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HOUSEHOLD FOOD CONSUMPTION IN THE DOMINICAN REPUBLIC, 1976-1977: AN ANALYSIS OF THE EFFECTS OF INCOME, PRICE AND FAMILY SIZE

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I. INTRODUCTION

Between May 1976 and April 1977, the Central Bank of the Dominican Republic conducted the first nationwide survey of household income and expenditure ever taken in the country. The only previous such survey was conducted in 1969, by the National Statistical Office, and was limited to the capital city of Santo Domingo. Fifteen municipios, including the principal cities of the country, were included automatically in the new sample; another 24 municipios were chosen to represent the rest of the country, and urban and rural samples were drawn separately in each. Applying a sampling probability of 1:200 to the estimated 889,313 households in the country led to an initial sample of over 4400 observations, of which 4028 (1681 urban and 2347 rural) remain in the final data after cleaning.

The ENIGF, as it is called from its Spanish acronym, was conducted for the traditional reason--to provide the basis for a new index of consumer prices (Banco Central, 1982)--and is a traditional survey of income and consumption, both monetary and nonmonetary. Because the Dominican Republic is largely rural and agricultural, and because at median income levels food accounts for slightly more than 60 percent of total spending for a typical household, particular care was taken to obtain reliable and complete information on food expenditure and consumption. Two points are important in this regard. First, domestic production as well as market purchase is included in every food category, and estimates were obtained for the quantity of food as well as the value, whether

purchased or not. Second, the availability of data on both value and quantity makes it possible to estimate the unit value, or price, for every purchase or consumption. Since the survey was conducted over an entire year, there is room for both seasonal and geographic price variation. The price data required extensive checking and cleaning, largely because of the variety of imprecise units of quantity reported by respondents ("box", "bottle", "bag", etc.). This involved research at the outlet level during 1982, to establish typical sizes and conversion factors; as a result, some prices still had to be imputed assuming that a household paid the average unit value for an item, but much price variation was preserved. The data on quantities and values were also subjected to checking for extreme values by examining large residuals from preliminary regression analyses. These procedures are described by Ross (1982); together they assure that reported prices, quantities and values are not only consistent among themselves but accurately reflect the variation in unit values among different ways of buying the same good.

The Central Bank has already published, using the incompletely cleaned data on values and estimates of quantities based on average prices, tables of estimated mean expenditure and physical consumption by different regions of the country and levels of total household income (Banco Central, 1982). The analysis presented here is based entirely on estimated consumption functions, using the final cleaned version of the data: this reduces the information of interest to a relatively small number of parameters, and allows estimates to be made of the responsiveness of consumption to the

three factors I consider to be most important in a preliminary analysis: the household's total expenditure (V), the number of members (N) and the price of a good or category (P). No account is taken of the prices of other goods, of the composition of the household (as between adults and children, for example), of its geographic location or of other factors such as the composition of its income or the degree to which it produces its own food.

The conditions which a set of consumption functions must satisfy if they are to represent an underlying utility function are well known, and there is a large literature on the "best" way to estimate a family of such functions, with or without incorporating the theoretical restrictions (Phlips, 1974; Brown and Deaton, 1972). I have chosen not to impose these restrictions in the analysis which follows, for the following reasons. First, particularly for the most important foodstuffs, own-price effects are probably much larger than cross-price effects; and since the theoretical conditions are of interest chiefly to secure a consistent set of all price-elasticities, they are less important if the analysis is limited to own-price effects. Second, since incomes vary greatly in the Dominican Republic, it is valuable to estimate functions which explain consumption reasonably well over a wide income range. This means that there is little to be gained from functions which approximate the utility function, with all its conditions, around some one point such as the means of all expenditures and income, but provide poor explanations away from the mean. In particular, the functions estimated should give a reasonable fit for households

near a poverty line. Finally, it is desirable not to purchase theoretical consistency at the cost of unnecessary additional restrictions due to the rigidity of the functional form. For example, all the conditions of a utility function can be satisfied by the very simple linear expenditure system (Phlips, 1974), but then the budget shares are all constant at the margin and all own-price elasticities tend to -1. All of these considerations, it should be said, seem most valid for a preliminary analysis. As more results are obtained from a body of data, there is more value to imposing additional restrictions; future analyses for the Dominican Republic might for example follow the model of Yetley (1983; Yetley and Tun, 1981) which has been applied in three variants to similar data for Sri Lanka. It should also be said that the rigidity introduced by respecting utility theory can be reduced if consumption functions are estimated separately for different groups of consumers. I have not done that here, in part because the distributions of income for different groups are, with one notable exception, very similar in shape (Musgrove, 1983), and in part because combining all regional and other groups in one estimation probably maximizes price variation and so makes it easiest to estimate price effects on consumption.

The food items included in the ENIGF questionnaire have been grouped into 12 large categories, excluding only alcoholic beverages and meals away from home. (These categories were left out in order to create a food aggregate appropriate for analysis of families in poverty.) Within each of the categories except one

(fresh vegetables) there is at least one food item which was consumed by more than one-tenth of the sample households and by some households in every decile of the distribution of total income, and which represents at least 0.5 percent of total spending for a family at the poverty line. Seventeen such products were identified, including such staples of the Dominican diet as rice, red beans, yuca and plantains, together with nine items of animal origin.

For each category or item, two consumption functions were estimated using only those observations with non-zero consumption. The first form relates the share of the budget devoted to an item, to the level of total expenditure per person,

$$V_r/V = B_{or} + B_{1r} \log (V/N) \qquad (1)$$

where V_r is expenditure on item or category r. This specification has been found (Deaton, 1981) to give an acceptable fit over a wide range of expenditure per person; it can be extended by the introduction of a quadratic term in log (V/N), and by the inclusion of binary variables for regional or other distinctions (Deaton, 1982). The use of total household size, with no allowance for composition effects, appears to be justified, at least where food expenditures are concerned, by the rather small adjustments that would be necessary in order to represent welfare more adequately (Deaton, 1981). The chief limitations of this form are the exclusion of any price effects, and the exclusion of any effects due to economies of scale in other components of the budget, which might make the share V_r/V respond differently to "equivalent" changes in total expenditure and in family size.

The second specification relates physical consumption C_r to total expenditure, family size and the price of the good, P_r:

$$\log C_r = B_{or} + B_{1r}(NP_r/V) + B_{2r}\log P_r + B_{3r}\log N + B_{4r}\log V \quad (2)$$

Since $V_r = P_rC_r$, the equation for $\log V_r$ is identical except that B_{2r} is replaced by $B_{2r} + 1$. This specification has been tested in a simpler form, with $N = P_r = 1$, as a function of V only, with satisfactory results (Del Rosario and Musgrove, 1982). If the first independent variable is suppressed, it becomes a standard double-log function, which can be used with V alone (Musgrove, 1978) or with V, P_r and all cross-prices (Yetley, 1983). Family size, regional, and other effects can be included via binary variables also (Musgrove, 1978).

