level of the households and the coefficient on income is the marginal propensity to consume. The sign of this coefficient is generally expected to be

positive and its magnitude, for developing countries, is usually close to one. If the coefficients are statistically significant and a large part of the variation in expenditure is explained by income (i.e., R^2 's are high) then the regression equation explains the relationship well, indicating that the variations in consumption expenditures of households are determined reasonably well by their reported incomes.

Unfortunately, the conclusions that can be drawn from the regression results presented in Appendix 1, for the three locations and across family sizes, are that reported income did not accurately explain total household expenditures. A major reason for the results on income is that households and individuals apparently reported income with considerable error. As an example, consider the regression results for 1977 for family size one,

$$E_i = 770.55 + 0.9836Y_i \quad (2)$$

(3.85) (10.68)

The t-values, presented in parenthesis below the coefficients, indicate the reliability of the estimates. A t-value of greater than 2 indicates roughly statistical significance at the 95 percent level or greater, when sample sizes are fairly large. The t-values reported satisfy the first criterion. Also, as presented in the appendix table, the value of R^2 (= 0.47) and sample size (132) are reported. Only 47 percent of the variation in household expenditures was explained by the reported total income. If the reported incomes were explaining the variation in household expenditures more completely, a much higher R^2 would result. This subsample regression is actually one of the best fits reported in Appendix 1. In all regression results reported, either the estimated marginal propensity to consume or the fit or both were unsatisfactory. Generally, the other regressions in the appendix show that income explained total expenditure poorly.

A major reason for the poor results and an explanation of why reported total income of households did not accurately explain the variation in reported total household expenditure is that the quality of the income data was poor. As pointed out earlier, this concern with the income data is a fairly common occurrence in survey-based studies (Kelley, 1981). Expenditure data are considered more reliable and also provide a reasonable proxy for income. Using expenditure as a proxy for income, the mean expenditure may be somewhat lower than the actual mean income. However, the distribution of the household expenditure is likely to be similar to that of the actual income.

Furthermore, the numbers of households that reported incomes was a small percentage of the sampled households in all the years. This additionally limited the use of income for the distributional analysis. Finally, for households that did report both incomes and expenditures, the incomes were generally less than the reported expenditures. As a result, the total reported household expenditure has been used as a proxy for household income in all the subsequent analyses.

Reported total household expenditure included expenditures on food and beverages, fuel and household goods, household operation expenses, durable goods, clothing expenses, recreation and transport, personal care and health, value of home produce consumed at home, expenditure on meals consumed away from home, and miscellaneous expenses.

Inter-Age Variation

Tables 1 through 3 report on the income distribution of the sampled population by age of the household head. The representation of households across age groups and years varied somewhat, due largely to the variation in the sizes for the three samples. However, due to missing or unreported age and other socioeconomic characteristics of households, the sample sizes varied

negligibly across the tables reported in this memorandum. The variations for each age group across the years were, however, small in magnitude. In all the samples the largest number of households fell in the age group 65 and over, reflecting perhaps the relatively greater numbers of earning members in households of this age group. Generally, the smallest household size groups were for households in the age groups of 0 to 24 and 24 to 29 years of age.

The mean household income, measured by the total expenditure proxy, first increased with the household head's age and then declined as the household head's age increased. The variations in incomes across households of different ages was significant, as may be noted by the gap between the lowest and highest mean incomes for household groups. Across time variations in income of households can also be observed. Notice further that the mean incomes in 1975 were generally higher than the mean incomes in either of the two subsequent years.

The results of distribution of income for the sampled households by group present an opportunity for a number of interesting observations. The general income distribution pattern for all three years was skewed to the right, i.e., the upper 10 percent of the population received a larger portion of the income than the lower 20 percent of the population.

The Gini ratios estimated are also presented in Tables 1 through 3 for each age group. The degree of inequality, as reflected by the Gini ratio, varies over the three years. For example, in 1975 the lowest value of the Gini ratio was for the age group 24 to 29 years. In both 1976 and 1977 however, the lowest Gini ratio was associated with the age group 24 years or less. This variation across the age groups and among the years may reflect demographics or job opportunities available (or lack thereof) for households of different age groups.

The last column of Tables 1 through 15 provides an index of relative inequality across the socioeconomic characteristics of households for each year. In each table, the Gini coefficient that was lowest in magnitude was set equal to 100 (base index) and other Gini coefficients were expressed relative to the base index. As an example, in Table 1 the lowest Gini coefficient (.3862) was for the age group 24 to 29 years. For the age group 65 years and greater, the Gini ratio was .4708. Dividing .4708 by .3862 and multiplying by 100 provided an index of 122. Thus, relative to the age group 24 to 29 years, income inequality was about 22 percent greater among the 65 years and greater age group. An idea of the relative inequality by year may also be compared by examining these indices. Observe that relative inequality was more pronounced in 1976 than in either 1975 or 1977 (Tables 1 through 3).

