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BENEFICIARIES OF CHEAP-FOOD POLICIES IN TRINIDAD AND TOBAGO

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INTRODUCTION

Solving the problem of undernutrition is one of the foremost challenges which continue to face developing countries. Estimates of the numbers of undernourished persons vary widely from less than one half billion to almost two billion.[1] These differences reflect difficulties in precisely quantifying undernutrition. Yet, what the figures indicate is that hundreds of millions of people are nutritionally deficient. Moreover, the vast majority of the undernourished are in developing countries.

The need to improve the nutritional status of people in developing countries is of both individual and social importance. The term undernutrition is used in this paper, as in current usage in recent nutrition literature, to describe a nutritional status which falls below some optimal level.[2] Mild to severe forms of undernutrition are associated with increases in mortality rates the incidence of diseases and the retardation of physical and mental growth. Marginal or subclinical forms of the condition are not easily detected as nutritional disorders but are related to a decline in work capacity and physical performance. Undernourished persons are therefore, handicapped in their own development as well as the ability to contribute to national advancement.

Nutrition strategies which have been devised over the years have had one principal aim which is to increase the food intake of undernourished persons. The experiences of developing countries have exposed the inadequacies of each strategy in turn. In the process, the understanding of the nature and causes of undernutrition has been revised along with the approaches being suggested to increase the food consumption of the nutrient deprived.

Undernutrition was once seen as wholly a problem of food scarcity. Consequently, the solutions presented were increases in food production and productivity. The valuable lesson gained from countries which actually made progress in the green revolution was that increasing food supplies was not enough. Efforts must also be directed to enable the undernourished to have access to food supplies. The consensus now being expressed is that "Rather than as a race between food and population, the food equation is to be viewed as a dynamic balance in individual countries between food supply and demand that depends on complex relationships among a number of interacting variables.[3]

There are now two main approaches of combatting undernutrition.

One approach is by food policy and the other is by nutrition policy. Food policy is the more comprehensive approach which seeks to address the problems of the food system as a whole. The rationale is that the imbalances of food production, marketing and demand are very closely linked with one another. Nutrition policies are limited to the concerns of increasing food consumption.

Among the experts there is a preference for the broader rather than the narrower approach. Given that undernutrition is closely tied to poverty, it is felt that a sustained solution of nutritional deprivation hinges on the elimination of poverty itself. As post-war development strategies have proven very slow in over-coming both poverty and undernutrition, some advocate an entirely different development thrust which emphasises the role of the food sector and agriculture as a whole.[4] An explicit incorporation of nutrition goals in overall development plans is also considered desirable. It is suggested that this approach would not only achieve rapid national development but the sustained solution of undernutrition as well.

So far developing countries have more readily adopted the path of direct nutrition interventions such as cheap-food policies, food stamps and food supplementation programmes. One reason for the preference of such policies is that they are more visible than nutrition schemes encased in agricultural projects or in a development strategy. The rationale is two-sided in that the recipients of such welfare-oriented policies may be more gratified at the visible concern for their well-being and policymakers benefit in their efforts to mobilise financial and political support. The political aspect of cheap-food policy, for example, was evident in the Egyptian food riots of January 1977 which followed a reduction in consumer subsidies.[5]

This paper looks at a nutrition policy used in Trinidad and Tobago, namely cheap food. The focus is on the effectiveness of this policy in terms of who were the beneficiaries of the measures introduced. The first section gives a presentation of the details of the policy in Trinidad and Tobago. This is followed by the analysis of comparing the aim of policymakers with the impact of cheap foods are likely to have on consumers. The paper closes with a comment on the lessons that can be drawn from the experience in Trinidad and Tobago.

CHEAP-FOOD POLICIES IN TRINIDAD AND TOBAGO

Policies which directly attempt to lower food prices to the consumer fall into two categories. First, there is the regulatory measure of price controls by which policymakers fix a maximum price that retailers cannot legally exceed. The second method is the food subsidy. This method involves a financial flow from government either to producers or retailers in order to cover the difference between the market price of the food item and the desired lower price which the consumers actually pay.