Specification (1) respects the adding-up condition, provided the same observations are used to estimate the equations for all items, with the following conditions on the parameters:

$$\sum_r B_{or} = 1, \ \sum_r B_{1r} = 0 \quad (3)$$

Elasticities with respect to expenditure and family size are

$$\eta_{rV} = 1 + B_{1r}(V/V_r), \ \eta_{rN} = -B_{1r}(V/V_r) \quad (4)$$

from which $\eta_{rV} + \eta_{rN} = 1$. For foodstuffs, B_{or} positive and B_{1r} negative are to be expected, so that η_{rV} may change sign but η_{rN} should always be positive. The predicted budget share exceeds 1.0 as V/N tends to zero, and becomes negative at high enough expenditure per person. The second specification does not respect even the adding-up restriction, but it always gives a positive value for C_r or V_r. Furthermore, it permits consumption to rise monotonically with total expenditure (if $B_{4r} > 0$) or to rise to a maximum and then fall

back to zero (if $B_{4r} < 0$, the item is a Giffen good in the range of V beyond the point where the maximum in C_r occurs). The term NP_r/V is the maximum consumption per person the household could buy, if it devoted all of expenditure to the item: calling this c_r^*, the equation can be written in per-capita form as:

$$\log c_r = B_{or} + B_{1r}(1/c_r^*) + B_{4r}\log c_r^* + (B_{4r} + B_{2r})\log P_r + (B_{4r} + B_{3r} - 1)\log N \quad (5)$$

which reduces to a function of potential consumption alone if $B_{4r} = -B_{2r}$ and $B_{4r} + B_{3r} = 1$. The three elasticities with respect to expenditure, family size and price in this form (2) are:

$$\eta_{rV} = B_{4r} - B_{1r}(1/c_r^*),\ \eta_{rN} = B_{3r} + B_{1r}(1/c_r^*) \text{ and } \eta_{rP} = B_{2r} + B_{1r}(1/c_r^*) \quad (6)$$

The coefficients B_{2r}, B_{3r} and B_{4r} are therefore the limiting values of the elasticities as V increases or P_r tends to zero. For poorer families the elasticities can be quite different from these limiting values, which themselves are not constrained to tend to 1 or -1. B_{3r} and B_{4r} should be positive and B_{2r} negative; B_{1r} will be negative for basic foods or all foods at high incomes, but could be positive for luxury foods at low incomes. Note also that the difference between any pair of elasticities is independent of potential consumption.

II. EMPIRICAL RESULTS: BUDGET SHARES

The parameter estimates, standard errors, R^2-statistics and numbers of non-zero observations are shown for each of the categories or items for which equation (1) was estimated, in Table 1. (The

numbers of observations are the same when equation (2) is estimated, since in each case all non-zero values are used.) Given the form of the function, the fit is poor for any product with a unitary income elasticity, such as meat or milk; the adjustment is better for relative necessities such as rice and beans, especially when these take a substantial share of the budget. A low correlation may also indicate the importance of other determinants such as price, but that cannot be inferred from these equations.

Since the coefficients are not very informative by themselves, the estimating equations have been used for a series of calculations to display predicted budget shares, food shares, expenditures and quantities, in Tables 2.1, 2.2 and 3. In the first two of these, spending is shown for each of the 12 categories first as a share of total spending and then as a share of total spending on food and drink. Five levels of total family expenditure are used for this analysis, corresponding to the following percentiles of the cumulated distribution of total family income (Musgrove, 1983):

RD$/Mo:	50	100	200	400	800
Urban households	3	15	45	77	92
Rural households	9	35	75	93	99
All households	6	27	63	86	96

Family sizes of three, five and seven members are used: average household size is 5.5 in urban and 6.0 in rural areas of the Dominican Republic, while a family of three is close to the minimum of two people included in the survey. The combination of expenditure of 100 pesos per month with five people corresponds to the approximate poverty

line of 20 per person per month I have used in the analysis of the distribution of income (Musgrove, 1983) using these same data. Combinations of lower income or larger families represent households in absolute poverty; these account for about 29 percent of all families in the country and include some 36 percent of the population.

Table 2.1 shows all categories of food, except for meat and poultry, taking a steadily smaller share of the total budget. Two categories, in fact--roots and tubers, and dried beans--are projected to disappear entirely from the diet of the upper decile of the income distribution. In fact even rich households continue to consume these foods, but they are largely replaced by rice, bread, and animal protein sources. Food spending in total takes a sharply declining part of total spending, but the decline is of course much faster for small families than for large ones. As a rough approximation, half of all households can be expected to spend 60 percent or more of the budget on food, while families with per capita incomes eight times as high as the poverty line should still be expected to spend about 40 percent on food.

Table 2.2 is somewhat more informative, since it shows the composition of the food budget, in which some categories are relative luxuries and take larger shares as income increases, while others decline relatively as well as relative to the total budget. Not surprisingly, the most marked change is the replacement of beans and yuca by meat and milk. Cereal products (chiefly rice) show the largest absolute drop in budget share, but they are clearly preferred over tubers and beans as sources of calories. The share devoted to

sugar and sweets declines, but not dramatically, that for fats and oils is nearly constant, and the share for seafood falls. The last finding indicates that although the luxury seafood items such as shrimp may take a rising share of the food budget and even of the total budget, the bulk of fish and shellfish consists of dried or salted codfish and herring, and these are increasingly replaced by meat and poultry as incomes rise. Finally, so far as family size is concerned, what is most striking in Table 2.2 is the variation in the rate at which cereal products decline in importance. These are the principal source of calories, and so while they drop from 27 to 3 percent of the food budget for families of three people, they decline only from 30 to 12 percent of the budget for families of seven people. The complement of this difference appears not in any one category but is distributed over all the remaining types of food.

The budget share from Table 2.2 can be converted to an actual expenditure simply by multiplying by the value of total expenditure, as is done in Table 3. These calculations refer only to a family of five people at the poverty line, with total spending of 100. Since the equations were estimated only for those families which consumed the item in question, and since these were sometimes less than a fourth of the sample, the projected expenditure is next multiplied by the share of consumers in the total, to give an "adjusted expenditure". If this is not done, as is evident from the second column of the table, the sum of spending on components can exceed total spending in a category: this is most notable in the case of meat and poultry,

where a family typically bought, during the survey week, only a few of the many different items distinguished in the questionnaire. Dividing the adjusted expenditure by the mean price among the households which consumed the item, gives an estimate of mean quantity per family consumed, which is then expressed as quantity per person in the last column. These estimates depict a diet in which cereal products, tubers, sugar and plantains together--all carbohydrates, with low protein content--provide just over a pound of food per person per day; including beans, which improves the amount and quality of protein, gives a total of 18 ounces a day. All animal products together (except perhaps for small amounts of butter or lard) provide another two ounces, and fats and oils (chiefly vegetable oils) almost another ounce. Tubers such as yuca are by far the cheapest source of calories in this diet, followed by plantains and bananas, but they are consumed in smaller amounts than the considerably more expensive cereal products, which also provide protein, especially when combined with beans. Rice alone appears to account for one-fourth of total food intake.

III. EMPIRICAL RESULTS: PRICE, INCOME AND FAMILY SIZE EFFECTS

The parameter estimates, standard errors, and goodness of fit of the consumption functions estimated in form (2) are shown in Table 4. The R^2-statistics are systematically higher than for specification (1), because price effects are included, income and family size are allowed to affect consumption differently, and the income

effect is not required to be monotonic; but the goodness-of-fit cannot be compared fairly between the two forms, since the dependent variables are quite different. The signs of the coefficient are always as expected, and almost all parameters are statistically significant; B_1 is the parameter most often indistinguishable from zero, which is reasonable since it is associated with all three explanatory variables. Income effects are negative only for beans, and close to zero for sugar and herring; all these are inferior foods in the Dominican diet. Family size always has an effect (via B_3) for foods of vegetable origin, but does not appear to affect consumption for a number of animal products. This is consistent with the supposition that as family size increases, for a given income, first priority goes to obtaining enough calories, and a (nearly) constant amount of animal protein is shared among more people. Dried beans, which are the closest vegetable substitue for meat, show a large and positive reaction to increased household size. Finally, all the price effects are non-positive, being indistinguishable from zero for raw sugar and for several animal products--the standard errors of estimate are quite large for codfish and for cooking cheese, but the coefficients are negative.