Inter-Employment Variation

The survey identified six different types of employment status:

- Paid government employee
- Paid non-government employee
- Unpaid (family) worker
- Employer
- Own account worker
- Others

However, given the small number of household heads with employment status of unpaid (family) worker and employer, these two groups were merged into an aggregated "others" group. This merging made relative numbers of households similar across the years. Thus only four employment status categories for heads of households were used in the analysis reported in Tables 4 through 6.

In 1975 paid non-government employees accounted for the largest percentage of households, and in subsequent years this percentage declined by about 5 percent. Own account workers constituted the largest percentage of households in 1976 and 1977. Government employees accounted for the third largest household percentage in all the three surveyed years, but their mean incomes in all three years were the highest and furthermore the variations in income across the years for this group were also the lowest. Own account workers had the lowest mean incomes, about 50 percent of that of government employees in all the three years. The others category consisted of little more than 5 percent of all households with mean incomes that ranked second to only paid government employees.

The percentage shares of income accruing to the ordinal groups again reveals a distribution skewed towards the right. Across the years the percentage share of income associated with each percentile group did not reveal much variation, except in 1976, which may have resulted from a smaller sample size and sampling variations as well.

In the three years surveyed the degree of inequality, as measured by the Gini ratio, was least among the paid government employees. In part this may be reflecting the more permanent flow of income for this employment category relative to other groups. In all years the top 10 percent (91-100) of households accounted for a large share of income in this group as with all other groups. The lowest Gini ratio estimated for paid government employees in all the three years was used as the base index. Thus, compared to paid government employees, the degree of inequality was more pronounced in 1976 than in 1975 or 1977.

Inter-Occupation Variation

Tables 7 through 9 present statistics on income distribution by occupation of head of household. The mean incomes for different occupations for 1975, 1976, and 1977 showed greater variation than for employment status. Variations in the Gini coefficients were also apparent. Income accruing to the top 10 percent of the population for the occupation groups was, however, lower than in the case of the employment groups.

By far the largest percentage of households had agriculture as their occupation, but the mean income of these households was the lowest among the occupation groups considered. Notice, however, the slight reduction in the mean incomes of agricultural households from 1975 to 1977 and the narrowing of income dispersion for this group. This may be observed by noting the decline in Gini coefficient from 1975 to 1977 for this group. At the other extreme, professionals and administrators enjoyed the highest mean incomes and comprised a much lower percentage of the households in the population. The income inequality among professionals and administrators was also among the highest. Similar observations hold for the clerical and sales group. The mean incomes of those self-employed in the non-agriculture sectors showed little variation by year but the income inequality for this group was high.

The mean incomes of those in manufacturing showed a moderate decline and an increasing dispersion of incomes for the period 1975-1977. In the service sector both income and inequality slowly declined. Finally, in the transport and the communication and construction, installation and repair occupational groups, incomes fluctuated more than for the manufacturing group. Income inequality in the manufacturing group and transportation group showed large variations across the years.

Household Size Variation

Income distribution among households by family size is reported in Tables 10 through 12. The mean incomes of households with four or more members were generally higher than the mean incomes of smaller households. The standard deviations, however, showed that the income levels for households varied considerably more for the two-member to six-member household size groups than for the one- and the seven-member or more groups.

The income inequality values for households with seven and eight or more members were the lowest in all three years. At the other extreme, the income inequality was highest among the one-member households. Between these two extremes both the mean incomes and Gini coefficients showed modest variation by year. Notice, however, that the degree of variation in incomes observed between households of different sizes was fairly pronounced.

The lower inequality observed among larger households may reflect the presence of more earning members in these households. In the medium-sized households there may have been more children and fewer earning members. These conjectures could be examined more completely by evaluating incomes and the income distribution by household composition, but such would require a larger sample than available currently.

Inter-Location Variation

Income distributions for the three geographic locations of Jamaica are reported in Tables 13 through 15. In all three years, rural households constituted the largest percentage of households and the main towns constituted the lowest percentage of households. The mean income of households in Kingston was the highest, followed by households in the main towns. Rural households had the lowest mean incomes in all the survey periods.

In two out of the three survey periods the degree of income inequality was lowest in Kingston. This may reflect the relatively better employment opportunities in Kingston than in the main towns or rural areas.

The degree of income inequality was less pronounced for the geographical locations than across the socioeconomic characteristics of households in Jamaica studied in the previous tables. Possibly the most interesting result is the change in income inequality for Kingston between 1975 and 1977. This may have been due to migration to Kingston of less skilled workers, reductions in manufacturing income, reductions in government salaries and workers, and other factors.

Variations by Year

When data were partitioned for the selected socioeconomic characteristics, in many instances the results for 1976 were more erratic than in 1975 and 1977. As a result, the income distributions for the aggregate data from each year were again re-estimated, this time partitioning the households into ten ordinal groups. The results are presented in Table 16 in rows two through four.