Trinidad and Tobago has implemented both price controls and food subsidies. These policies were first utilised as far back as 1948.[6] However, by 1955 the food subsidies were withdrawn and the number of items were deleted from the schedule of controlled prices. The present system of price controls comes under the Trade Ordinance of 1958 and subsequent amendments. In 1973 a food subsidy policy was again introduced.

The schedule of maximum food prices includes a wide range of

basic food items. These food items are milk, bread, butter, margarine, cheese, cooking-oil, fish, beef, poultry meat (local and imported), flour, rice, potatoes, onions, peas and beans, canned sardines and sugar. These controlled prices are reviewed periodically and amended. Local producers and retailers may request price increases on the basis of increases in costs of production or prices of imported items.

There is a two-tiered pricing system in effect. This system permits retailers in specified areas outside of the main urban areas to charge a higher price. The justification for this pricing scheme is to assist retailers in the higher price districts to defray expenses for additional transportation costs.

Food subsidies are paid on many of the commodities under price control. The majority of these subsidies are administered by the Ministry of Industry, Commerce and Consumer Affairs. The Ministry of Agriculture is responsible for the subsidy on one item, milk. Table 1 shows the list of foods subsidised by both ministries as well as the corresponding payments made from 1973 to 1985.

The figures in Table 1 show the expansion of the subsidy programme between 1973 and 1981. Both the number of items and the size of payments increased steadily up to 1981. In 1973 only rice and milk were initially subsidised. By 1981 subsidies were being paid on rice flour, cooking oil, poultry meat, sugar and milk. Onions and butter were each subsidised for one year only in 1976 and 1979 respectively. Subsidy payments rose from TT$3.8m in 1973 to TT$171.9m in 1981.

The growth of the food subsidy programme from 1973 to 1981 was afforded largely by the greatly increased petroleum revenue of the government of Trinidad and Tobago. The sharp decline of subsidy payments after 1981 is also explained by the fall in international oil prices and resulting drop in government revenues. In a space of four years subsidies were reduced by less than one-sixth of the level in 1981. In 1985 the only items which were still being subsidised were flour, poultry meat and milk.

For the purposes of this paper, not all items under price control are considered cheap. Price controls without subsidies do not necessarily ensure that prices are lower than they would have been outside of these policies for two reasons. Firstly, there is no indication that prices are fixed at anything but the market price. Secondly, there is evidence of widespread violation of price controls as, for example in the case of beef.[7] As a result only items under price control with subsidies are classified as cheap foods.

Of the foods which are subsidised and price controlled three items are not included in the following analysis. These are sugar, butter and onions. As sugar is merely a source of empty calories, it is not considered appropriate to include the sugar subsidy in a study on nutrition policy. The other two items - onions and butter - were subsidised only briefly and for this reason are not included either.

The final list of items counted as cheap foods are milk, rice, flour, poultry and cooking oil. They are all major items in the local diet. Together, the food groups of cereals, meat, oils and fats and milk accounted for 88 per cent of total calories consumed in 1981/82 (excluding sugar).[8]

AIM OF GOVERNMENT CHEAP-FOOD POLICIES

Food price policies of Trinidad and Tobago have been formulated

TABLE 1: SUBSIDY PAYMENTS IN TRINIDAD AND TOBAGO; 1973-85 ($ million)