One comparison of particular interest in these results is that between commercial (bought) and domestic (home-produced) eggs. Nutritionally, these are perfect substitutes, and as Table 4 shows, the income effect on consumption is indistinguishable between them: neither B_1 nor B_4 is statistically different. However, the effect of family size appears to be twice as large for commercial eggs as

for domestic eggs, and the price effect appears to be eight times as large (B_2 is not distinguishable from zero for home-raised eggs). This phenomenon may be much more general: that is, food raised at home may in the short run, at least, be quite insensitive to price and relatively insensitive to family size, the amount consumed depending rather on the family's resources in land, water, time and other agricultural inputs. In the long run, price may affect consumption either by shifting output between home use and sales to the market, or by shifting production among different foods, but in the short run the effect is felt only by consumers who buy the item --that is, particularly by urban consumers. For no other item is there a distinction between "commercial" and "domestic" in the questionnaire, with both goods being consumed by large numbers of households, but this hypothesis might be tested by treating the same food as two different goods according to whether it was purchased or was produced by the family, this information being available for all goods.

If it were not for the term in NP_r/V in the consumption function, specification (2) would be double-logarithmic in price and total expenditure, so that for a fixed family size consumption could be represented by a family of parallel straight lines on double-log paper. Figure 1 shows how the actual estimated consumption functions differ from this pattern, for four foods with different combinations of parameter values. Rice shows a low, and declining, income elasticity and a moderate price elasticity which does not change much as income rises. Red beans have an income elasticity which actually

turns negative--consumption declines beyond a total expenditure of RD$ 200 per month, for a family of five--and a price elasticity which shrinks considerably as income increases. Plantains and raw milk both are characterized by high, and nearly constant, income responsiveness, but the former show a high price elasticity while the latter is virtually insensitive to price. Each of the food items studied fits one of these patterns approximately. The graphs also show the relative importance of the different foods at the poverty line, as in Table 3; rice is some 20 times more important than milk, at that income level, whereas the ratio shrinks to about 6:1 in the top income decile.

One of the advantages of specification (2) is that there is no such thing as "the" elasticity with respect to any of the three basic explanatory variables; each elasticity depends on the values of all three variables, unless the parameter B_1 is zero. As Figure 1 shows, the resulting elasticities may be approximately constant or may vary considerably, particularly as income changes. In order to give a better idea of the numerical values of the elasticities, I have calculated these for a family of five people at the poverty line (expenditure of RD$ 100), at the sample mean price level: the income elasticity is then proportional to the slope of the central line in each family of lines in Figure 1, and the price elasticity is proportional to the distance between lines of the same family (same good), where the consumption functions cross the poverty line. The results appear in Table 5. Even for a poor family, most income elasticities are well below 1.0. Only for meat and poultry is the

elasticity clearly above one, with high values also for dairy products, fresh vegetables and fruits (the elasticity may be very high for fruits other than plantains and bananas, since the value for plantains is so much less than that for fruits in total). The own-price elasticities are all negative, and most are slightly below one in absolute value: the estimated elasticity for total food and drink is exactly unitary.

The estimates in Table 5 say nothing directly about cross-price effects and substitutions in the Dominican diet, but together with some knowledge of eating habits and preferences in that country they can be interpreted to draw some inferences about substitution. It is noteworthy, for example, that yuca and tubers generally show a very large price elasticity: if these foods rise in price, consumers apparently switch to rice and perhaps also to bread and to beans, which are more expensive calorie sources but are preferred foods. The elasticity for rice is much lower than that for other cereal products, indicating that rice is more basic in the diet and that substitutes for it respond much more to price shifts. It is also evident that consumers switch across different qualities of meat in response to relative price changes, since the total elasticity is much higher than those for the lower-priced items included in this analysis. The much higher income elasticity for meat than for seafood also suggests that as relative prices change or incomes rise, consumers try to increase their consumption of meat relative to all other forms of animal protein.

I have used the consumption functions to extend the kind of

analysis shown in Figure 1, to all seventeen products studied and to all three family sizes (three, five and seven members) as well as to five income levels and three price levels. The results constitute Tables 6.1 to 6.17 in the Appendix. The quantities shown refer to families actually buying the food in question, corresponding to the expenditure in the second column of Table 3: for example, beef consumption is 0.47 kilos per person per month among the 489 families reporting purchases of beef in the sample, or 0.06 kilos on average in the population, both estimates referring to a family of five members at the poverty line. These tables can be used to see how relatively large changes in price, income or household size would affect consumption; since the elasticities are not constant, it is not enough to project changes in consumption using a point estimate of elasticity, as can safely be done for small changes of the order of a few percent in price, for example (Yetley and Tun, 1981).

IV. CONCLUDING REFLECTIONS

To discover that the coefficients of a consumption function have the "right" sign, or that the projected quantities and expenditures are "reasonable", means only that the model and estimation procedure used were not clearly erroneous. In that sense, the results in sections II and III include no real surprises; in order to get any use out of the estimation exercise for purposes of public policy, either in the Dominican or the United States government, it is necessary to pose different, specific questions which these data and estimates

can help to answer, or for which the results shown here can serve to define further research toward a better answer. It is not hard to list a variety of extensions of the research which may prove fruitful, beginning with efforts to include prices of other goods in the consumption function, and to take account of family composition as well as just the number of members. As to the first, the results discussed in section III suggest sets of goods whose prices should be jointly taken into account, such as rice/bread/yuca/plantains and meat/seafood/milk products/beans, without necessarily estimating a full matrix of cross-price elasticities. As to the second, it would probably be valuable to distinguish between adults and children, both because family size and composition differ by income level in the Dominican Republic and because children's needs for protein may be higher, relative to those of adults, than their needs for calories. The findings on the income- price- and size-elasticities need to be re-interpreted so as to separate, so far as the data permit, effects on children's and adults' consumption of particular foods.

As to what can be learned from the results already in hand, discussions at the Seminar organized at the Central Bank in Santo Domingo in 1982 (29 November to 2 December) to discuss research on the ENIGF data provide two suggestions. The first concerns the appropriate policy toward the price of milk, the producers of which were requesting an increase while the government appeared reluctant to raise the price of a food whose consumption it would like to stimulate, especially among young children. It is clear from the

estimated consumption function for raw milk (and to a lesser degree from the estimates for milk products in total), that consumption is extremely sensitive to income changes but responds very little to changes in price. At the poverty line, milk in fact shows the lowest price elasticity of any product studied, with white cooking cheese giving the second-lowest estimate. Holding down the price of milk will therefore have little effect on consumption, with possibly a large effect on production; it would seem to be much more efficient to arrange for direct distribution of milk to poor children or to their families, through schools where that is possible and by other means where necessary. At least, these findings direct attention away from a price subsidy and toward some other mechanism.

As a second example, the state price-control agency, INESPRE, regulates the prices of rice, beans, and several other staples. In view of the relatively high price elasticity of beans compared to that of rice, and the varied evidence that rice is preferred to tubers while meat is bought to substitute for beans as income rises, it appears that price control can have a significant impact on the protein-calorie balance of the diet of the poor. Here a price policy does seem to be appropriate; in the case of beans, this is reinforced by the fact that the price elasticity falls markedly as income rises, while eventually consumption also falls as families substitute animal sources of protein. Therefore a subsidy intended for the poor does not much affect the consumption or spending of the rich. If other starchy foods are considered together with rice and beans, it is also clear that consumption of plantains can be very much affected by

price controls, but in that case the rich would obtain as large a proportional benefit as the poor, since they also consume large amounts of plantains and maintain a high price elasticity.