At the aggregate level, the annual samples were distributed more consistently for the ten ordinal groups of the population. That is, the share of income accounted by each decile group showed a consistent pattern across the three sample periods. Notice that in 1977 the income share of the top 10 percent (91-100) records increased relative to the other two years. The result suggested by comparing the years was a greater degree of inequality, as indicated by the relatively high value of the Gini ratio (.4589) in 1977 compared to 1975 and 1976.

Income Inequality in Other Nations

In Table 16 the income distribution in Jamaica for 1958, along with the 1975, 1976, and 1977 results, can be compared with those of selected countries. The income shares of the decile groups and the Gini ratio are noted for the selected countries. In most countries the surveys were conducted at the household level; exceptions are noted in the table. In all cases, national level samples were used. Also, at least for the three samples (1975, 1976, and 1977) for Jamaica, the income distribution results were based on total household expenditures. Furthermore, results by country, when compared, should be qualified, depending on the purpose for which sample information was collected. For instance, the results of this present study on income distribution were based on household expenditure surveys. In other instances information on income distribution may have been obtained from other types of surveys, e.g., food consumption surveys. For the present purpose, a complete development of these details was not warranted.

In the approximately 20-year period since 1958, the estimated income share of the bottom percent of the population in Jamaica has almost doubled. Also, the share of the 91-100 percent of the population has decreased by a fair amount. In other words, the income share of the middle group has increased. Income inequality also has evidenced a moderate decline.

In spite of the moderate transfer of income from the higher income groups to the lower income groups, and the moderate decline in income inequality in Jamaica during the twenty-year period, the degree of income inequality in the 1975-1977 period was still high compared to other developing countries such as Pakistan and Sri Lanka. Compared to other developing countries such as the Bahamas, Brazil, Malaysia, and the Philippines, however, the Gini ratio in

Jamaica suggests a relatively lower level of inequality. But note that the results presented for other countries are from samples that predate the consumer expenditure survey for Jamaica.

7. Summary

Income distribution in Jamaica was analyzed for 1975, 1976, and 1977. Based on the data presented in Table 16, a Lorenz curve was plotted for 1975, 1976, and 1977 in Figure 2. The results on income distribution for Jamaica for the three years and by selected partitions of the population revealed that there was more inequality among occupational groups and families of different sizes than among other socioeconomic groups. However, over the three years, the differences within these groups were negligible, and likely attributable to changes in survey sample sizes.

The distribution of income in Jamaica, in all cases considered, showed a significant rightward skewness, indicating that the upper 10 (91-100 percent) of the households received a much larger share of the income, almost equaling the share received by the lower 90 percent of the population.

The Gini coefficient estimated for Jamaica, based on 1958 data, was .5766. The corresponding estimates for other countries, reported in Table 16, were generally lower. Even though the value of the Gini coefficient was sensitive to specification changes in size classes and the measure of income, the large difference in the previous and newer estimated coefficients for Jamaica can only be attributed to an actual reduction in the degree of income inequality in Jamaica between 1958 and 1975-77.

This 1958 to 1975 comparison of income distribution estimates suggested that policies to promote more income equality, while perhaps lowering total

