Memorandum #3

Income Distribution in Jamaica, 1984*

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Introduction

Since independence in 1962, Jamaica has witnessed changes in the physical and human capital stock, taxation policies, production technology, household structure and even the general economic system. The percentage of illiterate population declined from 16 percent in 1960 to less than 5 percent by the 1980s, and per capita disposable income (nominal) has more than tripled (Statistical Year Book of Jamaica, 1984). Bauxite and sugar, both major sources of foreign exchange are in economic difficulty caused by declining world prices of aluminum and sugar. These and many other factors, including changes in the political institutions in Jamaica, may have resulted in a redistribution of household income.

The first reported study of household income distribution in Jamaica utilized the 1958 Statistical Institute of Jamaica (STATIN) Household Expenditure Survey (Ahiram, 1964). This study uses STATIN Household Expenditure Survey of 1984 to study the household income distribution in Jamaica. The household is treated as the income receiving unit, as opposed to the use of income per person in analyzing the distribution of income. Households have been classified by socioeconomic features based on characteristics of the household head. These characteristics are the occupation and employment status and age of the household head. Household size and regions (Kingston Metropolitan Area, other main towns and rural areas) were also used to partition the sample. The analysis by type of household will help understand how income has been distributed differently. The income concept used is annual total expenditure of the household, adjusted for at home food production and meals received as gifts. The reported income data in the present and past STATIN surveys (1958 and 1975-1977) proved incomplete or unreliable (Ahiram, 1964 and section 4 of this report). A

better income concept would improve the analysis. However, it is not uncommon to use total expenditure from consumer expenditure surveys to proxy income in national studies on income distribution (Jain, 1975; Ginneken, 1976; Morrison, 1978). The methods used for analyzing and characterizing the income distribution are standard, tabular analysis and Gini coefficients.

2. Objectives and Organization

The objectives of this analysis are:

1. To quantify the degree of income inequality in Jamaica in 1984. The Gini concentration ratio is estimated for this evaluation.
2. To present income distribution profiles of the Jamaican households by selected socioeconomic and demographic characteristics and by region.
3. To compare the changes in income distribution in Jamaica over a nearly 30 year period and to compare the income inequality in Jamaica with that for selected countries.

The analysis is organized to include 6 sections. The third section contains a brief review of the method of analysis. The Gini ratio, tabular analysis, and the expenditure proxy for income are discussed. The fourth section provides the major results of our analysis, divided into two parts. The first part presents results on the evaluation of expenditure as a proxy for income and the second part presents results on income distribution for the selected groups of the Jamaican households and the whole of Jamaica. These estimates are based on the STATIN 1984 Household Expenditure Survey.

A comparison of income distributors in Jamaica over a nearly 30 year period is given in the fifth section, along with a comparison of the income distribution in Jamaica with those of selected other countries. The last section contains a summary and a few speculations on the results.

3. Method of Analysis

Gini Concentration Ratio

The Gini concentration ratio--or simply the Gini ratio--is perhaps the most widely used indicator of income inequality. The Gini ratio is based on the Lorenz curve, obtained by plotting the cumulative percent of income on the vertical axis against the cumulative percent of income recipients along the horizontal axis. The income recipient units can be individuals or households. In this study the recipient units are households.

The degree of inequality based on the Lorenz curve is inferred relative to perfect equality, which is represented as a 45-degree line from the origin and extending northeast as shown in Figure 1. Income equality is said to be perfect if the Lorenz curve coincides with the 45-degree line. On the other hand, if the Lorenz curve coincides with the horizontal axis, perfect inequality is said to result. In the notation of Figure 1, the Gini ratio (GR) is defined as,

$$GR = A/(A+B). \qquad (1)$$

Using the Gini ratio (eq. 1), 0, perfect equality and 1, perfect inequality, define the limits of the measure of income distribution. This convenience in interpretation is one reason for the wide use of the Gini ratio in applied work.

Tabular Analysis

The income distribution profiles of households are presented in tabular form. Households are classified by selected variables and their mean incomes, the standard deviation of mean income, and the share of income accruing to each percentile group for each selected household partition are presented and discussed.