Food Items	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Rice	3.3	8.8	9.2	18.2	7.1	10.3	11.9	19.4	18.5	17.8	4.1	7.8	-
Flour (bakers)	-	-	-	0.7	1.1	1.3	1.3	0.9	0.9	0.8	0.5	)	)
Flour (other)	-	13.0	13.4	19.5	9.9	8.1	15.2	32.4	31.7	13.8	9.3	)0.5	) 0.4
												)	)
Cooking Oil	-	0.2	0.5	1.9	1.9	2.4	2.7	3.6	3.7	4.0	0.1	-	-
Poultry Meat	-	-	-	1.4	5.8	6.5	6.4	5.5	7.4	9.9	11.0	8.1	7.0
Poultry (imports)	-	-	-	-	-	-	1.6	1.5	-	-	-	-	-
Butter	-	-	-	-	-	-	0.3	-	-	-	-	-	-
Sugar: Local	-	-	-	-	-	-	55.0	79.1	87.4	)	)	-	-
										)201.8	)126.0		
Imported	-	-	-	-	-	2.4	2.4	17.1	17.1	)	)	-	-
Onions	-	-	-	0.04	-	-	-	-	-	-	-	-	-
Milk*	0.5	0.6	1.0	0.5	0.5	0.5	0.6	0.5	5.3	3.9	5.0	7.8	n.a.
TOTAL	3.8	22.6	24.1	42.24	26.3	31.5	97.4	160.0	171.9	253.0	156.0	24.2	7.4

Source: Ministry of Industry, Commerce and Consumer Affairs

* Ministry of Agriculture, Lands and Food Production.

against the background of a domestic problem of undernutrition and a high rate of food price inflation. A United Nations Nutrition survey held in 1961 showed that there were severe deficiencies of both calorie and protein consumption in the country.[9] The results of the food consumption survey of 1970 also revealed that 39 per cent of the population were deficient in energy and 31 per cent were deficient in protein.[10] This deficiency existed despite an ample food supply which amounted to 108 per cent of energy needs and 134.9 per cent of protein needs.

In addition to the evidence of undernutrition, the government has intervened in the food price system because of food price inflation. The increase in food prices has been especially marked since the early seventies. They are a result of both domestic inflationary pressures as well as imported inflationary trends. A large portion of food consumed locally is imported from countries suffering from inflation. In 1980 98 per cent of local cereal, 43 per cent of meat and 87 per cent of milk products were imported from overseas.

From the government's viewpoint, cheap-food policies have a general aim of keeping the cost of living down as well as a nutritional intent of ensuring that consumers can purchase food items. The price control policy was designed in an effort to contain the increases in food prices. Food subsidies are also used to keep down the prices of food items which are basic in the consumption of low income groups.[11] The ultimate objective is to enable consumers, especially those in lower income groups, to buy their full nutritional requirements.

TESTING FOR BENEFICIARIES OF CHEAP-FOOD POLICIES

General Framework

Cheap-food policies are frequently universal in coverage as opposed to being restricted to certain consumers. An example of a discriminating cheap-food policy is the case of lower priced foods which are only available at ration shops located in low-income areas. The universal policy, on the other hand, is available to any consumer who enters the food market. The impact of the policy therefore depends on the response of the consumers.

Universally applied cheap-food policies are associated with a number of disadvangages. Since public cost is a direct function of the size of the group covered broadly-based policies tend to be very costly. There may also be conflicts between maintaining low food prices for consumers and providing incentives to domestic food producers. Another disadvantage is that universal policies are susceptible to leakages. Leakages are benefits of policies which are enjoyed by consumers who are not in need of public assistance.

To consumers the benefits which may be obtained from cheap-food policies are nutritional and financial. Therefore, in considering the effectiveness of cheap-food policies a relevant question is whether the beneficiaries of these policies are persons in nutritional need. Conversely, it may be asked whether the government is spending limited public funds on those who are able to purchase all their nutritional requirements apart from policy incentives. In order to answer these questions, it is necessary to examine the market responses of consumers to price incentives on food items within the policy.

As the understanding of the nature and causes of undernutrition has increased, it has become evident that those who are financially deprived are also those in greatest risk of being undernourished. Consequently, it is the low income consumer who is ideally the target of nutrition policies. Subsidising the diets of high income consumers cannot be justified on either financial or nutritional grounds.

