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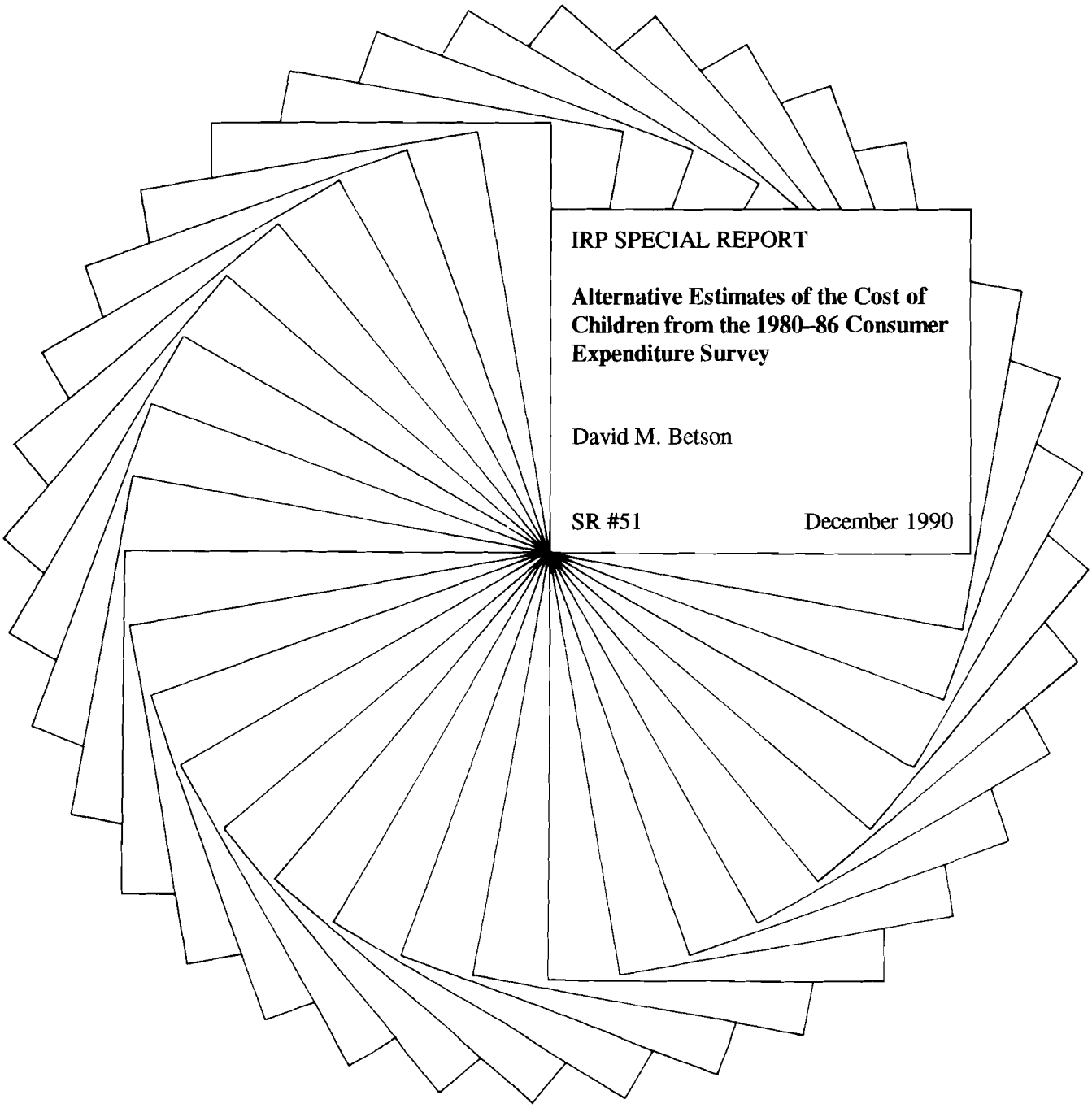

IRP SPECIAL REPORT

Alternative Estimates of the Cost of Children from the 1980–86 Consumer Expenditure Survey

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Alternative Estimates of the Cost of Children from the 1980-86 Consumer Expenditure Survey

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December 1990

Final Report to the
U.S. Department of Health and Human Services,
Office of the Assistant Secretary for Planning and Evaluation

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ABSTRACT

Arriving at estimates of the cost of raising children in different types of families — two-parent and single-parent households in particular — has proved a difficult exercise for economists to perform, owing primarily to the lack of appropriate data for a large number of households and to the difficulty of allocating such costs as housing and transportation that reflect the needs of all households members, not just those of the children. Five different approaches — per capita, Engel, ISO-PROP, Rothbarth, and Barten-Gorman — for performing these estimates are prominent in the economics literature. This study, prepared at the request of the Congress, uses data from the Consumer Expenditure Survey of the Bureau of Labor Statistics from 1980 to 1986 to estimate the costs of children by these five methods, all of which are based upon household expenditures.

Although data limitations mean that most of the results must be qualified in varying degrees, several general conclusions are evident. More children in a family result in higher total expenditures on children in that family, but the average expenditure on each child does not rise when the number of children in the family increases. As a child ages, expenditures on the child rise. When total household expenditures rise, expenditures on children rise in roughly the same proportion. In comparing expenditures among two-parent as opposed to single-parent families, if all other factors are held constant, including levels of total expenditures, the level of expenditures on a child in a single-parent family is higher than that made by two parents. If, however, we take differences in average total expenditures into account, the expenditures are similar across the families types — i.e., poor single parents face costs of raising children similar to those of poor two-parent families. Comparing the costs of children among divorced, separated, and never-married women indicates that, holding all other factors constant, the highest costs of raising children are experienced by never-married mothers, followed by separated and then divorced mothers. This last set of results is not, however, statistically significant.

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I. Measuring the Cost of Raising Children

This report describes the work that I have performed to compute the expenditures made on behalf of children in different family structures. The project was initiated in response to a Congressional mandate in Section 128 of the Family Support Act of 1988, which directs the Secretary of the Department of Health and Human Services to submit to Congress a report that

- details the patterns of expenditures on children in two-parent families and single-parent families where the custodial parent was either divorced, separated, or never married;
- examines the standard of living of households during the period of separation and divorce; and
- draws the implications of such findings for possible legislation and administration of a child support system.

This report addresses the first of these charges. The other two are addressed in a companion report being prepared by Lewin/ICF, a private consulting firm.

Computing how much parents spend on their children would seem to be fairly straightforward: make a list of the household's expenditures and count those made on behalf of the children. This first section of the report attempts to show that there are many pitfalls in trying to make these calculations. Topping the list of potential problems is lack of data and difficulty in allocating expenditures to the individual members in the household. The second and third sections describe alternative methodologies in the economic literature to measure the cost of raising children and how they will be implemented in this research. Section four describes the data utilized in this study. The fifth section describes the regression results that serve as the basis for the estimates of the costs of raising children, which are reported in the sixth section.

At the outset, a few words of caution. Computing the cost of children is not a straightforward exercise. To overcome problems inherent in it, many assumptions and indirect techniques must be utilized. These assumptions are often technical in nature, and the discussion in this report is consequently technical at times. The first and sixth sections of the paper are aimed at the general audience. Those wishing only an introduction to the methodological issues in the calculation of the cost of raising children and a summary of the results of this project can read these sections. The intervening sections offer more technical background and detail of the methodologies employed in this research.

Computing the Level of Expenditures Made on Behalf of Children

Let us assume that a household has retained the receipts for all of their purchases during a year. We now ask the parents to go through these receipts and place each expenditure into one of two categories: those made on the children and those made on themselves. Concerning purchases made for purely personal consumption, a determination could in principle be made. For example, purchase of a pair of shoes or a haircut could be attributed to either a child or an adult member of the household. However, the allocation of the expenditures on goods such as shelter or transportation are extremely problematic. If a household spends $600 per month on rent, how would we allocate this expenditure among adults and children in the household?[1] Thus, even with detailed information about the household's expenditures, a full accounting of the expenditures on a child would require some *ad hoc* allocation of expenditures on jointly consumed goods.