A final observation concerns the difference between home production and purchases of foods, which was discussed above in the case of eggs. Integration into the market makes farmers more responsive to prices: this is considered a benefit so far as their production is concerned, but it also appears to expose their families to greater fluctuation in consumption. In considering the effects of price changes on agricultural output and profitability, two features should be kept in mind: first, that the consumption of farm and non-farm consumers reacts at different speeds, so that the initial reaction to a price change probably involves a transfer of welfare between the two groups on the consumption side; and second, that since domestic production is probably also less sensitive to family size, demographic changes occurring simultaneously with price and income changes may have much greater per capita effects among farm families. It may be only in response to income changes that the two groups behave essentially alike, in the short run.

TABLE 1

PARAMETER ESTIMATES, STANDARD ERRORS AND GOODNESS OF FIT OF BUDGET-SHARE REGRESSIONS OF THE FORM

$$V_r/V = B_{or} + B_{1r}\log(V/N).$$

Expenditure Category	Estimate of: B_o	s.e.	B_1	s.e.	R^2	No. obs.
Total Food and Drink	1.100	0.010	-0.139	0.003	0.388	4021
Cereal Products	0.388	0.004	-0.071	0.001	0.504	4009
Rice	0.317	0.004	-0.061	0.001	0.472	3972
Roots and Tubers	0.126	0.003	-0.025	0.001	0.162	3532
Yuca	0.104	0.003	-0.022	0.001	0.152	2921
Sugar and Sweets	0.048	0.001	-0.007	0.000	0.174	3944
Raw Sugar	0.051	0.001	-0.009	0.000	0.172	2195
Dried Beans	0.121	0.002	-0.023	0.001	0.261	3814
Dried Red Beans	0.110	0.002	-0.021	0.001	0.269	3606
Fresh Vegetables	0.037	0.002	-0.003	0.000	0.013	3925
Fruits	0.103	0.003	-0.014	0.001	0.050	3746
Plantains	0.079	0.003	-0.012	0.001	0.078	3135
Meat and Poultry	0.090	0.004	-0.000	0.001*	0.000	3684
Stewing Beef	0.062	0.008	-0.007	0.002	0.018	489
Stewing Pork	0.095	0.005	-0.015	0.001	0.086	1451
Commercial Chicken	0.088	0.003	-0.013	0.001	0.118	1818
Commercial Eggs	0.026	0.001	-0.004	0.000	0.087	1651
Domestic Eggs	0.023	0.002	-0.002	0.001	0.013	1415
Fish and Shellfish	0.059	0.002	-0.009	0.001	0.071	2572
Herring	0.031	0.002	-0.005	0.001	0.105	806
Codfish	0.048	0.002	-0.008	0.001	0.129	1562
Milk Products	0.060	0.003	-0.004	0.001	0.007	3173
Raw Milk	0.065	0.003	-0.008	0.001	0.034	2097
White Cheese (for Cooking)	0.025	0.002	-0.003	0.001	0.070	570
Fats and Oils	0.119	0.002	-0.016	0.001	0.149	3989
Peanut Oil	0.126	0.003	-0.019	0.001	0.183	2772
Miscellaneous Foods	0.040	0.001	-0.005	0.000	0.065	3994
Tomato Sauce	0.019	0.000	-0.003	0.000	0.124	3477
Non-Alcoholic Drinks	0.063	0.002	-0.009	0.000	0.098	3345
Ground Coffee	0.058	0.001	-0.010	0.000	0.189	2593

*Not distinguishable from zero, at the 95 percent confidence level

Notes to Table 1 (Definitions of Food Categories)

Raw Sugar (Spanish "Azúcar Crema") is centrifuged but not refined, and so is light brown in color; it is distinguished from "Azúcar Refinada" or white sugar.

Dried Red Beans account for the bulk of all dried beans; white and black beans are also distinguished in this category.

In the category of Fresh Vegetables (excluding tubers such as yuca, potatoes, sweet potatoes but including carrots and other root crops such as radishes) no one item accounts for a substantial share of expenditure.

Plantains are for cooking, and exclude fresh bananas (Spanish "guineos") for eating raw.

33 different kinds of beef are distinguished, including organ meats. Stewing beef (Spanish "carne corriente") excludes the high-quality cuts (steaks, roasts) and organ meats; it is the largest single item in the beef category but does not account for a majority of expenditure on beef.

14 different kinds of pork are distinguished, including organ meats. Stewing pork (Spanish "carne corriente") excludes the high-quality cuts (ham, roast, chops) and organ meats; it is the largest single item in the pork category.

For chicken and also for eggs, Commercial (Spanish "de granja") means the items were raised for sale. Domestic (Spanish "de patio") means the items were raised at home, primarily for the family's own consumption, although part of the domestic production may be sold. Domestic poultry production is negligible compared to commercial production, but both sources are important for egg production.

Raw Milk is unpasteurized; pasteurized fresh milk is a separate (and much less important) category.

White Cheese (Spanish "queso blanco para freir") is a salty white cheese used almost exclusively for cooking and is distinguished from cheeses normally eaten fresh. It is the second most important dairy product.

Tomato Sauce (Spanish "salsa de tomate") may include tomato paste.

Ground Coffee is distinguished from beans, and is much more important. Bean coffee may or may not be roasted; ground coffee is always roasted.

TABLE 2.1

FOOD SHARES OF TOTAL HOUSEHOLD SPENDING, AS A FUNCTION OF TOTAL SPENDING AND HOUSEHOLD SIZE

A) N = 3 Members

V = RD$	50	100	200	400	800
Total Food and Drink	70.9	61.3	51.6	42.0	32.4
Cereal Products	18.8	13.9	9.0	4.1	0.9
Roots and Tubers	5.6	3.8	2.1	0.4	***
Sugar and Sweets	2.8	2.3	1.9	1.4	0.9
Dried Beans	5.6	4.0	2.4	0.8	***
Fresh Vegetables	2.9	2.6	2.4	2.2	2.0
Fruits	6.4	5.4	4.4	3.5	2.5
Meat and Poultry	9.0	9.0	9.0	8.9	8.9
Fish and Shellfish	3.4	2.7	2.1	1.5	0.9
Milk Products	4.9	4.6	4.3	4.0	3.8
Fats and Oils	7.4	6.3	5.2	4.1	3.0
Miscellaneous Foods	2.6	2.2	1.9	1.6	1.2
Non-Alcoholic Drinks	3.8	3.1	2.5	1.9	1.3

B) N = 5 Members

Total Food and Drink	78.0	68.4	58.7	49.1	39.5
Cereal Products	22.5	17.5	12.6	7.7	2.8
Roots and Tubers	6.8	5.1	3.4	1.6	***
Sugar and Sweets	3.2	2.7	2.2	1.7	1.2
Dried Beans	6.8	5.2	3.6	2.0	0.4
Fresh Vegetables	3.0	2.8	2.6	2.4	2.2
Fruits	7.1	6.1	5.1	4.2	3.2
Meat and Poultry	9.0	9.0	9.0	9.0	8.9
Fish and Shellfish	3.8	3.2	2.6	2.0	1.3
Milk Products	5.1	4.8	4.5	4.2	4.0
Fats and Oils	8.2	7.1	6.0	4.9	3.8
Miscellaneous Foods	2.8	2.5	2.2	1.8	1.5
Non-Alcoholic Drinks	4.2	3.6	3.0	2.4	1.7