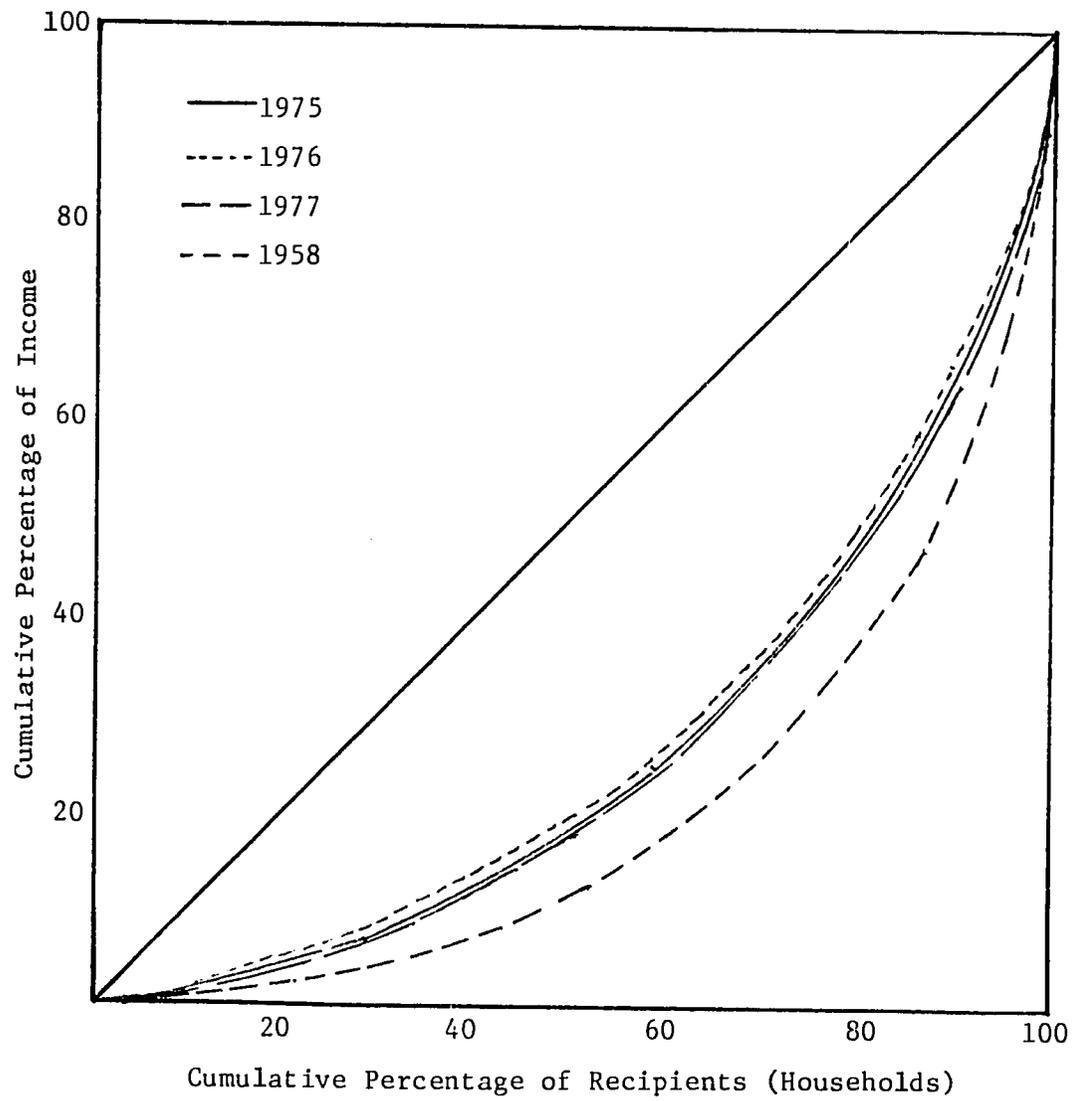


Figure 2. Lorenz Curve for 1958, 1975, 1976, and 1977.

Source: Table 16.

income, have been successful distributionally. Furthermore, when income distribution in Jamaica was compared with estimates from selected other countries, it appears that both the distribution of income and degree of inequality in Jamaica have become more moderate on a relative basis between 1958 and 1975-1977 (Table 16).

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Table I
Income Distribution by Household Head Age Group:
Jamaica, 1975

Age Group	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
-24	229	6.55	3,845.13	3,814.82	4.10	7.71	10.59	13.86	20.21	43.52	0.3976	103
24-29	345	9.87	4,370.55	3,783.30	3.84	7.74	11.32	14.98	20.36	41.75	0.3862	100
30-34	372	10.64	4,689.55	4,322.03	4.07	7.17	10.32	15.01	20.79	42.64	0.3974	103
35-39	316	9.04	4,637.04	4,196.56	3.99	7.36	10.31	14.31	21.08	42.94	0.4041	105
40-44	392	11.22	4,262.54	4,383.37	3.66	7.55	10.25	14.12	20.42	44.00	0.4081	106
45-49	335	9.59	3,992.18	3,497.46	4.12	7.21	10.62	14.65	20.81	42.60	0.3982	103
50-54	325	9.30	4,017.77	4,099.71	3.07	6.27	9.53	14.15	21.67	45.32	0.4376	113
55-59	287	8.21	3,413.29	3,212.65	3.28	6.95	10.14	14.33	20.68	44.62	0.4236	110
60-64	301	8.61	3,198.64	3,855.22	2.64	5.49	8.96	12.95	20.66	49.30	0.4722	122
65+	593	16.97	2,524.10	2,798.23	2.48	5.59	8.82	13.31	21.44	48.37	0.4708	122

Source: Household Expenditure Surveys, STATIN, Jamaica.

25

Table 2
Income Distribution by Household Head Age Group:
Jamaica, 1976

Age Group	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
-24	30	6.17	3,172.38	2,297.26	3.61	7.54	10.99	16.98	24.47	36.41	0.3679	100
24-29	63	12.96	4,213.32	4,870.10	4.00	7.64	8.43	12.32	21.65	45.97	0.4291	117
30-34	47	9.67	4,815.95	4,988.61	3.42	6.40	8.98	13.02	20.88	47.31	0.4338	118
35-39	40	8.23	3,977.58	3,578.47	4.39	8.65	10.61	14.03	21.86	40.47	0.3820	104
40-44	41	8.43	3,096.62	2,326.58	4.15	8.11	11.66	15.66	24.62	35.81	0.3773	103
45-49	32	6.58	4,434.09	3,521.71	3.73	7.37	10.21	17.13	21.32	40.25	0.4007	109
50-54	49	10.08	3,476.88	2,831.49	4.19	7.88	12.94	14.99	19.34	40.66	0.3700	101
55-59	46	9.46	2,852.76	2,374.18	2.82	7.74	12.30	14.82	23.39	38.92	0.3921	107
60-64	45	9.26	3,498.44	5,524.65	2.59	5.50	7.98	9.26	18.22	56.45	0.5239	142
65+	93	19.14	1,894.74	1,725.78	3.23	6.62	10.72	15.03	22.39	42.00	0.4135	112

Source: Household Expenditure Surveys, STATIN, Jamaica.