Our difficulties in performing this exercise are compounded by other absences of data linking expenditures to specific individuals in the household. For example, we will

[1] Further complicating this allocation exercise is the fact that these jointly consumed goods represent a significant portion of the average household's budget. From the 1980-81 Consumer Expenditure Survey, 64 percent of the average household's income was spent on shelter, food at home, and transportation.

have available the amount spent on entertainment, but no information indicating whether the expenditure was made on behalf of a child or an adult in the household. The only allocation that can be done with the data available is to characterize expenditures on the basis of whether the goods would be solely consumed by either adults or children or jointly consumed. Under this characterization, total expenditures (TE) are equal to expenditures made on goods consumed solely by children, on goods which only adults consume, and on goods which are consumed by adults and children either collectively or singly . Toys, children's clothing, cribs, and the like would for most parents be the expenditures that would quickly come to mind when thinking about children's goods (C). Cigars, beer, wine, clothing and jewelry for the adult members of the household would fall into the adult goods category (A). The final category would be a residual category containing commodities that could not be assigned on the nature of the good to consumption of the child or adult (M), such as shelter and utilities.

Since the majority of the expenditures of the household would fall into the last category, the question is, how may we devise a reasonable method to allocate these expenditures to the children in the household?

Let us consider the following hypothetical situation in which we are attempting to compute the expenditures made on a child. We have available the expenditure patterns of two virtually identical households, the sole difference being that one household has a child and the other does not.[2] We will assume that both households have total expenditures of $10,000, and that the presence of the child does not raise or lower total household expenditures.

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[2] From the 1980-81 Consumer Expenditure Survey, 90 percent of total expenditures would fall in Category M, while 7 percent would be in Category A and 3 percent in Category C.

Expenditure Patterns of Two Households

Expenditures on:	With No Children	With One Child
"Pure" adult goods (A)	$3,250	$2,045
"Pure" child goods (C)	0	1,115
Goods which could be consumed by either adults or children (M)	6,750	6,840
Total expenditures (TE)	$10,000	$10,000

Confronted with the above expenditures patterns, how might we be tempted to compute the cost of the child? One seemingly reasonable approach would be to allocate $1,205 to expenditures for the child, since expenditures on "pure" child goods increased by $1,115 and expenditures on "mixed" goods increased by $90. Alternatively, we could have arrived at the same number by observing that the child's household reduced its expenditures on adult goods by $1,205. The point is that this approach to allocating expenditures on behalf of the child is identical to asking how much the adults reduced expenditures on themselves. The question then is, How well does this approach accomplish its goal?

When a child is present in a household, additional needs are placed on the household's budget without, normally, a corresponding increase in the household's income. Faced with this increased demand for household expenditures, adults might choose to reduce spending on themselves for goods in both the pure adult and mixed categories. However, by attributing the change in expenditures on mixed goods (M) to be solely increased expenditures for the child is to implicitly assume that expenditures in this category which are consumed by adults do not change when the child is present. The $90 increase in expenditures in category M may underestimate the expenditures made on the

child, because the increased expenditures on children are likely being offset by decreases in expenditures on goods consumed by adults which also appear in this category.[3]

While this accounting approach may seem reasonable, there are reasons to believe that it would tend to underestimate expenditures on the child. Let us now consider an alternative approach that focuses on the measurement of the economic costs of children. To describe the distinction that economists make between expenditures and economic costs, consider the situation where the price of a good rises. In response to the increase in the price of the good, an individual will purchase fewer units of the good even though the dollar expenditures on the good will rise.[4] The accounting approach described above would attribute these increased expenditures as an indication of the "cost" to the individual of the rise of the good's price. However, if the individual is given a grant equal to the increased expenditures on the good whose price has risen, the individual will not be able to afford the bundle of goods purchased prior to the price increase.[5] Since the individual, even after the compensation, is not able to afford what was purchased prior to the price increase, the individual will not have been fully compensated for the price increase. The total expenditures that would be required to raise the individual to the standard of living enjoyed by the individual prior to the price rise would be denoted by economists as the economic costs of the rise in the price of the good.

Differences in family structure can be thought to have effects on household decisions and well-being in much the same manner as changes in the market prices of goods. For example, a trip to the Dairy Queen for ice cream becomes more expensive as

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[3] This discussion also underscores how this approach to estimating the expenditures made on the "marginal" child in the household will also be underestimated owing the fact that when the additional child appears in the household, expenditures on adults and children already born will fall.

[4] This statement assumes an inelastic demand for the good.

[5] Recall that the change in expenditure on the good will reflect both the change in prices and change in the quantity of goods purchased.

the number of household members increases because the number of ice cream cones purchased will rise. Thus, as the members and composition of the household change, the effective price of economic activities such as the trip to the Dairy Queen will also change. When a child is present in a household, the needs of the household and consequently the effective prices of many economic activities will be higher than if the child was not present. Holding total expenditures constant, the household's well-being with the child will be lower than that without the child. Finding the difference in the levels of total expenditure that equate the standard of living between the household with the child and without the child is denoted as the economic cost of the child.

Limitations to This Approach to Measuring the Cost of Children

Before proceeding to a discussion of alternative approaches to measuring the cost of raising children, let us briefly describe how we will deal with the problems discussed above and some limitations to the approach we take.

In this report, we estimate expenditures made by parents on behalf on their children by estimating the economic costs incurred by the parents due to the presence of children in the household. Holding the level of total expenditures constant, the presence of children causes a reduction in the economic standard of living enjoyed by the members of the household compared to the situation where the children were not present. That is, if the children were not present and the level of total expenditures were the same, the remaining members of the household could enjoy a higher standard of living. Alternatively, these remaining members would achieve the same standard of living as with the children present only if they reduced the level of total spending in the household. The difference between the level of total expenditures with children present in the household and this reduced level of spending is the economic costs of the children and will be assumed to be the expenditures made by the parents on children.

As this discussion indicates, the crucial relationship in estimating the cost of children is that between the standard of living of a household and total expenditures made by the household as its composition varies. While expenditures and household composition can be observed in some data sets, the standard of living enjoyed by a household cannot. Alternative approaches to estimating the cost of children differ with respect to how they choose to develop a proxy for standard of living. The per capita approach uses the total expenditures of the household divided by the number of family members as its proxy. The Engel method utilizes the share of total expenditures made on food; the Rothbarth method, the level of expenditures made on adult goods; the ISO-PROP approach, the share of total expenditures made on necessities (for example, food, shelter, clothing, and medical care). Finally, the Barten-Gorman method uses an empirically derived weighting of all commodity purchases as a proxy for the household's standard of living.

Note that all of these methods use commodity-based proxies of the household's standard of living. They thus account for the market purchases of goods, but not for commodities provided to children but not purchased on the market -- namely, the time adults spend in raising and caring for children. Day care and babysitting represent market substitutes for the time inputs of the adults which are reflected in the household's budget, but other significant expenditures of adult time still remain. Thus a full accounting needs to take into consideration the value of the time spent on the children that is not reflected in market purchases.

Another limitation is the implicit assumption that the presence of children in the household does not raise or lower the household's total expenditures. Nor do these methods attempt to examine the effect of children on a household's potential income. If the presence of children affects career decisions and investment in the adult's human capital in

such a manner as to reduce household income, the approaches examined in this paper will tend to underestimate the costs of children to their parents. Hence, even though some of the costs of children may seem drastically overestimated, the approaches have a built-in bias toward underestimating these costs.

II. Alternative Approaches to Estimating the Cost of Children

We here briefly describe five approaches that are employed to estimate the cost of children: the per capita, Rothbarth, Engel, ISO-PROP, and the Barten-Gorman methodologies. The reader is reminded that although the purpose of this research is to estimate the household's expenditures on children, we do so by the estimating the cost of children to the household -- that is, differences in total expenditures made by households to achieve equivalent standards of living.