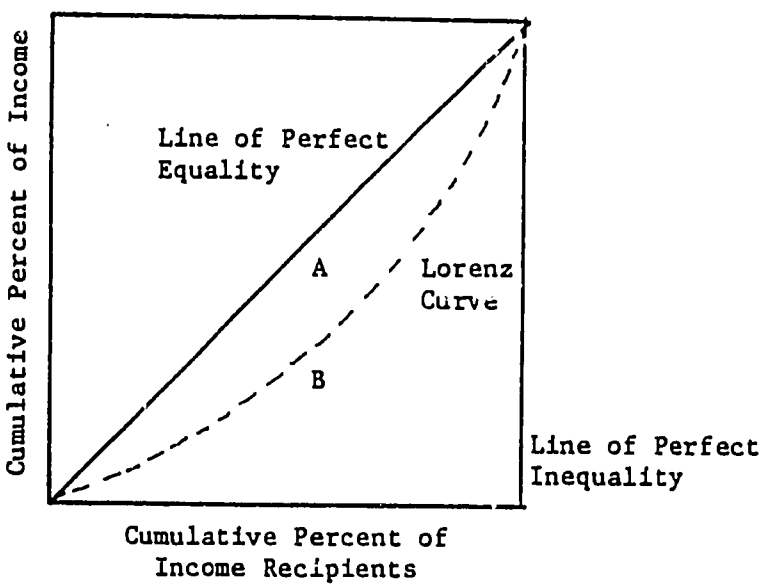

Figure 1. Lorenz Curve.

Evaluating Expenditure as Proxy for Income

Many households did not report their incomes in the STATIN 1984 Household Expenditure Survey as well as in previous STATIN surveys. A simple linear regression model was utilized to estimate percentage of the variation in household expenditures explained by their incomes, using households that had reported both income and expenditure. Also, the marginal propensity to spend was evaluated for plausibility relative to other consumption function anaylses.

4. Results

The presentation of results is divided into two parts. In the first part, results from the analysis to evaluate the relationship between income and expenditure for households that reported both are provided. In the second part, the results on the size distribution of income/expenditure of households are presented.

Expenditure as Proxy for Income

Linear regression equations were estimated with total household expenditure (E) as the dependent variable and total reported household income (Y) as the independent variable for the three regions and for the eight household sizes. Only those households that reported both income and expenditure are included in the statistical analysis. In the linear model,

(1) $$E = a + b\ Y,$$

the parameter "a" is the intercept and the parameter "b" is the marginal propensity to consume. The sign of the coefficient (b) is generally expected

to be positive and close to 1 for developing countries, indicating that a large share of household income is used for consumption. If the parameters are statistically significant, a large part of the variation in household expenditure is explained by income, and the parameter values are plausible, then the income measure is an important determinant of consumption or expenditure. The regression results are presented in an Appendix. The conclusion from the regression analysis using the 1984 Household Expenditure Survey is that household incomes poorly explained the variations in expenditures. For example, consider the estimated regression for the households in other main towns,

$$E = 6428.80 + 0.7518\ Y. \tag{2}$$
$$(15.20)\quad (23.50)$$

Equation (2) explained the highest share of variation in household expenditures, 0.47. The value of the marginal propensity to spend was, however, reasonable and statistically significant, indicated by the t-values in the parentheses in Equation (2).

All the regression results reported in the Appendix were generally poorer than in Equation (2). The conclusion from the regressions is that the income data in the 1984 Household Expenditure Survey were not of sufficient quality to support the estimation of the income distribution.

Size Distribution of Household Income

Variations by Age of Household Head. In Table 1 the size distribution of household incomes (proxied by household expenditure) and related statistics

are presented. Only a small percentage of households were in the group with heads age 24 years or younger. The largest group of households had heads 65 and older, followed by households with heads 30-34 years of age. The distribution of households in the remaining age of head groups was fairly uniform. Variations in the average incomes of households among the age of head groups were small, excluding the group with heads 65 years and above.

The surveyed households were arrayed into percentile groups, after ordering by income in ascending order. Within each age of head group the percentage shares of income accruing to the percentile groups were calculated. The bottom 20 percent (0-20 percent) of households generally received less than 6 percent of the total income for each age of head group. For age groups 60-65 and 65 and above, the lowest 20 percent of households received 4 and 3 percent of the total income, respectively. Households in 20-40 percentile receive twice the income share of those in the lowest quintile for most age groups. Generally, the lower 40 percent of the households accounted for less than 20 percent of the total income and this income share was much lower for the highest two age of head groups. The top 10 percent (90-100%) of the households accounted for over 25 percent of the total income in each age of head group. This income share of the top 20 percent of households was even greater for the highest two age of head groups. Clearly, the distribution of income was more rightward skewed for the older age of head groups in Jamaica.