26

Table 3
Income Distribution by Household Head Age Group:
Jamaica, 1977

Age Group	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
-24	74	7.39	2,596.29	1,953.81	4.60	8.59	11.03	16.44	22.07	37.27	0.3551	100
24-29	84	8.39	4,791.06	4,588.75	3.16	6.08	9.25	14.47	21.88	45.16	0.4376	123
30-34	106	10.57	3,713.44	3,089.03	4.41	8.02	10.90	15.02	21.54	40.11	0.3756	106
35-39	93	9.28	4,111.43	4,073.86	3.53	6.77	9.45	12.17	20.60	47.47	0.4442	125
40-44	98	9.78	4,225.07	4,053.08	3.55	7.77	10.28	14.31	19.63	44.45	0.4115	116
45-49	108	10.78	4,757.13	5,540.25	3.65	7.04	9.38	12.11	17.09	50.72	0.4471	126
50-54	92	9.18	4,445.89	3,987.64	3.56	6.09	8.46	15.51	22.93	43.45	0.4337	122
55-59	85	8.48	2,737.58	2,505.27	3.50	7.54	12.06	14.80	18.37	43.72	0.3970	112
60-64	73	7.29	2,296.59	1,774.93	3.73	7.46	12.10	14.48	22.23	40.00	0.3839	108
65+	189	18.86	2,316.14	2,476.48	2.51	5.74	8.65	12.52	21.59	48.99	0.4752	134

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 4
Income Distribution by Employment Status of
Household Head: Jamaica, 1975

Employment Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Paid Government Employee	463	13.26	5,507.35	4,431.20	3.96	7.47	10.79	15.01	22.01	40.77	0.3871	100
Paid Non-Government Employee	1,419	40.64	4,044.05	3,890.64	3.18	6.95	10.16	14.48	21.08	44.16	0.4197	108
Own Account Worker	1,348	38.60	2,905.28	3,092.14	3.30	6.92	10.23	14.50	21.17	43.88	0.4169	108
Others	262	7.50	4,421.96	4,646.44	2.61	5.65	9.33	14.26	21.17	46.97	0.4573	118

Note: Employment status not reported by 3 household heads.

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 5
Income Distribution by Employment Status of
Household Head: Jamaica, 1976

Employment Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Paid Government Employee	78	16.08	4,645.52	3,158.45	3.88	8.68	11.90	16.35	22.47	36.72	0.3500	100
Paid Non-Government Employee	174	35.88	3,394.33	3,890.97	3.85	6.88	9.40	12.21	19.43	48.24	0.4373	125
Own Account Worker	191	39.38	2,733.79	3,635.41	2.95	6.69	10.39	13.66	19.34	46.98	0.4328	124
Others	42	8.66	4,065.36	3,180.18	2.86	7.50	9.63	15.36	24.46	40.19	0.4054	116

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 6
Income Distribution by Employment Status of
Household Head: Jamaica, 1977

Employment Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Paid Government Employee	162	16.17	5,089.66	4,450.86	3.98	6.72	11.04	14.67	20.50	43.09	0.4009	100
Paid Non-Government Employee	351	35.03	3,774.83	4,121.92	2.93	6.46	9.57	13.13	19.62	48.29	0.4509	112
Own Account Worker	436	43.51	2,685.70	2,364.64	3.52	7.46	10.62	14.49	20.42	43.48	0.4051	101
Others	53	5.29	4,246.22	5,241.67	1.46	4.13	7.60	13.24	23.17	50.40	0.5315	133

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 7
Income Distribution by Occupation Status of Household Head:
Jamaica, 1975

Occupation Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Professional and administrative	340	9.85	6,423.31	5,425.12	2.54	6.21	10.84	16.04	23.48	40.88	0.4157	130
Clerical and sales	247	7.15	7,211.89	5,971.45	3.91	7.28	10.88	14.30	21.74	41.89	0.3955	124
Self-employed in agriculture	1,123	32.52	2,354.13	2,292.06	3.51	7.31	10.96	15.16	21.44	41.62	0.3955	124
Self-employed in non-agriculture	413	11.96	3,926.77	4,047.93	3.52	7.16	10.25	14.83	21.71	42.53	0.4078	128
Manufacturing and related	143	4.14	4,618.41	3,690.23	4.45	7.96	11.51	15.81	22.11	38.15	0.3656	115
Services	480	13.90	3,333.45	3,021.09	3.19	6.70	10.79	15.20	21.36	42.77	0.4103	129
Transport and communication	89	2.58	4,447.86	3,289.04	4.62	7.76	10.37	15.01	24.57	37.67	0.3784	119
Construction, installation, repairs	363	10.51	4,208.28	2,890.47	5.25	9.20	12.81	16.27	20.63	35.84	0.3189	100
Others	255	7.38	2,857.61	1,950.86	4.35	8.79	11.92	15.98	22.07	36.89	0.3447	108

Note: Occupation status not reported by three percent of household heads.