Per Capita Method

The simplest way to measure the standard of living of a household is to divide the total expenditures of the household by the number of its members. The rationale for such a procedure is that all family members share equally in consumption by the household and that there are no economies of scale in consumption. That is, two individuals whose total expenditures are the same and are living apart will not be better off if they live together.

If we make these assumptions, then for a household composed of N adults and K children with total expenditures of X dollars, the cost of the K children to the adults is

$$CC_{PC} = X - \frac{N\,X}{N+K} = \frac{K\,X}{N+K}.$$

Rothbarth Method

In the previous section, we suggested that another reasonable approximation to measuring expenditures on children is to observe how much adults reduce spending on themselves. Hence, we could measure the expenditures on a child by observing how the household reduced its spending on pure adult goods (A).

We can reformulate this observation into an estimation of the cost of children by first assuming that the parents' standard of living can be proxied by how much is spent on adult goods. As we have already assumed, expenditures on adult goods should fall with the number of children in the household and hence is related to the reduction in the standard of living of the parents. However, holding the number of household members constant while increasing household income would raise both the standard of living of the adults and expenditures made on adult goods. Thus, to estimate the cost of the children in the household, we would first observe the level of expenditures made on adult goods in the household with the children. We would then ask what level of income the parents would need so that they would spend the same amount on adult goods when the children were not present. The difference between the actual total expenditures of the household and this hypothetical level would represent the cost of the children. This approach to cost estimation was proposed by Erwin Rothbarth and in the literature has been given his name.[6]

Let $E_A(X,K)$ represent the relationship between the level of expenditures on adult goods and the household's level of total expenditures on all goods (X) and number of children (K). Given the knowledge of this relationship, the Rothbarth approach would compute the cost of one child to be equal to CC_R, where CC_R solves the following relationship, holding the level of the standard of living constant:

$$E_A(X, K=1) \quad = \quad E_A(X - CC_R, K=0)$$

Figure 1 illustrates the Rothbarth methodology for the case of one child. The two curves in the figure represent the relationship between total expenditures (X) and

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[6] Erwin Rothbarth, "Note on a Method of Determining Equivalent Income for Families of Different Composition." In *War Time Pattern of Saving and Spending*, edited by Charles Madge, Cambridge, Cambridge University Press, 1943.

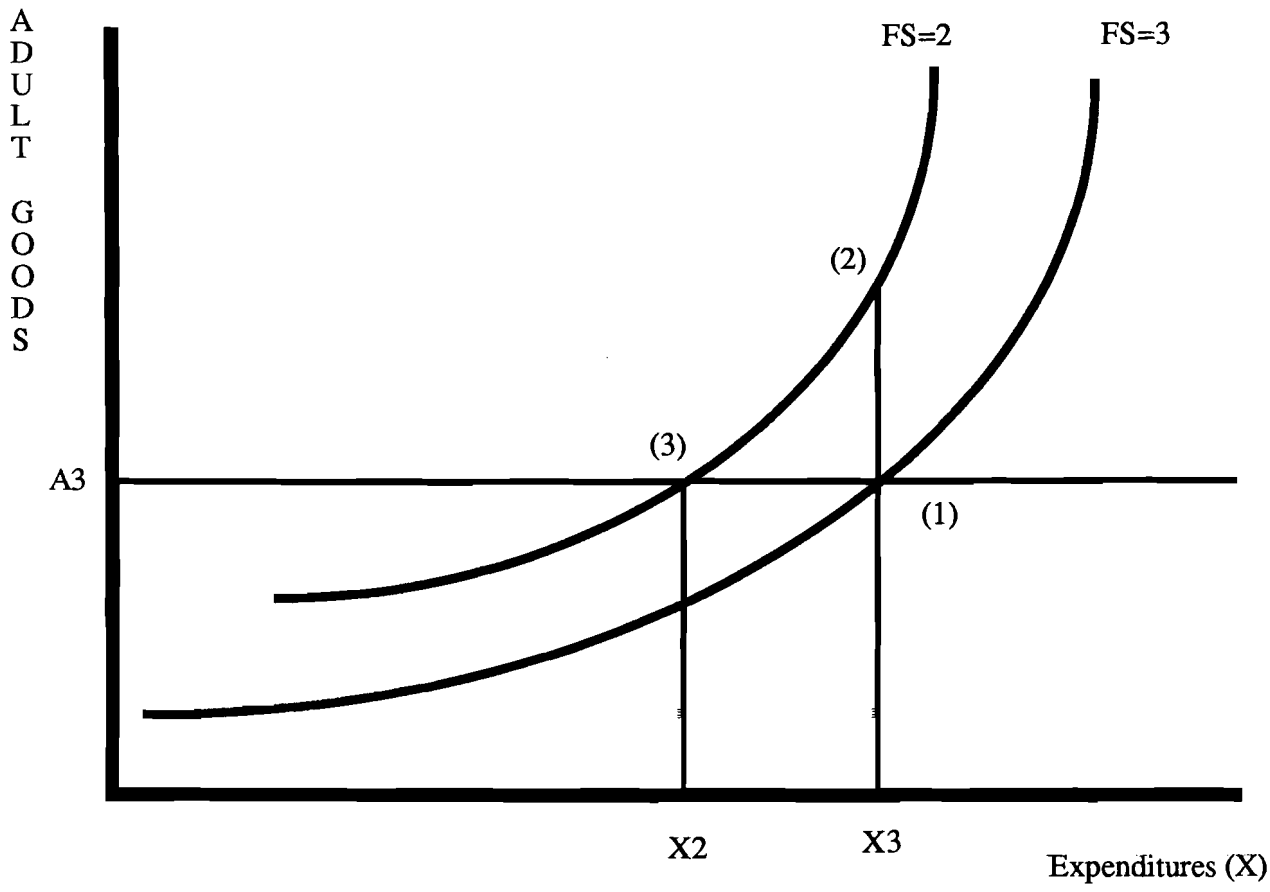

Figure 1

The Rothbarth Methodology :
Using Adult Goods as a Proxy
for the Household's Standard of Living

expenditures on adult goods for a household of a couple without children (FS=2) and a couple with a child (FS=3). Note that the relationship is upward sloping, representing the positive relationship between expenditures on adult goods and the adults' standard of living. Second, the figures are constructed so that the curve for the household without children lies above the curve for the household with a child, representing the assumption that for a given level of total expenditures, an additional person lowers the standard of living of the household. Now if the household with a child has total expenditures X_3, it will spend A_3 on adult goods [point (1)]. If the child was not present in the household, the adults would reach a higher standard of living (spend more on adult goods) [point (2)]. For them to achieve same standard of living in the absence of the child as with the child, Rothbarth assumes that the household should spend not more but the same amount, A_3, on adult goods [point (3)]. The level of total expenditures for a household without children that is consistent with spending A_3 dollars on adult goods is X_2. The difference between these two level of total expenditures (X_3-X_2) is equal to the cost of the child (CC_R).

Engel Method

In 1895, Ernst Engel developed a methodology to measure the cost of children that was based upon the supposition that the standard of living of the household could be proxied by the share of total expenditures devoted to the consumption of food.[7] Examining budget data, he found that as total household expenditures rose, the share of total expenditures devoted to food fell, i.e., the standard of living rose. He also found that as family size increased, holding total expenditures constant the food share rose, i.e., the standard of living fell. Combining these two empirical facts, Engel felt that he had

[7] Ernst Engel, "Die Productions und Consumtionsverhaltnisse des Konigsreich Sachesen." *Seitscrift des Statisticshen Bureaus des Koniglich Sachischen Ministeriums des Innern*, 3, 1857.

sufficient justification to declare that food shares were inversely related to standards of living.