C) N = 7 Members

Total Food and Drink	82.7	73.0	63.4	53.8	44.1
Cereal Products	24.8	19.9	15.0	10.1	5.2
Roots and Tubers	7.7	6.0	4.2	2.5	0.8
Sugar and Sweets	3.4	2.9	2.5	2.0	1.5
Dried Beans	7.6	6.0	4.4	2.8	1.2
Fresh Vegetables	3.1	2.9	2.7	2.5	2.3
Fruits	7.5	6.6	5.6	4.6	3.7
Meat and Poultry	9.0	9.0	9.0	9.0	8.9
Fish and Shellfish	4.1	3.5	2.9	2.3	1.6
Milk Products	5.2	4.9	4.7	4.4	4.1
Fats and Oils	8.8	7.6	6.5	5.4	4.3
Miscellaneous Foods	3.0	2.7	2.3	2.0	1.6
Non-Alcoholic Drinks	4.5	3.9	3.3	2.7	2.0

*** Negative estimate

TABLE 2.2

FOOD SHARES OF TOTAL SPENDING ON FOOD, AS A FUNCTION OF TOTAL SPENDING AND HOUSEHOLD SIZE

	V = RD$ 50	100	200	400	800
A) N = 3 Members					
Cereal Products	26.6	22.7	17.4	9.7	2.8
Roots and Tubers	7.9	6.3	4.1	0.9	***
Sugar and Sweets	4.0	3.8	3.6	3.3	2.8
Dried Beans	7.9	6.6	4.7	2.0	***
Fresh Vegetables	4.0	4.3	4.7	5.3	6.3
Fruits	9.0	8.8	8.6	8.2	7.7
Meat and Poultry	12.7	14.6	17.3	21.3	27.6
Fish and Shellfish	4.8	4.5	4.1	3.6	2.7
Milk Products	6.9	7.5	8.4	9.6	11.6
Fats and Oils	10.4	10.3	10.0	9.7	9.2
Miscellaneous Foods	3.7	3.7	3.7	3.7	3.7
Non-Alcoholic Drinks	5.3	5.1	4.9	4.5	3.9
B) N = 5 Members					
Cereal Products	28.8	25.6	21.5	15.7	7.0
Roots and Tubers	8.8	7.5	5.8	3.4	***
Sugar and Sweets	4.1	4.0	3.8	3.5	3.2
Dried Beans	8.7	7.6	6.2	4.1	1.1
Fresh Vegetables	3.9	4.1	4.4	4.9	5.5
Fruits	9.1	8.9	8.7	8.5	8.1
Meat and Poultry	11.5	13.1	15.3	18.2	22.7
Fish and Shellfish	4.9	4.7	4.4	4.0	3.4
Milk Products	6.5	7.0	7.7	8.7	10.1
Fats and Oils	10.5	10.4	10.2	10.0	9.6
Miscellaneous Foods	3.7	3.7	3.7	3.7	3.7
Non-Alcoholic Drinks	5.4	5.3	5.1	4.8	4.4
C) N = 7 Members					
Cereal Products	30.0	27.3	23.7	18.7	11.7
Roots and Tubers	9.3	8.1	6.7	4.6	1.7
Sugar and Sweets	4.1	4.0	3.9	3.7	3.4
Dried Beans	9.2	8.2	6.9	5.2	2.7
Fresh Vegetables	3.8	4.0	4.2	4.6	5.2
Fruits	9.1	9.0	8.8	8.6	8.3
Meat and Poultry	10.9	12.3	14.1	16.7	20.3
Fish and Shellfish	5.0	4.8	4.5	4.2	3.7
Milk Products	6.3	6.8	7.3	8.1	9.3
Fats and Oils	10.6	10.5	10.3	10.1	9.8
Miscellaneous Foods	3.6	3.7	3.7	3.7	3.7
Non-Alcoholic Drinks	5.5	5.3	5.2	4.9	4.6

*** Negative estimate

TABLE 3

ESTIMATED FOOD EXPENDITURES AND PHYSICAL CONSUMPTION, IN KG. PER PERSON PER MONTH, FOR A FAMILY OF FIVE AT THE POVERTY LINE (TOTAL SPENDING OF RD$ 100 PER MONTH)

Category	Mean Price (RD$/Kg.)	Expenditure (RD$/Mo.)	Adjusted Expenditure	Quantity (Kg./Mo.)	Quantity per Person
Cereal Products	0.576	17.53	17.48	30.34	6.07
Rice	0.553	13.43	13.27	23.98	4.80
Roots and Tubers	0.193	5.11	4.49	23.30	4.66
Yuca	0.188	3.81	2.77	14.72	2.94
Sugar and Sweets	0.386	2.70	2.65	6.86	1.37
Raw Sugar	0.339	2.40	1.31	3.87	0.77
Dried Beans	0.886	5.21	4.94	5.58	1.12
Dried Red Beans	0.930	4.71	4.22	4.54	0.91
Fresh Vegetables	0.608	2.80	2.73	4.50	0.90
Fruits	0.289	6.11	5.69	19.68	3.94
Plantains	0.286	4.31	3.36	11.73	2.35
Meat and Poultry	1.610	9.00	8.25	5.12	1.02
Stewing Beef	1.578	4.10	0.50	0.32	0.06
Stewing Pork	1.578	5.01	1.48	1.14	0.23
Commercial Chicken	1.322	4.91	2.22	1.68	0.34
Commercial Eggs	0.143	1.40	0.57	4.02	0.80
Domestic Eggs	0.149	1.70	0.60	4.02	0.80
Fish and Shellfish	1.982	3.20	2.05	1.04	0.21
Herring	1.982	1.60	0.32	0.16	0.03
Codfish	2.544	2.40	0.93	0.37	0.07
Milk Products	2.539	4.80	3.79	1.49	0.30
Raw Milk	2.480	4.10	2.14	0.87	0.17
White Cheese	2.471	1.60	0.23	0.09	0.02
Fats and Oils	2.059	7.11	7.05	3.42	0.68
Peanut Oil	1.961	6.91	4.76	2.43	0.49
Miscellaneous Foods	0.379	2.50	2.48	6.56	1.31
Tomato Sauce	3.576	1.00	0.86	0.24	0.05
Non-Alcoholic Drinks	1.797	3.60	2.99	1.66	0.33
Ground Coffee	3.468	2.80	1.81	0.52	0.10

Adjusted expenditure is calculated expenditure multiplied by the fraction of families buying the product; quantity is adjusted expenditure divided by the price.