The Gini concentration ratios (Gini ratios) estimated for each age of head group are also reported in Table 1. With the Gini ratios are the Indices of Inequality. This inequality index is a relative measure and simply the Gini ratio of the respective group divided by the lowest Gini ratio reported

in Table 1. To illustrate, the age of head group 45-49 had a Gini ratio of 0.3553, the lowest reported in Table 1. Other Gini ratios reported in Table 1 were divided by this lowest Gini ratio (0.3553) to compute the Index of Inequality. Thus, relative to the 45-49 age head group, income inequality was 17 percent greater among the 50-54 age of head group and 27 percent greater among the 65-plus age of head group.

Variations by Employment Status of Household Head. For the four employment groups, paid government employees, paid nongovernment employees, own-account workers, and others, the size distribution of income and associated statistics are reported in Table 2. Own-account workers were the largest group of the surveyed households, followed by the paid nongovernment employees group. The mean income of this largest group of households was considerably lower than that of the paid government employees, who reported the highest mean income.

The size distribution of income reported in Table 2 indicates a distribution skewed to the right. Notice the small percentage of income (about 5%) of the bottom percentile of the households. The lower 40 percent of the households accounted for less than 17 percent of the total income in each employment group, compared to over 27 percent for the top 10 percent. Also, observe from Table 2 that the share of income of households reached a peak at the 60-80 percentile group, declined at the 80-90 percentile group and again peaks for the 90-100 percentile group, indicating a bimodal distribution of household income in Jamaica. Similar observations are supported by the results in Tables 3, 4, and 5.

Income inequality was least pronounced among the paid government employees group and most pronounced among the "others" group. The degrees of inequality among the paid nongovernment employees and own account worker

groups were 13 and 11 percent respectively, relative to the paid government employees group.

Variations by Occupation Status of Household Head. Household heads were classified into nine mutually exclusive occupation groups. The size distributions of income and the Gini ratios for these occupation groups are presented in Table 3. About 32 percent of the households heads were self-employed in agriculture, the largest of the occupation groups.

Mean incomes of the households varied significantly among occupation groups. The professionals had the highest mean incomes by group and those self-employed in agriculture, the lowest mean incomes. The gaps between the highest and the lowest mean incomes by household occupation group were large, suggesting a greater degree of income inequality among the occupation groups than observed in Tables 1 and 2.

The size distribution of household incomes was skewed to the right and again had two peaks. The 40-60 and 80-90 percentiles of households had comparable income shares for most of the occupation groups. Income inequality was least pronounced among household with heads who reported transport and communication as their occupation. Coincidentally, this group had the smallest sample size. The manufacturing group had the second lowest Gini ratio. Construction and related occupations had the next lowest Gini ratio. The degree of inequality was most pronounced among the self employed in agricultural households, perhaps reflecting the differences in land holdings.

Income inequality was also significant among the other occupation groups. For example, income inequality was about 25 percent greater among the services occupation group than transport and communication group. The Gini coefficient is sensitive to the sample size and the number of percentile groupings.

However, the samples of households in the occupation groups were sufficient to be representative of the corresponding populations.

Variations by Household Size. The distribution of households by size, their mean incomes, the distribution of income, and the estimated Gini ratios are reported in Table 4. Average incomes of households by size were positively related. Recall that the mean incomes reported are for the household and not per capita incomes. The estimated Gini ratios indicated that income inequality was most evident for the unimember households. Of course, for this group, mean incomes are per capita incomes. Households with eight members had the lowest income inequality. Compared to households with the lowest Gini ratio, the distribution of income for the unimember households was about 45 percent less equal.

Variations by Regions. In 1984, about 52 percent of Jamaican households were rural. These households on an average had a mean income of J$ 10,108; compared with a mean household income in KMA of J$ 15,452 (32 percent of households in Jamaica). The other town households were 16 percent of the sample and had a mean income between that for the KMA and the rural households, J$ 13,500 (Table 5).

The size distributions of income displayed a pattern similar to those observed earlier, with two peaks. However, the shares of income accruing to the respective percentile groups by region were very similar. The other main towns had the lowest income inequality and rural areas the largest. Rural housholds had inequality about 7 percent greater than households in the other main towns.

5. Income Inequality in Jamaica Over Time

The Statistical Institute of Jamaica conducts household expenditure surveys periodically. In this section, estimated income distributions for Jamaica over time are presented. In Table 6, the size distributions for income by decile group for all Jamaica and for selected countries are presented. The income distribution statistics in Table 6 for Jamaica are all based on Statin Household Expenditure Surveys. Moreover, the definition of income (total expenditure) used for developing the distribution estimates from the five surveys was very similar. Hence, the size distributions of income, the changes in the size distribution, and the Gini ratios provide a comprehensive measure for evaluating changes in Jamaica over a nearly 30-year period.