If we let $\Theta(X,K)$ denote the relationship between the share of total expenditures spent on food, total expenditures (X), and the number of children (K), the Engel approach would compute the cost of a child, (CC_E), where CC_E must satisfy the following relationship:

$$\Theta(\, X, K=1) \;= \Theta(\, X\text{-}CC_E, K=0).$$

Figure 2 depicts the determination of the cost of a child under the Engel methodology. The two curves, representing the relationship between total expenditures and the share of total expenditures spent on food, are downward sloping, the share curve for a couple with a child (FS=3) lying above the share curve for the household composed of two adults without a child (FS=2). Both of these relationships correspond to the assumption that the budget share spent on food is inversely related to total expenditures and hence to the standard of living of the household. If the household with a child has total expenditures X_3 [point (1)], then Θ_3 will be spent on food. A couple with X_3 dollars of total expenditures without a child, however, will enjoy a higher standard of living [point (2)]. For this couple to enjoy the same level of living as the couple with the child, they would only require X_2 dollars of total expenditures [point (3)]. The difference in levels of total expenditures, X_3-X_2, represents the cost of the child, CC_E.

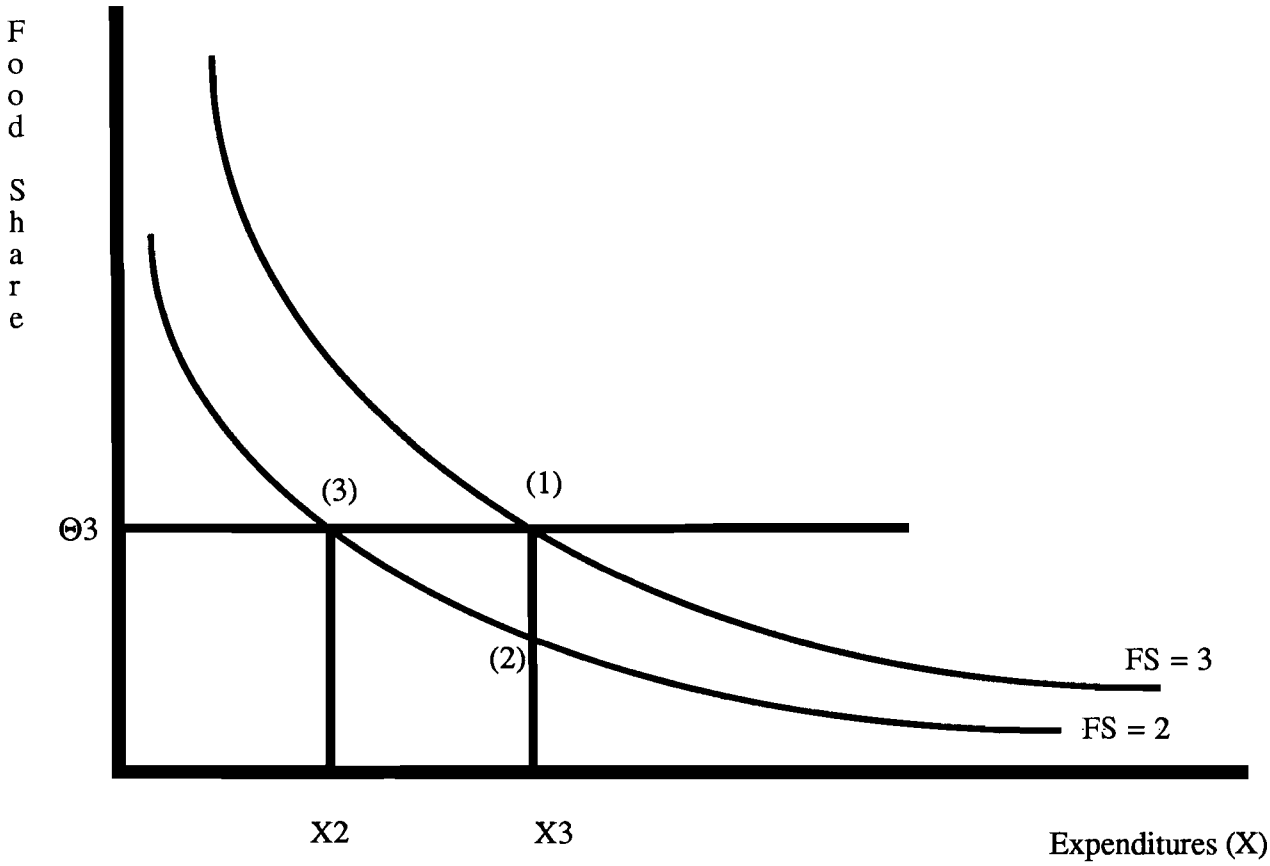

Figure 2

Engel Methodology :
Using Food Shares as an Inverse Proxy
for the
Household's Standard of Living

ISO-PROP Method

The natural question that arises when considering the Engel approach is, Why food? Why not include other necessities such as housing? Harold Watts developed an approach similar to the Engel methodology, in which the indicator of the household's standard of living was expanded to include the share of total expenditures spent on food, clothing, housing, utilities, and health care. The underlying logic was identical to that of the Engel methodology -- necessities such as food should represent a smaller share of a household's budget when its standard of living increases. Hence we should expect that when total expenditures (standard of living) increase the share devoted to these goods should fall. However, if children reduce the standard of living of a household, holding total expenditures constant, then the budget share spent on these goods should rise. The difference between the level of total expenditures required to maintain a given budget share spent on these goods for households of different composition would estimate the economic costs of the different compositions of the households. This expanded Engel methodology was denoted the ISO-PROP Index, denoting equal proportion (budget shares).[8]

Barten-Gorman Method

The common theme in all of the above methodologies is that each selects a proxy for the standard of living of the household and uses the empirically derived relationship between the total expenditures and the selected proxy to arrive at equivalent levels of expenditures across households of different composition. The Engel method selected food shares; the ISO-PROP method utilized the share of total expenditures on a bundle of "necessities" such as food, housing, and clothing. The Rothbarth method used the level of

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[8] Harold Watts, "The iso-prop index: An approach to the determination of deferential poverty income thresholds" in *Improving Measures of Economic Well-Being* edited by Marilyn Moon and Eugene Smolensky, New York, Academic Press, 1977.

expenditures on adult goods to proxy for the standard of living of adults in the household. While each of these methods is empirically straightforward to implement, all base their approach on the questionable assumption that a household's well-being can be captured by the amount spent for a particular bundle of goods and that the economies of scale in consumption of that bundle of goods reflect the economies of scale for all other goods.[9]

To rectify this apparent shortcoming in the Engel approach, Barten suggested the following model.[10] He assumed that households based their consumption decisions upon a common preference ordering, where the consumption of each good was individually scaled. Hence, individual households are assumed to make their consumption decisions by

$$\begin{aligned} &\underset{\text{wrt } \underline{x}}{\text{Max}} \quad U[x_1/m_1, x_2/m_2, \ldots, x_n/m_n] \\ &\text{subject to } \underline{p}'\underline{x} = X \end{aligned}$$

where X is the total amount of expenditures to be made and m_i is the scaling factor for the i^{th} consumption good. The m_i's are assumed to be a function of the demographic characteristics of the household and are equal to one for the reference household.

The function, U, commonly denoted the utility function, is a measure of the standard of living of the household. In this model, the standard of living of the household is explicitly defined to be a function of all goods consumed by the household. However,

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[9] This implicit assumption was first discussed by William Gorman , "Tricks with Utility Functions," in *Essays in Economic Analysis*, edited by Artis and Nobay, Cambridge University Press, 1976.

[10] A. P. Barten, "Family Composition, Prices and Expenditure Patterns," in *Economic Analysis for National Economic Planning*, edited by Hart, Mills and Whitaker, London, Butterworth, 1966.

households of different composition or size will differ with respect to their ability to take given amounts of goods and "produce" a given standard of living. For example, as the household increases in size it will require more food and more clothing to achieve the same standard of living. But how much more? Will the increase be the same for all goods? The Barten-Gorman model assumes that the required change in the consumption of each good to maintain a given standard of living is a constant factor varying across goods, reflecting the varying economies of scale across goods, but is independent of the level of well-being of the household. These scaling factors or economies of scales are the m_i's.