TABLE 4

PARAMETER ESTIMATES, STANDARD ERRORS AND GOODNESS OF FIT OF CONSUMPTION REGRESSIONS OF THE FORM

$$\log C_r = B_{or} + B_{1r}(NP/V) + B_{2r}\log P_r + B_{3r}\log N + B_{4r}\log V$$

(Standard Errors in Parentheses)

Category	B_o	B_1	B_2	B_3	B_4	R^2
Total Food and Drink	1.099	-2.307	-0.934	0.226	0.626	0.823
	(0.050)	(0.276)	(0.016)	(0.011)	(0.010)	
Cereal Products	1.515	-11.647	-0.877	0.797	0.097	0.547
	(0.101)	(0.768)	(0.039)	(0.022)	(0.019)	
Rice	1.386	-3.668	-0.474	0.701	0.095	0.392
	(0.094)	(0.439)	(0.070)	(0.019)	(0.014)	
Roots and Tubers	-1.258	-2.318	-1.297	0.494	0.256	0.313
	(0.206)	(2.460)*	(0.051)	(0.040)	(0.031)	
Yuca	-1.139	0.293	-1.426	0.553	0.076	0.270
	(0.271)	(4.080)*	(0.066)	(0.050)	(0.040)	
Sugar and Sweets	-0.193	-13.052	-0.362	0.432	0.276	0.316
	(0.153)	(1.501)	(0.049)	(0.029)	(0.026)	
Raw Sugar	1.627	-17.442	0.117	0.619	-0.093	0.109
	(0.340)	(2.736)	(0.157)*	(0.057)	(0.051)*	
Dried Beans	0.811	-6.405	-0.881	0.656	0.001	0.276
	(0.136)	(0.772)	(0.049)	(0.033)	(0.028)*	
Dried Red Beans	1.187	-8.468	-0.514	0.776	-0.118	0.235
	(0.138)	(0.753)	(0.055)	(0.035)	(0.028)	
Fresh Vegetables	-2.203	-5.003	-1.101	0.065	0.673	0.651
	(0.109)	(0.569)	(0.025)	(0.027)	(0.021)	
Fruits	-2.645	-0.852	-1.165	0.198	0.785	0.386
	(0.142)	(0.692)*	(0.036)	(0.032)	(0.024)	
Plantains	-1.557	-4.029	-1.035	0.332	0.490	0.300
	(0.184)	(2.023)	(0.052)	(0.038)	(0.030)	
Meat and Poultry	-1.093	-6.933	-0.694	0.321	0.659	0.521
	(0.145)	(0.545)	(0.071)	(0.039)	(0.034)	
Stewing Beef	-0.799	-2.955	-0.532	0.213	0.388	0.193
	(0.445)*	(1.793)*	(0.249)	(0.130)*	(0.112)	
Stewing Pork	0.224	-2.287	-0.780	0.327	0.189	0.132
	(0.266)*	(0.978)	(0.131)	(0.069)	(0.064)	

*Not distinguishable from zero, with 95 percent confidence.

TABLE 4, continued

Category	B_o	B_1	B_2	B_3	B_4	R^2
Commercial Chicken	0.382 (0.203)	-6.899 (1.067)	-0.468 (0.093)	0.386 (0.052)	0.175 (0.042)	0.232
Commercial Eggs	-1.854 (0.290)	-18.377 (7.549)	-0.749 (0.092)	0.181 (0.048)	0.525 (0.036)	0.334
Domestic Eggs	-0.250 (0.456)	-24.997 (8.759)	-0.090 (0.120)*	0.091 (0.071)*	0.494 (0.064)	0.185
Fish and Shellfish	-1.008 (0.142)	-1.005 (0.256)	-0.934 (0.045)	0.229 (0.040)	0.353 (0.031)	0.322
Herring	-0.893 (0.322)	-2.096 (0.903)	-0.604 (0.123)	0.335 (0.080)	0.133 (0.072)*	0.154
Codfish	-0.756 (0.213)	-2.892 (0.490)	-0.216 (0.129)*	0.536 (0.054)	0.067 (0.047)	0.180
Milk Products	-3.367 (0.140)	-0.138 (0.265)*	-0.425 (0.049)	0.034 (0.039)*	0.889 (0.032)	0.365
Raw Milk	-2.997 (0.192)	-0.210 (0.369)*	-0.341 (0.117)	0.169 (0.057)	0.713 (0.048)	0.239
White Cheese (for Cooking)	-2.154 (0.395)	-0.976 (1.193)*	-0.348 (0.222)*	0.070 (0.103)*	0.400 (0.083)	0.162
Fats and Oils	-0.994 (0.064)	-0.171 (0.070)	-0.955 (0.032)	0.162 (0.018)	0.569 (0.012)	0.534
Peanut Oil	-0.018 (0.111)	-2.293 (0.266)	-0.803 (0.047)	0.328 (0.029)	0.326 (0.023)	0.422
Miscellaneous Foods	-1.264 (0.097)	-5.349 (0.439)	-0.616 (0.022)	0.154 (0.021)	0.508 (0.017)	0.448
Tomato Sauce	-1.842 (0.129)	-1.645 (0.189)	-0.763 (0.049)	0.293 (0.033)	0.296 (0.027)	0.326
Non-Alcoholic Drinks	-1.192 (0.115)	-0.760 (0.191)	-0.845 (0.018)	0.165 (0.031)	0.442 (0.024)	0.651
Ground Coffee	-0.604 (0.129)	-0.512 (0.190)	-0.768 (0.025)	0.215 (0.036)	0.227 (0.028)	0.419

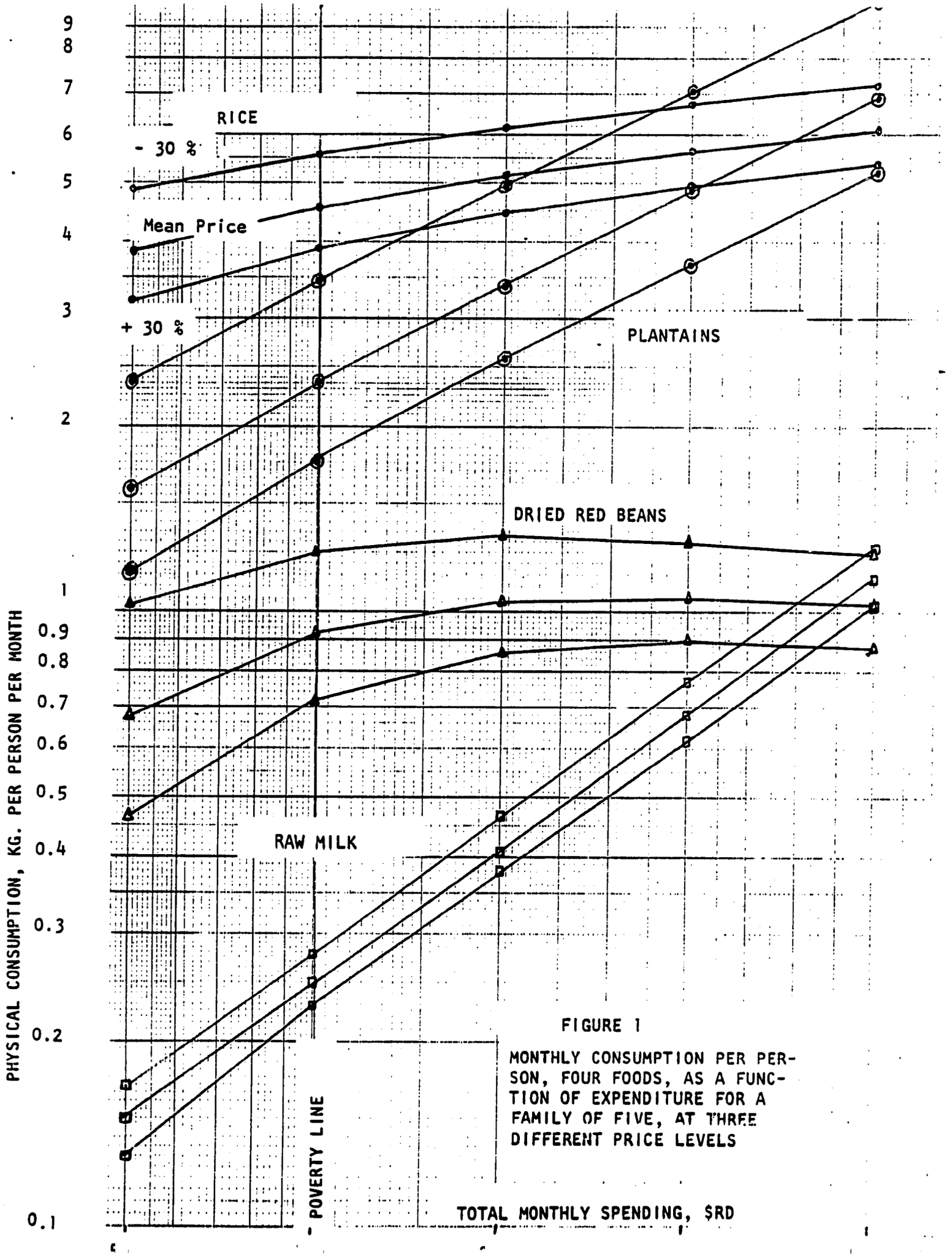

FIGURE 1

MONTHLY CONSUMPTION PER PERSON, FOUR FOODS, AS A FUNCTION OF EXPENDITURE FOR A FAMILY OF FIVE, AT THREE DIFFERENT PRICE LEVELS