The shares of income by decile group have changed considerably since 1958. For example, in 1958 the lowest 10 percent of the households received less than 1 percent of the total household income in Jamaica. After nearly 3 years the share of the lowest 10 percent of households had about doubled. Th results for 1984 were not very different from those for 1975, 1976, and 1977. The income share of the top 10 percent of households in 1958 was 43.8 percent This share of the top 10 percent of households has declined to about 35 percent in 1977 and about 30 percent in 1984.

Clearly these results suggest a decline over time in the inequality of income in Jamaica. The estimated Gini ratios by year summarize the reduction in income inequality in Jamaica. In 1958, the Gini ratio was 0.5766, but declined to 0.4589 in 1977 and 0.4223 in 1984. The change in the Gini ratio between 1977 and 1984 was smaller than between 1958 and 1977. This was expected since changes in the distribution of income are not easily made

during short time periods. The distribution of income in Jamaica remains somewhat unequal but the changes that have occurred in Jamaica since 1958 have brought about greater equality in the distribution of income.

For comparison purposes, the distributions of income and the Gini ratios are also presented for selected other countries in Table 6. However, before comparisons are made, some qualifications must be noted. In most of the countries listed in Table 6, the surveys are at the household level, the exceptions are noted. In all cases national level samples were used. Not all countries had data on household expenditure, as used in this study to proxy household income (see Jain, 1975, for detail). For the present purposes, a complete documentation of these details is not warranted (Jain, 1975). But, the qualifications suggest that the results should be used only for qualitative compromise.

The Gini ratios reported in Table 6 indicate that compared to selected countries such as Pakistan and Sri Lanka, the distribution of incomes in Jamaica is still unequal. However, compared to other countries such as the Bahamas, Brazil, Malaysia, and the Philippines, the picture of income equality in Jamaica is relatively better, and much improved over the situation in 1958. The 1984 estimates for Jamaica are more recent than those of the other countries. Improvements in income inequality could have been made in these countries during the last 10 to 15 years.

6. Summary and Conclusions

This memorandum has provided information on the income distribution in Jamaica based on the 1984 Household Expenditure Survey. As for previous expenditure surveys in Jamaica (1975-1977), only a small percentage of the

households reported incomes. To evaluate the relationship between household expenditure and income, regression equations were estimated using data for those households who had reported both income and expenditure. The results of the regression analysis show that the self reported household incomes poorly explained variations in household expenditures. As a result, total annualized household expenditure was used as proxy for household income in evaluating the income distribution.

The income distribution in Jamaica was analyzed for several partitions of the 1984 sample. The variables used to partition households were employment, occupation status, and age group of the household head, household size, and location by region of the household. It was found that the income distribution in Jamaica across all partitions was skewed to the right. The lowest 40 percent of the households in most cases accounted for less than 25 percent of the total income in each sample partitions. Income concentration among the top 10 percent of the households in most cases was quite evident.

The estimated Gini ratios indicated that the income inequality by sample partition was variable. Among the household size partitions, inequality was most pronounced, with unimember households having the highest inequality. Income inequality was least pronounced among the regions, indicating that the disparity in income across the three regions (KMA, other main towns, and rural areas) was not as significant as the other sample partitions. Of course, the average level of household income was higher by about one-third in KMA.

The sampled households were regrouped into decile groups for the whole of Jamaica and the size distribution of income and the Gini ratio were

reestimated. The lowest 10 percent of the households accounted for 1.3 percent of the total income, whereas the top 10 percent accounted for about 30 percent of the income. Although income inequality was less in 1984 than 1958, the top 30 percent of the household population still controlled over 70 percent of the total household income in Jamaica in 1984.

Comparisons of the size distribution of income accruing to the decile groups over time were also made. The results indicated that between 1975-1977 and 1984 the share of the top 10 percent of that population of households declined from nearly 35 percent in 1977 to about 30 percent in 1984. This decline appears to have been accounted for by a gain by households in the middle groups (30-40% to 70-80% deciles). The share of the lowest 10 percent of the households showed no change between 1975-1977 and 1984.