To analyze this model and develop a method to estimate the cost of children, we begin by transforming the basis of analysis from unscaled consumption ($\underline{x}$) and prices ($\underline{p}$) to scaled consumption ($\underline{x}^*$) and prices ($\underline{p}^*$). First define the following variables:

$$x_i^* = x_i/m_i \text{ and } p_i^* = m_i p_i.$$

Given this transformation of variables, the model can be rewritten as

$$\begin{array}{ll} \text{Max} & U[x_1^*, x_2^*, \ldots, x_n^*] \\ \text{wrt } \underline{x}^* & \end{array}$$

$$\text{subject to } \underline{p}^{*\prime}\underline{x}^* = X$$

The solutions to this model are the Marshallian demands for scaled consumption which would be a function of scaled prices and total expenditures:

$$x^*_i = f_i(\underline{p}^*, X).$$

In terms of unscaled consumption, the purchases of the i^{th} good would be equal to:

$$x_i = m_i\, f_i(m_1p_1, m_2p_2, \ldots, m_np_n, X).$$

The consumption behavior predicted by this model can be described with the following example. Consider two households whose total expenditures are identical but which differ with respect to size. The first household contains no children and will be assumed to represent the reference household. For this household, the m_i's will all be one. The other household contains one child but the scales, m_i's, will be greater or equal to one. Let us examine the difference in predicted consumption for the k^{th} good between these two households. The model states that the presence of the child will have a direct effect on the household's consumption of the k^{th} good by a factor of (m_k-1) percent. However, there exists a round of secondary effects on consumption. Note that the consumption of the k^{th} good will depend upon scaled prices of all goods. Hence as the needs of the household increase owing to the presence of the child, the effective price of all goods in terms of achieving a given standard of living are higher for the household with the child.[11] Hence the presence of the child sets off a series of absolute and relative price effects on the household's consumption of the k^{th} good. Depending upon the magnitude of the "price" effects, the secondary effect of the difference of household composition may be either to increase or decrease consumption of the k^{th} good. In the special case where all scales except m_k are equal to one, then the Barten-Gorman model would predict that while the needs of the household for the k^{th} good rise by the percent (m_k-1) the household will not increase their consumption of the k^{th} good by this percentage but by some lesser amount. The reasoning would be similar to that applied to the analysis of the behavior of a household to any price change. If a good becomes more expensive, holding all else constant, the household will consume less of the good because its real income has fallen and the household will wish to substitute away from the more expensive good.

[11] Note that this does not imply that market prices of goods are higher for families with children, but that the effective price of goods in terms of achieving a given standard of living rises with children.

This explanation focuses upon an important feature of this model that should be emphasized. The presence of children is assumed to raise the consumption needs of a household above those if children were not present. These increased consumption needs confront the household with an effective rise in the cost of achieving any standard of living by raising the effective price of various consumption goods. This rise in prices faced by the household will have relative price effects (substitution) but also real income effects. That is, to the extent that children increase the consumption needs of a household, they will decrease the real income (standard of living) of the household.

We can develop a measure of the cost of a child by first examining a concept denoted as the indirect utility function. This concept concerns the relationship between the maximum standard of living that a household of given composition can achieve and the prices for goods and the total level of expenditures made by the household. In the context of the Barten-Gorman model, the indirect utility function, $V[\underline{p},X]$, is:

$$V[\underline{p}^*,X] = U[\, f_1(\underline{p}^*,X),\, f_1(\underline{p}^*,X),...,f_n(\underline{p}^*,X)].$$

Inverting this expression for X, we would derive the relationship between the minimum level of expenditures needed by the household to achieve the level of well-being, U, when it faces prices, $\underline{p}$,as

$$C[\underline{p}^*;U] = C[m_1p_1,m_2p_2,...,m_np_n;\, U]\ .$$

This expression is denoted as the cost or expenditure function.

To derive the cost of a child, we would adopt as reference a virtually identical household except that the household would not have a child. Let $\underline{m}^K$ denote the set of scales for the household with a child and $\underline{m}^{NK}$ denote the set of scales for the household

without a child.[12] The cost of a child to a household whose total expenditures are X would then be expressed as:

$$X - C[m_1^{NK} p_1, m_2^{NK} p_2,..., m_n^{NK} p_n ; V(m_1^K p_1, m_2^K p_2,...,m_n^K p_n; X)]$$

where the second term of the expression is interpreted as the minimum amount of total expenditures required by the household if it did not have a child and was still able to achieve the standard of living it had with the child. If children do increase the consumption needs of the household, then this amount will never exceed X.

Given this presentation of the Barten-Gorman model, the estimation of the cost of the children hinges upon knowledge of two concepts: the utility function and the set of scale factors for different household compositions. The empirical implementation of this strategy will proceed by assuming a given functional form for the utility function and using the implied restrictions to estimate not only the parameters of the common utility function but also the scale factors that differ across households.

We now turn to the empirical specifications of these methods described in this section.

[12] Note that $\underline{m}^{NK}$ need not be equal to a vector of ones.

III. Empirical Specification of Alternative Approaches

The previous section stressed that all the methodologies are based upon the relationship between the share (or level) of total expenditures on a given commodity group (which is intended to represent the household's standard of living) and the demographic characteristics and the total expenditures of the household. This section describes the empirical specification of these relationships as well as the econometric techniques employed in their estimation.

Engel and ISO-PROP Methods

Since the Engel and ISO-PROP methodologies are quite similar, their empirical implementation is described together. Recall that both approaches to estimating child costs rely upon the knowledge of how budget shares of various commodity groups are related to total expenditures and the demographic characteristics of the household. Hence the first step of the empirical implementation is to estimate these relationships.

Let Θ be the budget share of the commodity group implied by the method and let the vector $\underline{z} = (X,\underline{d},\underline{s})$ be the set of explanatory variables that include total expenditures (X), composition of the household ($\underline{d}$), and a set of other socioeconomic variables ($\underline{s}$). To specify the relationship between Θ and $\underline{z}$, I chose a functional form that took account of the fact that Θ was bounded by zero and one and yet was easy to estimate. The functional form I chose was the logistic function form which can be written as:

$$\Theta = \frac{1}{1+\exp[-f(\underline{z})-\varepsilon]}$$

or

$$\log[\Theta/(1-\Theta)] = f(\underline{z}) + \varepsilon .$$

After examination of the literature and some experimentation with various functional forms for f($\underline{z}$), the following functional form was found to best fit the various budget share data:[13]

$$f(\underline{z}) = \alpha_0 + \alpha_1 \log(X/FS) + \alpha_2 [\log(X/FS)]^2 + \alpha_3 \log(FS) + \underline{\delta}'\underline{d} + \underline{\omega}'\underline{s}$$

where FS is family size and

Household Composition Variables ($\underline{d}$):

CKA1	=	Number of children 1 to 2 years old divided by family size
CKA2	=	Number of children 3 to 5 years old divided by family size
CKA3	=	Number of children 6 to 12 years old divided by family size
CKA4	=	Number of children 13 to 14 years old divided by family size
CKA5	=	Number of children 15 to 17 years old divided by family size
CAA6	=	Number of adults 18 to 24 years old divided by family size
CAA7	=	Number of adults 25 to 35 years old divided by family size (note that this variable was omitted in the analysis)
CAA8	=	Number of adults 36 to 45 years old divided by family size
CAA9	=	Number of adults 46 to 55 years old divided by family size

Other Socioeconomic Variables ($\underline{s}$):

HD_NO_HS	=	1 if head's education was less than 12 years, 0 otherwise
HD_COLL	=	1 if head's education was greater than 12 years, 0 otherwise
BLACK	=	1 if the head was black, 0 otherwise

In Two-Adult Families:

SP_NO_HS	=	1 if spouse's education was less than 12 years, 0 otherwise
SP_COLL	=	1 if spouse's education was greater than 12 years, 0 otherwise
TWOERN	=	1 if both adults worked, 0 otherwise
W_WORK	=	Weeks worked by spouse divided by 52
FTIME	=	1 if the spouse worked more than 30 hours per week, 0 otherwise

In One-Adult Families:

[13] My work is reported in "Are Engel Curves Linear?", mimeo., 1986. In this paper, I conducted various goodness of fit tests to compare implicit Engel curves from the Almost Ideal Demand System, Linear and Quadratic Expenditures Systems.