TABLE 5

ELASTICITIES WITH RESPECT TO PRICE AND TOTAL EXPENDITURE OR INCOME AT THE POVERTY LINE, FOR A FAMILY OF FIVE (TOTAL SPENDING OF $RD 100)

Category or Product	Elasticity with respect to: Own Price	Income
Food, Drink	-1.004	0.696
Cereal Products	-1.213	0.433
Rice	-0.575	0.196
Roots and Tubers	-1.319	0.278
Yuca	-1.423	0.073
Sugar and Sweets	-0.614	0.528
Raw Sugar	-0.179	0.203
Dried Beans	-1.165	0.285
Red Beans	-0.908	0.276
Fresh Vegetables	-1.253	0.825
Fruits	-1.177	0.797
Plantains	-1.093	0.548
Meat and Poultry	-1.252	1.217
Stewing Beef	-0.765	0.621
Stewing Pork	-0.960	0.369
Commercial Chicken	-0.924	0.631
Commercial Eggs	-0.880	0.656
Domestic Eggs	-0.276	0.680
Fish and Shellfish	-1.034	0.453
Herring	-0.812	0.341
Codfish	-0.584	0.435
Milk Products	-0.443	0.907
Raw Milk	-0.367	0.739
White Cheese	-0.469	0.521
Fats and Oils	-0.973	0.587
Peanut Oil	-1.028	0.551
Miscellaneous Foods	-0.717	0.609
Tomato Sauce	-1.057	0.590
Non-Alcoholic Drinks	-0.913	0.510
Ground Coffee	-0.857	0.316

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APPENDIX

TABLES 6.1 TO 6.17

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, AS A FUNCTION OF TOTAL EXPENDITURE, SIZE OF HOUSEHOLD AND PRODUCT PRICE

TABLE 6.1

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF RICE AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (0.553)	4.90	5.56	6.12	6.63	7.14
30% Increase	4.17	4.82	5.35	5.83	6.29
30% Decrease	6.01	6.70	7.31	7.89	8.47
B) N = 5					
Mean Price	3.87	4.58	5.15	5.64	6.10
30% Increase	3.22	3.92	4.48	4.94	5.36
30% Decrease	4.88	5.59	6.19	6.73	7.25
C) N = 7					
Mean Price	3.23	3.98	4.56	5.05	5.49
30% Increase	2.62	3.37	3.94	4.41	4.82
30% Decrease	4.17	4.91	5.52	6.04	6.53

TABLE 6.2

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF YUCA AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level	($RD/Kg.)	V = RD$ 50	100	200	400	800
		A) N = 3				
Mean Price	(0.188)	2.87	3.02	3.18	3.35	3.53
30% Increase		1.98	2.08	2.19	2.30	2.43
30% Decrease		4.77	5.02	5.29	5.57	5.87
		B) N = 5				
Mean Price		2.29	2.41	2.53	2.67	2.81
30% Increase		1.58	1.66	1.74	1.83	1.93
30% Decrease		3.80	4.00	4.21	4.43	4.67
		C) N = 7				
Mean Price		1.97	2.07	2.18	2.30	2.42
30% Increase		1.36	1.43	1.50	1.58	1.66
30% Decrease		3.27	3.44	3.62	3.82	4.02

TABLE 6.3

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF RAW SUGAR AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
	A) N = 3				
Mean Price (0.339)	1.44	1.61	1.65	1.62	1.55
30% Increase	1.33	1.57	1.66	1.64	1.59
30% Decrease	1.53	1.63	1.62	1.57	1.50
	B) N = 5				
Mean Price	0.93	1.18	1.28	1.29	1.26
30% Increase	0.81	1.11	1.26	1.30	1.28
30% Decrease	1.07	1.23	1.28	1.27	1.22
	C) N = 7				
Mean Price	0.65	0.92	1.06	1.10	1.09
30% Increase	0.52	0.84	1.03	1.10	1.11
30% Decrease	0.80	1.00	1.08	1.09	1.06

TABLE 6.4

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF DRIED RED BEANS AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (0.930)	1.05	1.22	1.26	1.24	1.17
30% Increase	0.79	0.99	1.07	1.06	1.02
30% Decrease	1.45	1.57	1.57	1.51	1.42
B) N = 5					
Mean Price	0.68	0.93	1.04	1.06	1.03
30% Increase	0.47	0.72	0.86	0.90	0.88
30% Decrease	1.03	1.26	1.33	1.31	1.25
C) N = 7					
Mean Price	0.46	0.74	0.89	0.95	0.93
30% Increase	0.29	0.55	0.72	0.79	0.80
30% Decrease	0.77	1.04	1.17	1.18	1.14

TABLE 6.5

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF PLANTAINS AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (0.286)	2.35	3.41	4.87	6.90	9.74
30% Increase	1.75	2.57	3.69	5.25	7.41
30% Decrease	3.46	4.98	7.08	10.01	14.10
B) N = 5					
Mean Price	1.59	2.37	3.42	4.88	6.90
30% Increase	1.17	1.77	2.59	3.70	5.25
30% Decrease	2.38	3.49	5.00	7.09	10.00
C) N = 7					
Mean Price	1.21	1.85	2.70	3.87	5.50
30% Increase	0.88	1.38	2.04	2.94	4.18
30% Decrease	1.84	2.74	3.96	5.64	7.97

TABLE 6.6

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF STEWING BEEF AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (1.578)	0.51	0.77	1.08	1.47	1.95
30% Increase	0.41	0.64	0.92	1.26	1.69
30% Decrease	0.67	0.97	1.34	1.79	2.37
B) N = 5					
Mean Price	0.28	0.47	0.69	0.96	1.29
30% Increase	0.22	0.38	0.58	0.82	1.11
30% Decrease	0.40	0.61	0.87	1.18	1.58
C) N = 7					
Mean Price	0.18	0.33	0.51	0.72	0.98
30% Increase	0.13	0.26	0.42	0.61	0.84
30% Decrease	0.27	0.44	0.64	0.89	1.20

TABLE 6.7

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF STEWING PORK AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (1.578)	0.71	0.90	1.08	1.26	1.46
30% Increase	0.54	0.71	0.87	1.02	1.19
30% Decrease	0.99	1.22	1.45	1.68	1.94
B) N = 5					
Mean Price	0.43	0.59	0.74	0.88	1.03
30% Increase	0.32	0.46	0.59	0.71	0.83
30% Decrease	0.64	0.82	1.00	1.18	1.36
C) N = 7					
Mean Price	0.30	0.44	0.57	0.69	0.81
30% Increase	0.21	0.33	0.45	0.55	0.65
30% Decrease	0.46	0.63	0.78	0.93	1.08