Overall the estimated Gini ratio for Jamaica in 1984 suggests a moderate decline in the degree of income inequality relative to 1975. The Gini ratio estimated in 1975, 1976, 1977 and 1984 were respectively, 0.4452, 0.4492, 0.4589 and 0.4223. However compared to 1958 when Gini ratio was 0.5766, the degree of equality in the distribution of household incomes has improved dramatically in Jamaica.

Table 1. Income Distribution Estimates by Household Head Age Group: Jamaica, 1984.

Age Group	Sample Size	Sample Percent	Mean Income (J$)	Standard Deviation	Percentile Group of Households 0-20 %	20-40 %	40-60 %	60-80 %	80-90 %	90-100 %	Gini Ratio	Index of Inequality
					Percentage Share of Income Accruing to Households							
-24	206	4.81	10146	8426	5.66	10.53	15.14	21.85	17.14	29.69	0.3890	109
24-29	425	9.91	13474	12938	5.23	10.13	14.97	21.70	16.68	31.29	0.4033	114
30-34	468	10.92	14506	10772	5.60	10.54	15.98	24.08	16.95	26.85	0.3709	104
35-39	417	9.73	14643	11368	5.81	11.58	16.01	23.12	16.53	26.95	0.3588	101
40-44	400	9.33	14776	11450	4.90	10.01	16.23	24.66	16.96	27.23	0.3832	108
45-49	338	7.88	13775	9863	5.76	11.09	16.73	23.91	17.00	25.51	0.3553	100
50-54	412	9.61	14037	12272	4.17	9.65	14.90	23.49	18.06	29.73	0.4164	117
55-59	325	7.58	12913	10668	4.52	9.55	15.04	24.22	18.00	28.67	0.4072	115
60-64	346	8.07	11167	10647	3.76	7.94	14.90	24.52	18.94	30.14	0.4413	124
65+	950	22.16	8226	8143	3.35	8.64	14.38	22.90	18.15	32.58	0.4505	127

SOURCE: 1984 Household Expenditure Survey, STATIN.

Table 2. Income Distribution Estimates by Employment Status of Household Head: Jamaica, 1984.

Employment Status (J$)	Sample Size	Sample Percent	Mean Income	Standard Deviation	Percentile Group of Households 0-20 %	20-40 %	40-60 %	60-80 %	80-90 %	90-100 %	Gini Ratio	Index of Inequality
					Percentage Share of Income Accruing to Households							
Paid Government Employee	569	13.27	16406	12867	4.98	11.16	16.95	23.67	16.29	26.96	0.3688	100
Paid Non-Government Employee	1545	36.04	12891	11157	4.15	9.53	15.19	23.58	17.94	29.61	0.4151	113
Own Account Worker	1956	45.63	10561	9178	4.48	9.83	15.24	23.21	17.39	29.85	0.4082	111
Others	217	5.06	13949	13385	3.01	8.57	14.10	24.61	18.81	30.91	0.4520	123

SOURCE: 1984 Household Expenditure Survey, STATIN.

Table 3. Income Distribution Estimates by Occupation Status of Household Head: Jamaica, 1984.

Occupation Status	Sample Size	Sample Percent	Mean Income (J$)	Standard Deviation	Percentile Group of Households 0-20 %	20-40 %	40-60 %	60-80 %	80-90 %	90-100 %	Gini Ratio	Index of Inequality
					Percentage Share of Income Accruing to Households							
Professional/ Administrative	378	8.82	19807	15459	4.18	10.13	16.51	24.02	18.27	26.88	0.3934	122
Clerical/Sales	316	7.37	19311	13724	4.51	10.35	17.22	25.91	17.50	24.52	0.3706	115
Self Employed/ Agriculture	1351	31.51	8818	8433	4.70	10.08	15.22	22.70	16.77	30.53	0.4051	125
Self Employed/ Non-Agriculture	731	17.05	12948	10415	4.54	10.38	16.23	24.06	16.83	27.96	0.3881	120
Manufacturing/Related	146	3.41	13070	8401	6.36	12.20	17.76	22.60	17.52	23.56	0.3277	101
Services	698	16.28	10970	9310	4.08	9.53	15.49	24.35	17.54	29.00	0.4112	127
Transport/ Communication	120	2.80	16055	10458	5.89	12.46	17.87	24.49	15.69	23.60	0.3232	100
Construction/ Installation/ Repair	287	6.69	13449	8812	6.67	12.07	16.50	23.92	16.48	24.36	0.3299	102
Others	243	5.67	9469	6793	3.98	10.74	17.30	25.48	17.42	25.08	0.3762	116
Missing	17	0.40	18619	17792	3.51	11.56	13.71	23.93	23.58	23.71	0.4255	132

SOURCE: 1984 Household Expenditure Survey, STATIN.