FEMALE	=	1 if the head was a female, 0 otherwise
H_WORK	=	Weeks worked by head divided by 52
HFTIME	=	1 if the head worked more than 30 hours per week, 0 otherwise
DIV	=	1 if the head was a divorced single-parent, 0 otherwise
SEP	=	1 if the head was a separated single-parent, 0 otherwise
NMAR	=	1 if the head was a never-married single-parent, 0 otherwise

Beside fitting the data well, this formulation provides a convenient way to separate out various demographic effects on consumption. In this specification, total expenditures are stated in per capita terms. Hence if no economies of scale effects on consumption are present, then α_3 will be zero. If there are scale effects, then the coefficient on the log of family size will be nonzero. The coefficients on $\underline{d}$ reflect compositional effects of different family types with respect to the age and the number of children and adults in the household.

Five different commodity groups were used in the estimation of child costs under the Engel and ISO-PROP methodologies. These were:

Engel Method:

Θ_{FH}	=	the share of total expenditures devoted to food consumption at home;
Θ_{FT}	=	the share of total expenditures devoted to total food consumption;

ISO-PROP Method:

Θ_{ISO1}	=	the share of total expenditures devoted to food at home, shelter, clothing and health care;
Θ_{ISO2}	=	the share of total expenditures devoted to food at home, shelter, and clothing; and
Θ_{ISO3}	=	the share of total expenditures devoted to food at home and shelter.

Each of these five different specifications was estimated for all one- and all two-adult households using both the total analysis sample and the sample which included only those households with three or more quarterly interviews.[14]

Once the parameters $\underline{\beta}=(\underline{\alpha}, \underline{\delta}, \underline{\omega})$ have been estimated, we can proceed to impute child costs. The next step is to specify the characteristics of the household with children in terms of their total expenditures (X_k), family size (FS_k), household composition ($\underline{d}_k$), and other socioeconomic characteristics ($\underline{s}_k$). Let Γ_k denote the log of the budget share of total expenditures spent on the particular commodity group relative to the budget share spent on all other goods. Hence for the household with children, Γ_k would equal

$$\Gamma_k = \alpha_0 + \alpha_1 \log(X_k/FS_k) + \alpha_2 [\log(X_k/FS_k)]^2 + \alpha_3 \log(FS_k) + \underline{\delta}'\underline{d}_k + \underline{\omega}'\underline{s}_k$$

The next step is to specify a set of characteristics for the household in the case there are no children present. If there are K children in the household and $\underline{d}_o$ and $\underline{s}_o$ reflect the compositional and socioeconomic variables for the household without children, then to compute the child costs we need to solve for the equivalent level of expenditures (X_0) from the following equation:

$$\Gamma_k = \alpha_0 + \alpha_1 \log(X_o/(FS_k-K)) + \alpha_2 [\log(X_0/(FS_k-K)]^2 + \alpha_3 \log(FS_k-K) + \underline{\delta}'\underline{d}_o + \underline{\omega}'\underline{s}_o$$

Note that since there exists a one-to-one relationship between the budget share and the logit of the budget share, solving for the equivalent level of total expenditures in terms of the logit of the budget share is identical to solving for it in terms of the budget share.

Once X_o has been computed, the cost of the children is equal to

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[14] The various specifications were also estimated for the subpopulations of single individuals, one parent families, childless couples, and two-parent families. The results of these estimations and their implied child costs will not be discussed in the main body of the report but appear in Appendix C.

$$CC = X_k - X_o.$$

Rothbarth Method

The only real difference between the Rothbarth method and the above two equal-proportional methods is that Rothbarth focuses upon the level of expenditures on adult goods. Hence the above procedures have only to be adopted to reflect this difference.

To account for the focus upon the level on expenditures as opposed to the share, we modified the estimating equation to the form:

$$\log(RE) = f(\underline{z}) + \varepsilon$$

where RE is the level of real expenditures on the adult-good commodity group and $f(\underline{z})$ is identical to the specification in the Engel and ISO-PROP methods.[15]

For this report, we chose to estimate the Rothbarth model using the following two definitions of adult goods:

RE_{R1}	=	Real expenditures on adult clothing, alcohol, and tobacco consumption; and
RE_{R2}	=	Real expenditures on adult clothing

If a household reported no annual expenditures on the particular commodity group, then the observation was excluded from the estimation. After the estimation was completed, child costs were imputed in a similar manner as described in the previous section.

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[15] I also estimated the logit of the budget share spent on adult goods and found no significant difference in the estimates of the cost of children when using the log of the level of adult goods. Since the Rothbarth method is proposed in terms of the level of adult goods, I chose to utilize this formulation in the report. I also chose to estimate the log-linear model of adult goods to reflect the fact that expenditures will be nonnegative.

Barten-Gorman Method

As noted in the previous section, the empirical implementation of the Barten-Gorman model begins with an assumption of the specific functional form for the utility function. Based upon observations on how households make their consumption decisions, the parameters of the common utility function and the scaling factors (m's) could be estimated. However, as Muellbauer has shown, without price variation the model's parameters are underidentified.[16] Hence, at a minimum, a pooled time series and cross-sectional data would be needed for the estimation of the Barten type of scaling. Unfortunately, although the CEX data are of this form, they do not provide sufficient variation in relative prices of commodities to identify the model.

In the absence of price variation, the identification of the model is possible if other identifying assumptions are made. As Kakwani has shown, the identification problem can be circumvented if one utilizes the Barten scaling in Lluch's Extended Linear Expenditure System.[17]

In this formulation of the Barten-Gorman model, the household is assumed to maximize a two-period utility function under a wealth constraint. If the Barten scaling is applied to this model, it can be expressed as

$$\text{Max} \quad U = \sum_i \beta_i \log(x_{i1}/m_i - \mu_i) + 1/(1+\rho) \sum_i \beta_i \log(x_{i2}/m_i - \mu_i)$$
$$\text{wrt } \underline{x}_1 \text{ and } \underline{x}_2$$

$$\text{subject to} \quad \sum_i p_{i1}x_{i1} + 1/(1+r) \sum_i p_{i2}x_{i2} = I_1 + I_2/(1+r)$$

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[16] John Muellbauer "Household Composition, Engel Curves and Welfare Comparisons between Households," *European Economic Review*, 5, 1974, pp. 103-122.

[17] N. Kakwani, "On the Estimation of Consumer Unit Scales," *Review of Economics and Statistics*, 1977, pp. 507-510.

where the second subscript on each commodity refers to the time period, ρ is the subjective rate of time preference and r is the interest rate. If one assumes that prices and incomes are constant over the two periods, then expenditures on the ith good in the first period is equal to:

$$p_i x_i = p_i m_i \mu_i + \beta_{i0}(I - \Sigma_k p_k m_k \mu_k)$$

where

$$\beta_{i0} = \beta i\ (1+\rho\ )(2+r)/(1+r)(2+\rho\ ).$$

If the scaling factors are assumed to be linear functions of the household's characteristics ($\underline{h}$)

$$m_i = 1 + \underline{d}_i'\underline{h}$$

and the prices are normalized to one, the expenditures on the ith good in the first period would be a linear function of income and the household characteristics. For each of the n commodities, we can estimate the following linear regression model:

$$x_i = a_{i0} + \underline{a}_i'\underline{h} + b_i\, I + \varepsilon_i$$

where ε_i is a random disturbance with mean zero and constant variance.