TABLE 6.8

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF COMMERCIAL CHICKEN AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level	($RD/Kg.)	V = RD$ 50	100	200	400	800
		A) N = 3				
Mean Price	(1.322)	0.75	1.12	1.44	1.75	2.04
30% Increase		0.56	0.91	1.23	1.51	1.78
30% Decrease		1.05	1.43	1.78	2.11	2.43
		B) N = 5				
Mean Price		0.38	0.68	0.96	1.22	1.46
30% Increase		0.26	0.52	0.80	1.04	1.27
30% Decrease		0.59	0.92	1.22	1.49	1.75
		C) N = 7				
Mean Price		0.22	0.46	0.72	0.95	1.16
30% Increase		0.13	0.34	0.57	0.80	1.00
30% Decrease		0.37	0.66	0.93	1.17	1.40

TABLE 6.9

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF COMMERCIAL EGGS AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (0.143)	1.82	2.83	4.24	6.23	9.05
30% Increase	1.43	2.27	3.44	5.09	7.41
30% Decrease	1.08	1.76	2.70	4.01	5.87
B) N = 5					
Mean Price	1.08	1.77	2.72	4.04	5.92
30% Increase	0.82	1.40	2.19	3.29	4.84
30% Decrease	1.52	2.40	3.62	5.33	7.77
C) N = 7					
Mean Price	0.74	1.27	2.01	3.03	4.46
30% Increase	0.54	0.99	1.61	2.46	3.64
30% Decrease	1.08	1.76	2.70	4.01	5.87

TABLE 6.10

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF DOMESTIC EGGS AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (0.149)	1.88	2.96	4.41	6.39	9.12
30% Increase	1.72	2.80	4.24	6.19	8.87
30% Decrease	2.08	3.16	4.63	6.65	9.46
B) N = 5					
Mean Price	1.02	1.73	2.67	3.94	5.68
30% Increase	0.89	1.60	2.54	3.80	5.51
30% Decrease	1.18	1.89	2.84	4.13	5.91
C) N = 7					
Mean Price	0.65	1.18	1.90	2.85	4.15
30% Increase	0.54	1.07	1.78	2.73	4.01
30% Decrease	0.78	1.32	2.04	3.00	4.32

TABLE 6.11

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF HERRING AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level	($RD/Kg.)	V = RD$ 50	100	200	400	800
		A) N = 3				
Mean Price	(1.982)	0.17	0.21	0.25	0.28	0.31
30% Increase		0.14	0.17	0.21	0.24	0.27
30% Decrease		0.23	0.27	0.31	0.35	0.39
		B) N = 5				
Mean Price		0.10	0.14	0.17	0.20	0.22
30% Increase		0.08	0.11	0.14	0.16	0.19
30% Decrease		0.14	0.18	0.22	0.25	0.28
		C) N = 7				
Mean Price		0.07	0.10	0.13	0.15	0.17
30% Increase		0.05	0.08	0.11	0.13	0.15
30% Decrease		0.10	0.14	0.17	0.19	0.22

TABLE 6.12

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF CODFISH AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (2.544)	0.19	0.25	0.29	0.33	0.35
30% Increase	0.16	0.22	0.27	0.30	0.33
30% Decrease	0.24	0.29	0.33	0.36	0.38
B) N = 5					
Mean Price	0.11	0.17	0.22	0.25	0.27
30% Increase	0.09	0.15	0.19	0.23	0.25
30% Decrease	0.15	0.21	0.25	0.28	0.30
C) N = 7					
Mean Price	0.07	0.13	0.17	0.20	0.23
30% Increase	0.05	0.10	0.15	0.19	0.21
30% Decrease	0.11	0.16	0.20	0.23	0.25

TABLE 6.13

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF RAW MILK AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (2.480)	0.23	0.39	0.64	1.05	1.72
30% Increase	0.21	0.35	0.58	0.96	1.58
30% Decrease	0.26	0.44	0.72	1.19	1.95
B) N = 5					
Mean Price	0.15	0.25	0.41	0.68	1.13
30% Increase	0.13	0.23	0.38	0.62	1.03
30% Decrease	0.17	0.28	0.47	0.77	1.27
C) N = 7					
Mean Price	0.11	0.19	0.31	0.52	0.89
30% Increase	0.10	0.17	0.28	0.47	0.78
30% Decrease	0.13	0.21	0.35	0.58	0.96

TABLE 6.14

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF WHITE CHEESE AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (2.471)	0.13	0.18	0.24	0.33	0.44
30% Increase	0.11	0.16	0.22	0.30	0.40
30% Decrease	0.15	0.21	0.28	0.37	0.50
B) N = 5					
Mean Price	0.07	0.11	0.15	0.20	0.27
30% Increase	0.06	0.09	0.13	0.18	0.25
30% Decrease	0.09	0.12	0.17	0.23	0.31
C) N = 7					
Mean Price	0.05	0.07	0.11	0.15	0.20
30% Increase	0.04	0.06	0.09	0.13	0.18
30% Decrease	0.06	0.09	0.12	0.17	0.22

TABLE 6.15

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF PEANUT OIL AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (1.961)	0.75	1.07	1.44	1.86	2.38
30% Increase	0.56	0.83	1.14	1.49	1.91
30% Decrease	1.08	1.49	1.95	2.51	3.18
B) N = 5					
Mean Price	0.44	0.69	0.97	1.29	1.67
30% Increase	0.31	0.53	0.76	1.03	1.34
30% Decrease	0.67	0.99	1.34	1.75	2.24
C) N = 7					
Mean Price	0.30	0.51	0.74	1.01	1.31
30% Increase	0.20	0.37	0.57	0.80	1.05
30% Decrease	0.47	0.74	1.04	1.37	1.77

TABLE 6.16

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF TOMATO SAUCE AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
A) N = 3					
Mean Price (3.576)	0.06	0.09	0.12	0.16	0.20
30% Increase	0.05	0.07	0.10	0.13	0.16
30% Decrease	0.09	0.13	0.16	0.21	0.26
B) N = 5					
Mean Price	0.03	0.06	0.08	0.11	0.13
30% Increase	0.02	0.04	0.06	0.08	0.11
30% Decrease	0.05	0.08	0.11	0.14	0.18
C) N = 7					
Mean Price	0.02	0.04	0.06	0.08	0.10
30% Increase	0.01	0.03	0.05	0.06	0.08
30% Decrease	0.04	0.06	0.08	0.11	0.14

TABLE 6.17

ESTIMATES OF CONSUMPTION PER PERSON, IN KG. PER MONTH, OF GROUND COFFEE AS A FUNCTION OF TOTAL EXPENDITURE, HOUSEHOLD SIZE AND PRICE OF PRODUCT

Price Level ($RD/Kg.)	V = RD$ 50	100	200	400	800
	A) N = 3				
Mean Price (3.468)	0.19	0.24	0.29	0.34	0.40
30% Increase	0.15	0.19	0.23	0.28	0.33
30% Decrease	0.26	0.32	0.38	0.45	0.53
	B) N = 5				
Mean Price	0.12	0.15	0.19	0.23	0.27
30% Increase	0.09	0.12	0.15	0.18	0.22
30% Decrease	0.17	0.21	0.25	0.30	0.35
	C) N = 7				
Mean Price	0.09	0.11	0.14	0.17	0.21
30% Increase	0.07	0.09	0.11	0.14	0.17
30% Decrease	0.12	0.16	0.19	0.23	0.27