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 8
Income Distribution by Occupation Status of Household Head:
Jamaica, 1976

Occupation Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Professional and administrative	70	14.77	5,906.98	4,913.28	3.86	7.12	12.11	16.69	22.75	37.48	0.3716	121
Clerical and sales	32	6.75	5,377.40	4,040.36	4.66	8.72	11.59	16.61	21.07	37.34	0.3571	116
Self-employed in agriculture	166	35.02	2,181.52	2,816.62	3.73	8.38	11.60	15.48	19.49	41.35	0.3775	123
Self-employed in non-agriculture	53	11.18	3,757.65	4,526.50	2.37	6.42	11.15	14.71	19.12	46.24	0.4534	147
Manufacturing and related	17	3.59	4,349.67	2,961.11	5.78	10.44	13.65	17.77	24.83	27.53	0.3179	100
Services	55	11.60	2,460.94	2,400.22	3.78	6.65	10.45	13.85	18.38	46.89	0.4283	139
Transport and communication	17	3.59	3,048.53	2,236.74	5.62	8.40	12.69	17.07	26.30	29.92	0.3582	116
Construction, installation, repairs	38	8.02	3,497.65	2,690.43	5.23	9.69	9.97	15.88	20.78	38.45	0.3542	115
Others	26	5.49	2,296.32	1,478.66	3.71	8.65	12.15	21.19	21.85	32.45	0.3397	110

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 9
Income Distribution by Occupation Status of Household Head:
Jamaica, 1977

Occupation Status	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Professional and administrative	84	8.56	7,000.45	6,435.11	1.96	6.28	10.31	15.16	22.70	43.59	0.4371	128
Clerical and sales	62	6.32	6,021.57	4,591.49	2.72	7.54	10.34	17.32	23.60	38.47	0.3980	117
Self-employed in agriculture	358	36.49	2,139.23	1,508.49	4.10	8.77	12.11	16.27	21.73	37.02	0.3472	102
Self-employed in non-agriculture	135	13.76	3,692.68	3,210.62	3.03	6.49	9.81	12.92	24.58	43.17	0.4331	127
Manufacturing and related	31	3.16	3,408.86	3,177.56	2.43	6.80	9.41	15.59	19.76	46.01	0.4394	129
Services	123	12.53	2,984.16	2,395.62	3.75	8.73	11.74	15.26	22.10	38.41	0.3646	107
Transport and communication	25	2.55	5,765.02	4,106.30	4.84	8.15	14.24	15.28	20.80	36.69	0.3411	100
Construction, installation, repairs	90	9.17	4,151.72	4,209.52	3.84	7.88	10.61	14.20	19.08	44.39	0.3998	117
Others	73	7.44	3,158.32	4,014.97	3.58	6.35	9.49	12.28	18.95	49.34	0.4525	133

Note: Occupation status not reported by 21 household heads.

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 10
Income Distribution by Family Size: Jamaica, 1975

Family Size	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
1 Member	577	16.51	2,053.42	2,255.85	2.59	6.09	9.38	13.94	20.72	47.28	0.4536	134
2 Members	484	13.85	3,103.76	3,619.96	3.04	6.10	9.25	13.22	20.79	47.61	0.4524	133
3 Members	461	13.19	3,659.69	3,642.92	3.08	6.38	9.51	14.29	21.23	45.51	0.4379	129
4 Members	427	12.22	4,301.17	4,149.33	3.87	6.91	10.08	13.72	20.81	44.61	0.4157	123
5 Members	417	11.93	4,859.54	5,067.10	3.66	6.71	9.65	13.26	20.91	45.80	0.4291	127
6 Members	307	8.78	4,577.51	4,265.08	4.74	7.79	10.53	13.60	19.30	44.04	0.3910	115
7 Members	276	7.90	4,293.79	3,444.61	4.45	7.65	11.01	15.65	21.34	39.89	0.3715	110
8 or More Members	546	15.62	4,654.65	3,382.27	5.11	8.78	11.83	15.65	20.81	37.83	0.3392	100