From the n estimated equations, estimates of the underlying utility parameters (ß's and μ's) and the components of the scaling factors (d's) can be derived by using the following relationships:

$$\beta_i = b_i/(\Sigma_k\, b_k)$$

$$\mu_i = a_{i0} + b_i \, (\Sigma_k \, a_{k0}) \, / (\Sigma_k \, b_k)$$

$$d_{ij} = a_{ij}/\mu_i + \; b_i \, (\Sigma_k \, a_{kj}) \, / (\, \mu_i \, \Sigma_k \, b_k)$$

Once the parameters of the utility function ($\underline{\beta}$ and $\underline{\mu}$) and the coefficients of the relationship between the household characteristics and the scaling factors are estimated ($\underline{d}_i$), the cost of a child to a household whose total expenditures are E can be computed as

$$C_{BG} = E \; - \; \Sigma_k \, \mu_k \, m_k^{NK} - \; (\, \Pi_k \, (m_k^{NK})^{\, \beta k} \,) \; [(E - \Sigma_k \, \mu_k \, m_k^{K}) / \Pi_k \, (m_k^{NK})^{\, \beta k}]$$

where

$m_k^{NK} = 1 + \underline{d}_k' \underline{h}^{NK}$ = the scaling factor for the k^{th} good for the household without children.

$m_k^{K} \; = 1 + \underline{d}_k' \underline{h}^{K}$ = the scaling factor for the k^{th} good for the household with a child or children.

To implement this version of the Barten-Gorman model, five commodity goods were utilized.[18] The commodities were:

FOOD: expenditures on food at home.

HOUSE: expenditures on all housing (primary and vacation), which includes interest on mortgages and/or rental payments, insurance, property taxes, and periodic maintenance of property. Expenditures on natural gas, electricity, oil, water, trash collection, telephone and other utility services. Expenditures on the operation of the home, which include domestic services, day care, repair of household items, and rental of household equipment.

TRANS: the net outlay for the purchase of new and used vehicles, gasoline and motor oil, vehicle finance charges, maintenance and repair of vehicles, insurance, public transportation, and rent of vehicles.

AGOODS: expenditures on men's and women's clothing; tobacco and alcohol

OTHER: included the following broad Bureau of Labor Statistics classifications:

> **Children's Clothing:** expenditures on boy's, girl's and infant's clothing and footware.

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[18] Other groupings were utilized but didn't drastically affect the estimates of the cost of children. This commodity grouping was chosen so as to be able to directly compare the Barten-Gorman with the other three alternative methodologies.

Household Furnishing: expenditures on household textiles, furniture, floor covering, major appliances, small appliances, and other household equipment.

Entertainment: the expense of fees and admissions to movies, sporting events, country clubs, and other entertainment events. Also includes the purchase price of any video or audio equipment and any recreational equipment.

Health Care: any out-of-pocket expense for health insurance, medical service or drugs.

Personal Care: expenditures on wigs and hairpieces, electrical personal care appliances, and personal care services.

Reading and Education: subscriptions and purchases of newspapers, magazines and books. Also includes any payment of fees, tuition, purchase of books and equipment for any public and private elementary, secondary, and postsecondary schooling.

Miscellaneous: expenditures on personal life and disability insurance, banking, legal and accounting fees, funeral expenses, occupational expenses and finance charges for other than vehicle and mortgages loans.

All expenditures were in constant dollar amounts with a base period of 1983. Real household after-tax income was used for I. The list of demographic characteristics that were controlled for in the analysis were identical to the list of variables utilized in the previous methodologies.

IV. The Data Employed in the Analysis

As noted, measurement of the cost of children requires information on household demographic characteristics, income, and expenditures. The premier data set containing this variety of information is the Consumer Expenditure Survey conducted by the Bureau of Labor Statistics. This section provides a brief description of this data set and the various procedures that were employed to construct the analysis file on which this study is based. The section concludes with a series of descriptive tables examining the limitations of this data for the purposes of this study.

The Consumer Expenditure Survey (CEX)

In 1980, the Bureau of Labor Statistics (BLS) began collecting data for an ongoing series of yearly surveys of American expenditure patterns.[19] Like its predecessors, the new survey has two components: (1) quarterly interview surveys in which each consumer is interviewed every 3 months over a 15-month period, and (2) a diary survey in which consumer units are asked to complete a diary of expenses for consecutive one-week periods. This report utilizes the public use file from the quarterly interview survey only.

Each quarterly interview collects income and expenditure data from the previous three month period. In the first interview, the consumer unit (household) is asked not only for demographic, income, and expenditure information over the previous three months but also to complete an inventory of all consumer durables currently owned by the unit. In the second through the fifth interviews, the basic demographic, and expenditure surveys are completed for the unit as a whole and for each individual member within the unit. In the

[19] The first Consumer Expenditure Survey was conducted in1950. The survey was again field in 1961-62 and 1972-73. The latter two surveys have been the primary data sets used by scholars exploring the expenditure patterns of American households.

fifth and final interview, the unit is questioned about the level and change in financial assets of the unit over the previous 12 month period. The public use file employed for this project contains only the responses from the second through fifth interviews.

The BLS definition of an expenditure is the total transaction cost of any purchase made during the previous three month period. The full cost of the transaction, which includes excise and sales taxes, is recorded even though full payment may not have been made at the time of the purchase.[20] Installment payments (except for mortage payments) are excluded from the definition of expenditures.

While most demographic information is available for all household records, regional location variables are included for only the urban subsample of the survey.

Construction of the Analysis Sample

The data utilized in this study have been manipulated by three different groups of individuals; Data Resources (DRI), the programming staff of the Assistant Secretary for Planning and Evaluation (ASPE) at the Department of Health and Human Services, and myself. The original extract from the public use files of the CEX was made by DRI under contract from ASPE. This extract contained selected demographic, income, and expenditure data from the panel of individual household interviews covering the period from the first quarter of 1980 to the first quarter of 1987.[21] For this data set, DRI constructed a series of constant dollar expenditure amounts for detailed and aggregate expenditure categories. However, the data extract delivered to ASPE from DRI grouped

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[20] The only exception is the purchase of a home.

[21] Details of the construction of this extract tape are included in "Differences in Overall Spending Patterns and Spending on Child Care by Family Type: An Exploratory Study using the Consumer Expenditure Survey," a Final Report submitted to ASPE by DRI, January 19,1989, and "Additions to and 1986 Update to the DRI/DHHS Consumer Expenditure Survey Extract Tape," mimeo from DRI to ASPE, June 15,1989.

the data by the quarter that the interview was conducted rather than by individual households. For the purpose of this study, the data for any given household had to be linked across time. The linking and merging of the quarterly household interviews was performed by the programming staff of ASPE. The process of linking the household data was complicated by a change in the sample design in the CEX in 1986. Because of this change, the BLS provided households which were in the sample in the first quarter of 1986 with a new identification numbers. Linking of the household information for units who were in the sample both in 1985 and 1986 is not possible, so these households appear as two different households in the linked extract. This extract formed the basis of the analysis sample used in this present study. The manipulation of the data that I performed took two forms: construction of variables to reflect what I felt was the "ideal" data base for this analysis, and the exclusion of observations from the sample.

Upon receiving the extract tape from ASPE, I posed the question, What would constitute the ideal data for this study? This report has already discussed the ideal variables required to examine the cost of children. The lack of complete information on these variables is the motivation in this study for pursuing the alternative methodologies. The next question concerned the time dimension of data. Should the analysis be performed on a quarterly or a yearly basis? The choice of yearly rather than quarterly observations was dictated by the purpose of these estimates -- the construction of welfare comparisons across households. It was felt that yearly expenditures patterns will better reflect permanent consumption decisions and be less subject to transitory shocks in the household's experience and seasonal considerations present in the quarterly data. Thus, the first set of manipulations was to convert the quarterly household interviews into a single data set reflecting what the household spent in the previous year.