Nutritional benefits of cheap-food policies are obtained by persons who are induced by lower prices to increase their food consumption. Consumers who are sensitive to price changes and who function within the framework of rational decision-making will increase their consumption of food as food prices decline. Since the consumer has the ability to determine the composition of his expenditures the impact of a cheap-food policy rests on his choices between food and non-food items. If price does not enter into the consumer's consideration of food purchases then food price policies will be ineffectual as nutritional measures.

Financial benefits of cheap-food policies accrue to everyone who purchases food. The benefit is the difference between what the consumer actually pays for his food basket and the amount which would have been paid if there were no cheap-food policies. Hence financial benefits increase in direct proportion to the quantity of food purchased. Consumers who buy the largest amounts of food get the greatest financial benefits.

It must be emphasised that the financial resources transfered by cheap-food policies may not be used to purchase more food. Consumers allocate the financial benefits of these policies according to their own personal objectives. The social objectives of the consumers may not be consistent with those of the policymakers. Once policy transfers are in excess of the amount of food which the consumers are voluntarily willing to purchase, the financial concessions are treated as income transfers and may be used to purchase non-food items.

Price elasticities which are income-specific are useful indicators of the food purchasing behaviour of consumers within a particular income group. They show how the consumer determines his pattern of consumption to satisfy his own objectives. As a result it is possible to predict the likely impact of cheap-food policies on the nutritional well-being of consumers in different income groups. The estimation of income-specific demand functions for food is, therefore, a vital means of identifying the beneficiaries of food price policies.

The analysis in this paper is based on an empirical demand model which is income specific. The tests for nutritional beneficiaries was carried out on the basis of the significance of price elasticities for a certain food which is not significantly different from zero is not price responsive. Such an income group would not benefit nutritionally from cheap food policies as they would not increase their purchase of this food. In contrast, a price elasticity which is significantly different from zero indicates an income group which is price responsive. This income group would be the beneficiary of a policy of cheap food prices.

A further test was done to find out whether there was a significant difference in the overall pattern of consumption of consumers in different income groups. Such a test could be used to confirm whether there are possibilities of targeting certain foods to specific income groups. The existence of a significant difference between income groups would indicate whether the income groups respond

differently to price factors as well as other variables. The Chow test was used for this purpose.

The Specific Case of Trinidad and Tobago

Price elasticities were obtained from an econometric study using data from the Household Budgetary survey of 1981/82.12 The data on household expenditures gave details of quantities and prices of food items purchased by each household during a two week period. The survey also provided the monthly income of each household and other socio-economic characteristics.

A total of 500 households were selected from the survey carried out by the Central Statistical Office. Households from each of the nine counties in Trinidad and Tobago were represented in the sample. The sample was then divided into four income groups based on a classification scheme which the Board of Inland Revenue uses for income tax purposes.

The first income group consisted of households earning less than $899 per month and were considered as poor. The next group contained low income households earning between $900 and $1499 per month. The middle income group included households in the income bracket between $1500 to $4499 per month. Households in the high income group earned a monthly income of $4500 and above.

Given the general approach suggested by economic theory, the major variables which were primarily considered for inclusion in demand functions were income own-price of a commodity, prices of related commodities, consumer expectations and other variables which modify consumer tastes and preferences such as advertising. In this specific case special variables were used to take into account factors which influence the tastes and preferences of individuals in Trinidad and Tobago.

Since cheap food policies are specific to food items it would have been ideal to estimate demand curves for individual food items. From an empirical perspective, however, it was difficult in this case to estimate functions for the diversity of items included in the Household Budgetary data. Some level of aggregation was therefore necessary. In this analysis the demand estimation for the four subsidised food-groups are reported. These food-groups are cereals, meat, milk and oils and fats.