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 11

Income Distribution by Family Size: Jamaica, 1976

Family Size	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
1 Member	97	19.96	1,393.79	1,173.00	4.06	6.71	10.71	15.17	21.90	41.44	0.3978	134
2 Members	75	15.43	2,490.10	1,663.24	4.28	8.41	12.88	15.90	24.00	34.53	0.3400	115
3 Members	71	14.61	3,880.68	4,419.85	3.64	6.76	9.71	14.51	22.00	43.36	0.4291	145
4 Members	44	9.05	4,884.42	5,780.78	3.87	6.88	7.91	12.78	19.71	48.85	0.4576	154
5 Members	52	10.70	4,054.24	3,596.86	4.28	7.30	9.72	13.87	21.98	42.85	0.4097	138
6 Members	48	9.88	5,081.63	5,378.85	3.94	5.84	7.33	10.89	22.47	49.53	0.4689	158
7 Members	31	6.38	3,917.77	2,545.30	5.33	8.71	11.47	17.58	21.99	34.91	0.3228	109
8 or More Members	68	13.99	3,846.52	2,554.75	6.88	10.23	11.02	17.05	20.48	34.35	0.2968	100

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 12
Income Distribution by Family Size: Jamaica, 1977

Family Size	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
1 Member	173	17.27	2,113.82	2,387.38	2.48	6.02	9.31	12.93	20.17	49.10	0.4705	132
2 Members	139	13.87	2,366.19	2,300.37	2.54	5.92	9.80	14.36	22.44	44.93	0.4452	125
3 Members	136	13.57	3,673.16	4,254.91	3.16	5.72	8.80	13.10	20.30	48.91	0.4648	130
4 Members	139	13.87	4,123.81	3,824.75	4.28	6.98	10.16	13.94	20.40	44.25	0.4079	114
5 Members	123	12.28	4,771.11	5,356.38	3.87	6.54	8.18	11.47	19.91	50.03	0.4601	129
6 Members	90	8.98	3,949.14	3,279.49	4.58	7.42	10.51	13.89	21.91	41.68	0.3867	108
7 Members	63	6.29	3,895.61	3,273.99	4.53	8.40	10.60	14.25	20.83	41.39	0.3772	106
8 or More Members	139	13.87	4,247.93	3,386.13	5.17	8.24	11.58	14.43	20.95	39.62	0.3566	100

Source: Household Expenditure Surveys, STATIN, Jamaica.

2/2

Table 13

Income Distribution by Location of Household:
Jamaica, 1975

Location	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Kingston	1,144	32.73	5,234.27	4,628.27	3.68	7.33	10.69	14.91	21.23	42.18	0.3978	100
Main Towns	487	13.93	3,805.60	3,537.70	3.13	6.99	10.49	14.97	21.44	42.98	0.4123	104
Rural Areas	1,864	53.33	2,965.49	3,061.15	3.26	6.87	10.18	14.23	20.88	44.59	0.4215	106

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 14
Income Distribution by Location of Household:
Jamaica, 1976

Location	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Kingston	123	25.31	4,849.56	3,365.15	4.57	8.26	11.67	15.29	23.38	36.82	0.3534	100
Main Towns	69	14.20	3,423.27	3,304.58	4.19	8.87	11.94	14.01	22.52	38.47	0.3627	103
Rural Areas	294	60.49	2,780.44	3,714.52	3.12	6.68	9.62	12.82	18.25	49.52	0.4499	127

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 15

Income Distribution by Location of Household:
Jamaica, 1977

Location	Sample		Mean Income (\$J)	Standard Deviation	Percentile Group of Households						Gini Ratio	Index of Inequality
	Size	Percent			0-20 %	21-40 %	41-60 %	61-80 %	81-90 %	91-100 %		
Percentage Share of Income Accruing to Households												
Kingston	277	27.64	5,132.77	4,965.70	2.93	6.24	9.66	14.23	21.73	45.22	0.4385	112
Main Towns	147	14.67	3,871.69	3,240.21	3.71	7.41	11.26	15.06	21.31	41.25	0.3914	100
Rural Areas	578	57.68	2,689.60	2,721.85	3.27	7.45	10.28	14.23	19.91	44.85	0.4162	106

Source: Household Expenditure Surveys, STATIN, Jamaica.