Table 4. Income Distribution Estimates by Household Size: Jamaica, 1984.

Houshold Size	Sample Size	Sample Percent	Mean Income (J$)	Standard Deviation	Percentile Group of Households 0-20 %	20-40 %	40-60 %	60-80 %	80-90 %	90-100 %	Gini Ratio	Index of Inequality
					Percentage Share of Income Accruing to Households							
One Member	803	18.73	6119	6168	3.58	8.50	14.20	22.64	17.50	33.58	0.4532	145
Two Members	622	14.51	9433	8731	4.54	9.43	14.75	23.45	16.70	31.14	0.4172	133
Three Members	592	13.81	12160	9795	5.39	10.23	15.52	22.75	17.12	28.99	0.3880	124
Four Members	579	13.51	13935	11827	5.56	9.83	14.38	23.02	17.50	29.70	0.4000	128
Five Members	508	11.85	14574	12835	5.77	10.48	15.84	22.87	16.30	28.73	0.3771	121
Six Members	333	7.77	16100	11825	6.50	11.37	16.22	23.68	16.20	26.02	0.3456	110
Seven Members	301	7.02	15145	10842	6.35	11.35	16.21	23.31	16.59	26.20	0.3495	112
Eight/More Members	549	12.81	17423	10807	6.99	12.54	17.38	23.86	15.76	23.47	0.3129	100

SOURCE: 1984 Household Expenditure Survey, STATIN.

Table 5. Income Distribution Estimates by Location of Household: Jamaica, 1984.

Location	Sample Size	Sample Percent	Mean Income (J$)	Standard Deviation	Percentile Group of Households 0-20 %	20-40 %	40-60 %	60-80 %	80-90 %	90-100 %	Gini Ratio	Index of Inequality
					Percentage Share of Income Accruing to Households							
Kingston	1373	32.03	15452	12420	4.41	10.23	16.04	23.85	17.17	28.31	0.3944	102
Other Towns	668	15.58	13501	10463	4.92	10.24	15.48	24.21	17.82	27.33	0.3881	100
Rural	2246	52.39	10108	9349	4.28	9.69	15.07	23.37	17.35	30.24	0.4142	107

SOURCE: 1984 Household Expenditure Survey, STATIN.

Table 6. Income Distribution Estimates and Related Statistics for Selected Countries.

Country	Survey Year	Decile Group of Population/Household 0-10 %	10-20 %	20-30 %	30-40 %	40-50 %	50-60 %	60-70 %	70-80 %	80-90 %	90-100 %	Gini Ratio
		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
Jamaica	1984	1.3	2.9	4.1	5.4	6.8	8.4	10.5	13.2	17.6	29.9	0.4223
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 in Brazil, where the survey was conducted by income recipient. All surveys were at the national level. For Jamaica, results (1975-1977) were based on total household expenditures.

Source: For Jamaica, 1975-1977 and 1984 Household Expenditure Surveys, STATIN. All other results were obtained from Jain (1975).

APPENDIX

Sample Results For Regressions of Total Household Expenditure on Total Household Income: 1984 Household Expenditure Survey

Intercept	Coefficient for Income	R^2	Sample Size
	Kingston		
8960.09 (25.54)	0.6119 (28.96)	0.40	1,273
	Main Towns		
6248.80 (15.20)	0.7518 (23.50)	0.47	635
	Rural Areas		
5881.40 (28.24)	0.6804 (33.18)	0.34	2,158
	Household Size: One Member		
3221.61 (15.22)	0.7404 (22.87)	0.41	741
	Household Size: Two Members		
5173.20 (16.87)	0.6073 (24.80)	0.51	591
	Household Size: Three Members		
7284.01 (19.32)	0.5617 (20.98)	0.44	564
	Household Size: Four Members		
8222.94 (15.80)	0.5919 (16.91)	0.34	543
	Household Size: Five Members		
8101.39 (12.99)	0.7097 (16.18)	0.35	491
	Household Size: Six Members		
8419.25 (11.97)	0.6889 (15.06)	0.42	315
	Household Size: Seven Members		
9339.08 (13.21)	0.5957 (11.83)	0.33	288
	Household Size: Eight or More Members		
10962.26 (18.26)	0.6399 (14.61)	0.29	528

Note: Only households responding both total income and total expenditure were used to estimate the regressions.

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