The specific functional form used for the demand functions is determined by judgement and empirical fit. The semi-logarithmic model was chosen in this case. The general form of the demand function is given in equation (1).

$$C_{ih} = f\ (P_{ih}, P_{jh}, M_j, H_h, A_h, K_h, E_h, \ldots) \qquad (1)$$

where:

C_{ih} is the amount of kilocalories of food-group i consumed per fortnight by household h. The caloric measure was used instead of quantity since the study was concerned with nutritional impact.

P_{ih} is own-price per unit calorie of food group i for household h.

P_{jh} is the price per unit calorie of food-group j for household h.

M_j is the monthly income of household h.

H_h is the size of household h.

A_h is the mean age of househole h.

K_h is a factor called food-kilometers of household h. This was a composite variable which attempted to capture the effects of home produce. The observations were obtained by multiplying the distance from the main urban centres by the proportion of domestic food produced in the county of the household.

E_h is a zero-one dummy variable representing the ethnic group of the head of household. Two such variables were used to capture differences between African, Indian and other ethnic groups.

RESULTS

The own-price elasticities for each demand function estimated are presented in Table 2. The t values of each coefficient and the R2 values of each equation are presented in Appendix 1.

TABLE 2: Price Elasticities for Food Groups and Income Groups

Food groups	High	Middle	Low	Poor
Cereal	-0.170	-0.459*	-0.417	-0.638*
Meat	-0.561	-0.374	-0.654	-0.107
Milk	-0.945	-0.467*	-0.598*	-0.821*
Oils and Fats	-0.891	-0.411	-7.744*	-0.702

*Significantly different from zero at the 5% level of significance.

The statistical results in Table 2 show that in accordance with the nutritional test outlined the beneficiaries of cheap rice, flour, oils and milk are the middle, low and poor income households. As the price elasticities for meat is not significantly different from zero, it appears that no income group benefits nutritionally from the price controls and subsidies on these items. Hence the subsidies on poultry meat are not effective as nutritional policies.

The corresponding F values of the Chow test are presented in Tables 3 and 6. The test compares the entire regression equations of different income groups.

TABLE 3: F Values for Cereals

Income Groups	High	Middle	Low	Poor
High	-	-	-	-
Middle	1.409	-	-	-
Low	1.238	0.738	-	-
Poor	3.393*	1.524	1.283	-

*Significant at the 5% level of significance.

As the results show in Table 3, the poor income households differ significantly from the high income households in their overall pattern of demand for cereals. All other groups do not differ significantly in their consumption behaviour towards these food-groups.

TABLE 4: F Values for Meat

Income Groups	High	Middle	Low	Poor
High	-	-	-	-
Middle	1.029	-	-	-
Low	0.882	0.871	-	-
Poor	1.724	1.026	1.527	-

*Significant at the 5% level of significance.

The statistical results in Table 4 show that the income groups do not differ significantly in their overall demand for meat.

TABLE 5: F Values for Milk

Income Groups	High	Middle	Low	Poor
High	-	-	-	-
Middle	1.445	-	-	-
Low	3.207*	0.911	-	-
Poor	2.963*	0.931	1.304	-

*Significant at the 5% level of significance.

The F values for low-high and poor-high income group comparisons are significant. This indicates that the low and poor income groups have significantly different consumption patterns than high income households in relation to milk.

TABLE 6: F Values for Oils and Fats

Income Groups	High	Middle	Low	Poor
High	-	-	-	-
Middle	0.396	-	-	-
Low	0.771	0.585	-	-
Poor	0.710	0.540	1.154	-

*Significant at the 5% level of significance.

As in the case of meat consumption, the income groups do not have significantly different patterns of demand.

In order to test for the financial beneficiaries of food price policies, the levels of calories consumed must be compared for the different income groups. The figures in Table 7 are the average amounts of kilocalories consumed by a household in each income group for the period of the two weeks of the Household Budgetary survey.