Table 16
Income Distribution For Selected Countries

Country	Survey Year	Decile Group of Population/Household										Gini Ratio
		0-10 %	10-20 %	20-30 %	30-40 %	40-50 %	50-60 %	60-70 %	70-80 %	80-90 %	90-100 %	
Percentage Share of Income Accruing to Decile Population Groups												
Jamaica	1958	0.6	1.6	2.5	3.5	4.6	6.2	8.3	11.5	17.4	43.8	0.5766
Jamaica	1975	1.3	2.8	3.9	5.1	6.3	7.9	9.9	12.5	16.9	33.3	0.4452
Jamaica	1976	1.4	2.9	4.1	5.2	6.3	7.4	9.2	12.3	16.7	34.5	0.4492
Jamaica	1977	1.3	2.8	3.9	4.9	6.1	7.4	9.4	12.2	16.9	35.0	0.4589
Bahamas	1970	0.8	2.6	3.8	5.0	6.3	8.0	10.0	12.9	17.7	32.9	0.4674
Brazil	1970	1.1	1.7	2.3	3.0	3.9	5.1	6.6	9.0	13.0	54.3	0.6465
Hong Kong	1971	2.1	3.5	4.5	5.5	6.5	7.8	9.4	11.7	15.3	33.7	0.4301
Japan	1971	3.4	5.4	6.3	7.2	8.3	9.2	10.5	12.1	14.5	23.1	0.2873
Rep. of Korea	1970	3.1	4.0	4.8	5.8	7.0	8.2	10.1	12.5	16.5	28.0	0.3719
Malaysia	1970	1.1	2.4	3.4	4.3	5.6	6.9	8.8	11.5	16.1	39.9	0.5179
Pakistan	1970-71	3.6	4.8	5.6	6.6	7.5	8.5	10.0	11.9	14.7	26.8	0.3299
D.R. of Germany	1970	4.0	6.4	7.5	8.4	9.3	10.3	11.1	12.3	13.8	16.9	0.2044
Philippines	1971	1.3	2.6	3.4	4.6	5.7	7.2	9.2	12.0	16.9	37.1	0.4941
Sri Lanka	1973	2.8	4.5	5.5	6.5	7.4	8.7	10.0	11.8	14.8	28.0	0.3530
Taiwan	1972	3.6	5.2	6.3	7.2	8.2	9.3	10.6	12.4	14.8	22.4	0.2843
United States	1972	0.8	3.1	4.4	5.8	7.1	8.8	10.8	13.5	17.6	28.1	0.4171

Notes: Surveys for all countries were conducted at the household level except Brazil, where survey was conducted over income recipient. All surveys were national level surveys. For Jamaica, results (1975-1977) were based on total household expenditures.

Source: For Jamaica (1975-1977) data were made available by STATIN, Jamaica. All other results were obtained from Jain (1975).

Appendix 1

A Sample of Regression Results of Total Reported Household Expenditures and Total Reported Household Incomes as the Explanatory Variable for Households that Reported Both

	Intercept	Coefficient	R ²	Sample Size
	<u>Kingston</u>			
1975	5,638.82(26.53)	0.0737(4.20)	0.03	565
1976	4,001.89(5.11)	0.0051(1.88)	0.10	32
1977	4,931.29(9.56)	0.3190(5.00)	0.18	115
	<u>Main Towns</u>			
1975	3,777.15(20.98)	0.0118(1.33)	0.004	400
1976	1,426.81(2.61)	0.0101(6.71)	0.52	43
1977	2,098.58(6.71)	0.6699(8.41)	0.37	123
	<u>Rural Areas</u>			
1975	2,959.81(37.70)	0.0272(4.68)	0.014	1,515
1976	1,639.73(5.68)	0.0071(6.04)	0.14	233
1977	2,280.39(20.63)	0.1933(13.23)	0.26	495

Note: t-values in parentheses.

41'

Appendix 1--Continued

	Intercept	Coefficient	R ²	Sample Size
<u>Family Size: One Member</u>				
1975	1,150.21(8.63)	0.8561(11.98)	0.26	402
1976	837.11(5.98)	0.0063(6.79)	0.42	66
1977	770.55(3.85)	0.9836(10.68)	0.47	132
<u>Family Size: Two Members</u>				
1975	1,711.96(7.51)	0.7753	0.29	330
1976	1,298.68(6.35)	0.0042(5.78)	0.46	41
1977	1,284.35(5.17)	0.6480(6.32)	0.29	99
<u>Family Size: Three Members</u>				
1975	2,743.31(14.44)	0.3348(8.03)	0.18	302
1976	3,150.09(3.53)	0.0030(0.88)	0.02	45
1977	2,971.14(9.16)	0.1652(8.27)	0.42	97
<u>Family Size: Four Members</u>				
1975	4,312.89(16.65)	0.0117(1.06)	0.004	302
1976	1,890.31(1.21)	0.0230(3.31)	0.31	22
1977	2,535.89(5.56)	0.6118(5.32)	0.23	95
<u>Family Size: Five Members</u>				
1975	2,693.96(11.34)	0.7419(13.06)	0.37	290
1976	2,377.33(4.16)	0.0045(2.33)	0.17	28
1977	3,632.81(6.54)	0.2919(4.59)	0.21	82
<u>Family Size: Six Members</u>				
1975	2,292.23(7.49)	0.9642(11.93)	0.40	218
1976	1,729.52(1.73)	0.0136(5.12)	0.45	34
1977	2,438.60(5.18)	0.7970(6.14)	0.39	59

42

Appendix 1--Continued

	Intercept	Coefficient	R ²	Sample Size
<u>Family Size: Seven Members</u>				
1975	4,036.00(17.12)	0.0107(1.84)	0.02	197
1976	2,357.83(3.80)	0.0037(1.83)	0.16	18
1977	1,084.72(2.79)	0.8996(8.20)	0.60	45
<u>Family Size: Eight Members</u>				
1975	4,337.25(23.70)	0.1443(4.38)	0.04	434
1976	2,575.22(7.60)	0.0047(3.96)	0.25	49
1977	2,849.45(7.56)	0.4330(4.26)	0.13	119