TABLE 7: Levels of Calorie Consumption of Income Groups

Food Groups	High	Middle	Low	Poor
Cereal	58.4433	70.4863	63.9958	43.2089
Meat	20.8274	20.2289	14.0352	8.9600
Milk	17.5369	14.8047	10.0906	8.0458
Oils and Fats	25.1768	28.0136	21.9380	17.0642

In Table 7 it can be seen that in the case of cereals the middle income households consume the highest levels of calories followed by the low and high and finally the poor income households. The middle and high income groups are clearly the financial beneficiaries of food price policies on meat. Again the high and middle income groups receive higher income transfers than the other income groups. A similar pattern also obtains in the consumption of oils and fats.

CONCLUSIONS

In selecting items for cheap food policies policy-makers generally assume that the 'basic' food items are best suited to benefit the poor and low income groups. The estimation of price responsiveness of household in different income groups in Trinidad and Tobago shows that this is not necessarily so. The magnitudes of the price elasticities for cereals and milk are skewed upwards in favour of the low and poor income groups showing that they are the nutritional beneficiaries of price policies on these items. The price elasticity for oils and fats is also significant for the low income households indicating that they benefit from the cheap-food policy on cooking oil. The same does not hold for meat.

The results show that the government of Trinidad and Tobago may be spending large sums of poultry subsidies, which it can ill afford, which are of no nutritional benefit to households in the country. It may be that households have reached their peak in the consumption of this item and are unwilling to consume further amounts.

The study of food demand in Trinidad and Tobago also demonstrates the desirability of estimating income specific price elasticities for the use of designing nutritional policies. Together with the significance tests the Chow tests confirm that cereals and milk are the foods which show potential for effective use as nutritional policies. Further investigations may be carried out to identify the other variables determining household demand for these goods which could assist in accurately targeting nutrition policies to the low and poor income household.

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APPENDIX I: Elasticities of High and Middle Income Groups (t values are in brackets)

Regressions	P Cereal	P Meat	P Milk	P Oils & Fats	M_h	H_h	A_h	E_h	K_h	I_h	A_h
HIGH INCOME HOUSEHOLDS:											
Cereal	-0.170	0.054	1.823*	-0.024	1.739	0.449	-0.966	-0.463	0.042	0.724	0.954
	(0.41)	(0.50)	(3.31)	(0.04)	(1.17)	(0.87)	(1.18)	(1.11)	(0.20)	(1.08)	(1.64)
Meat	0.449	-5.61	-0.306	0.018	0.231	0.639	0.461	0.226	-0.126	0.393	0.038
	(1.15)	(0.54)	(0.58)	(0.03)	(0.16)	(1.30)	(0.59)	(0.57)	(0.65)	(0.62)	(0.07)
Milk	0.42	-0.466	-0.945	0.331	-0.537	1.102	0.066	0.148	-0.00	-0.124	0.560
	(0.96)	(0.40)	(1.60)	(0.46)	(0.34)	(1.99)	(0.75)	(0.33)	(0.00)	(0.17)	(0.90)
Oils & Fats	0.112	-0.044	-0.119	-0.891	-0.624	0.744	-0.092	0.634	0.279	0.283	0.756
	(0.20	(0.03)	(0.16)	(1.00)	(0.13)	(1.08)	(0.08)	(1.13)	(1.02)	(0.32)	(0.97)
MIDDLE INCOME HOUSEHOLDS:											
Cereal	-0.459*	0.134	0.206	0.045	-0.219	0.495*	0.067	-0.008	0.031	0.392*	0.004
	(5.94)	(0.61)	(1.33)	(0.33)	(1.18)	(4.30)	(0.42)	(0.08)	(0.57)	(2.15)	(0.02)
Meat	0.041	-0.374	0.185	0.088	0.148	0.375*	0.244	0.215*	-0.076	0.009	-0.270
	(0.56)	(1.82)	(1.27)	(0.68)	(0.85)	(3.48)	(1.63)	(2.26)	(1.49)	(0.05)	(1.63)
Milk	0.260*	0.375	-0.467*	0.052	-0.106	0.415*	0.153	0.031	-0.045	-0.281	-0.251
	(2.32)	(1.18)	(2.08)	(0.26)	(0.39)	(2.49)	(0.66)	(0.21)	(0.57)	(1.07)	(0.98)
Oils & Fats	-0.233	0.047	0.275	-0.411	0.347	0.204	-0.234	-0.019	-0.006	0.297	-0.051
	(1.40)	(0.10)	(0.83)	(1.40)	(0.87)	(0.82)	(0.68)	(0.09)	(0.09)	(0.76)	(0.13)

*Significant at the 5 percent level of significance.

APPENDIX I: Elasticities of Low and Poor Income Groups (t values in brackets) (cont'd.)

Regression	P Cereal	P Meat	P Milk	P Oils & Fats	M_h	H_h	A_h	E_h	K_h	I_h	A_h
LOW INCOME HOUSEHOLDS:											
Cereal	-0.417*	0.226	0.075	0.181	0.394	0.692*	0.007	-0.145	0.069	-0.82	-0.597*
	(3.36)	(0.64)	(0.34)	(0.73)	(0.66)	(3.42)	(1.01)	(0.96)	(0.83)	(0.29)	(2.07)
Meat	-0.146	-0.654	-0.189	0.106	0.714	0.314	-0.002	-0.035	0.117	0.328	0.177
	(1.01)	(1.60)	(0.74)	(0.37)	(1.03)	(1.33)	(0.28)	(0.20)	(1.22)	(1.02)	(0.53)
Milk	-0.056	0.023	-0.598*	0.129	-0.498	0.059	-0.000	0.284	-0.033	-0.798*	-0.847*
	(0.38)	(0.06)	(2.31)	(0.44)	(0.68)	(0.25)	(0.03)	(1.60)	(0.34)	(2.45)	(2.50)
Oils & Fats	-0.113	8.704*	-1.700	-7.744*	10.755	10.336*	0.067	-0.715	0.768	0.737	-4.473
	(0.07)	(2.02)	(0.63)	(2.56)	(1.47)	(4.15)	(0.85)	(0.39)	(0.76)	(0.22)	(1.26)
POOR INCOME HOUSEHOLDS:											
Cereal	-0.638*	-0.079	-0.148	0.151	0.069	0.355*	0.029	0.052	-0.042	-0.435	-0.685*
	(5.17)	(0.67)	(0.79)	(0.76)	(1.63)	(2.23)	(0.16)	(0.42)	(0.51)	(1.72)	(2.86)
Meat	-0.217	-0.107	0.025	0.051	0.113*	0.762*	0.321	0.072	-0.067	-0.462	-0.537*
	(1.57)	(0.82)	(0.12)	(0.23)	(2.41)	(4.26)	(1.52)	(0.52)	(0.73)	(1.62)	(2.00)
Milk	0.141	-0.013	-0.821	0.290	-0.017	0.471*	0.279	0.252	-0.132	-0.186	0.168
	(0.98)	(0.01)	(3.78)	(1.24)	(0.34)	(2.52)	(1.27)	(1.75)	(1.38)	(0.63)	(0.60)
Oils & Fats	-0.327*	0.012	-0.065	-0.702*	0.064	0.424*	0.171	0.300	-0.060	0.078	-0.183
	(2.04)	(0.08)	(0.27)	(2.71)	(1.16)	(2.04)	(0.70)	(1.87)	(0.56)	(0.24)	(0.59)

*Significant at the 5 percent level of significance.

Appendix I (cont'd.)

R^2 Values of Semi-Log Equations

Food Group	High M	Middle M	Low M	Poor M
Cereal	66.02	41.67	41.68	46.38
Meat	38.61	19.5	25.27	28.31
Milk	59.16	15.25	34.64	32.85
Fat	31.68	12.93	35.20	23.81