The following information from the various quarterly interviews was used to construct this hypothetical yearly data set. Since the income information was asked on a

yearly basis, it was constructed from the questions on the last recorded quarterly interview. The socioeconomic information, such as age, race, and occupation of the head and spouse in the household, was also taken from the last interview.[22] The size and age composition of the household unit were computed from all available quarterly interviews to reflect the proportion of the year that various members were present in the unit and the "aging" of the individuals in the household. For example, if for two quarters there were three family members and for two quarters there were only two members, the recorded family size for the household would be 2.5. The quarterly expenditure data were adjusted to reflect yearly total expenditures in any category by first computing the average quarterly expenditure amounts from the available quarterly interviews. This average quarterly figure then was multiplied by four to arrive at an estimate of the yearly expenditure figure.

The second set of manipulations involved eliminating observations from the analysis sample according to seven criteria, summarized in Table 1. In the CEX data, if a household had more than $75,000 in expenditures, all of its expenditure data were given a special character code on the data file to reflect topcoding. This code prohibited use of the household's expenditure data since, in effect, all expenditure information was zero for the household. Rather than try to impute expenditure information to these households, it was decided to eliminate them from the sample. This resulted in the loss of 692 household records from the sample.

[22] In this study, the term head will be used to denote the BLS's definition of the reference person of the household.

Table 1

Selection of Analysis Sample
(Number of Household Records)

Total Number of Households in the 1980-87 Consumer Expenditure Survey Panel		**56,966**
Reduction due to:		
a) Total expenditures greater than $75,000	(-692)	
b) Head's age greater than 55	(-16,752)	
c) Family type "other family"	(-3,751)	
d) Household contained more than two adults	(-7,722)	
e) Inconsistency in demographic information	(-457)	
e) Reported zero food expenditures	(-442)	
f) Single parent is a widow	(-260)	
Analysis Sample		**26,890**

The next three criteria were sequentially employed to restrict the sample to households that would constitute the population of interest in the development of child support guidelines, which I took to be households that either have or could have children. This population would include single individuals or childless couples who are of an age with adults in households containing children. To provide a rough cut on this dimension, any household whose head's age was greater than 55 was excluded. This reduced the sample by 16,752 observations.

I then eliminated any household classified as "other family," a classification implying that the unit was living within another family unit. The decision to eliminate these households was based upon consideration that the sharing of income and expenditures between the family units in the household would complicate the analysis of child costs. This criterion eliminated 3,751 households from the sample.

Also eliminated were the households containing more than two adults (persons 18 or older). The rationale for this criterion was based upon the decision that even though children 18-21 might be covered under child support guidelines, the methodologies employed in this study could not realistically capture the major costs of such children, namely college education costs, if we examined only those households where an older child stayed at home. This eliminated 7,722 households from the sample.

The next two exclusions concerned "goodness" of the data. Four hundred and forty-seven households were eliminated owing to inconsistencies in household demographic information. Another 442 households were eliminated on the basis of reporting zero food expenditures over the course of a year.

The final exclusion eliminated single-parent households headed by widows — 260 households. The rationale for this exclusion was that Congress mandated a study of the

expenditures on children in one-adult households where the head was either divorced, separated or never married. Widows were felt to be sufficiently different from these three types of single-parents to warrant their exclusion.

The process of applying these selection criteria left 26,890 household records in the total analysis sample. The listing of the program used in the construction of the analysis sample is provided in Appendix A.

Description of the Analysis Sample

The focus of this study is the cost of children in two-adult households and households headed by single-parents who are either divorced, separated, or never married. While this disaggregation of the population of single-parents is conceptually always possible, the precision of empirical estimates for these subgroups will hinge upon not only the aggregate sample size of the subgroup but also upon the distribution of subgroups across the expenditure classes.

The quality of the estimates also will depend upon the quality of the underlying expenditure data. Although constructed to reflect yearly amounts, these amounts could be based upon as little as one quarter of data. In fact, 33 percent of the analysis sample had only one quarterly interview as a result either of nonresponse or the start and ending dates of the panel. One would imagine that the quality of the data would improve with the number of quarters of data. The question is, Are one, two, three, or four quarterly interviews needed to assure "good" measures of yearly expenditures? Requiring four interviews would reduce the sample to 8,903 observations or 30 percent of the total analysis sample. While we hope this would increase the quality of data, it would drastically decrease the sizes not only of the aggregate sample but of the subgroups of interest. An arbitrary decision was made to perform the analysis on two samples: the total sample of 26,890 households, and a second sample including only those households which

had three or more quarterly interviews, which amounts to 43.1 percent of the total analysis sample, or 11,591 household records.

Tables 2 and 3 present the disaggregation of these two samples by expenditure class[23] and by martial status and number of children. Examination of the tables provides insights into the limitations of the sample for imputation of the cost of children.

In the full sample, there appears to be an ample distribution of sample observations across the demographic groups of interest, especially with regards to sample sizes of single-parent families. However, Table 2 provides an indication of a potential weakness of the data for supporting the imputation of child costs to higher income groups. While for two-adult households the sample seems adequate to support the imputation of costs up to $60,000,[24] the imputation of child costs for single-parent families would seem very problematic for incomes in excess of $30,000 because of small sample sizes.

One reason for constructing the second sample was the belief that the quality of the data would improve with more information on the household's annual expenditures. However, a comparison of Tables 2 and 3 points to a clear trade-off between the "quality" of the data and sample sizes. The sample of single-adult households is substantial, especially at low and high levels of annual real total expenditures. There is a 67 percent reduction among single individuals and a 54 percent reduction among single parents.

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[23] The real expenditures which were computed by DRI and annualized were utilized to categorize the households.

[24] Recall that data is topcoded at $75,000 and these observations were excluded in the sample selection process.

Table 2

Economic and Demographic Composition of Sample (Total Analysis Sample)

Expenditure Class	Single Individuals	Childless Couples
0 to 5,000	2026	73
5,000 to 10,000	3459	410
10,000 to 15,000	2659	830
15,000 to 20,000	1417	972
20,000 to 30,000	1095	1318
30,000 to 40,000	322	575
40,000 to 60,000	185	350
Over 60,000	57	128
Total	11220	4656

Two-Adult Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	26	25	8	59
5,000 to 10,000	241	201	156	598
10,000 to 15,000	578	487	312	1377
15,000 to 20,000	640	733	397	1770
20,000 to 30,000	931	1155	604	2690
30,000 to 40,000	371	567	263	1201
40,000 to 60,000	237	358	175	770
Over 60,000	66	106	59	231
Total	3090	3632	1974	8696

One-Adult (Divorced) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	39	18	11	68
5,000 to 10,000	158	130	60	348
10,000 to 15,000	187	110	94	351
15,000 to 20,000	114	78	20	212
20,000 to 30,000	117	66	28	221
30,000 to 40,000	24	18	3	45
40,000 to 60,000	8	11	4	23
Over 60,000	2	4	0	6
Total	649	435	180	1264

Table 2 -- Continued

One-Adult (Separated) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	26	25	10	61
5,000 to 10,000	76	60	59	195
10,000 to 15,000	48	44	27	119
15,000 to 20,000	29	13	12	54
20,000 to 30,000	19	27	9	55
30,000 to 40,000	2	6	2	10
40,000 to 60,000	3	2	1	6
Over 60,000	1	1	0	2
Total	204	178	120	502

One-Adult (Never Married) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	95	29	16	140
5,000 to 10,000	146	72	54	272
10,000 to 15,000	59	16	15	90
15,000 to 20,000	21	5	3	29
20,000 to 30,000	7	5	1	13
30,000 to 40,000	4	2	0	6
40,000 to 60,000	0	1	0	1
Over 60,000	0	1	0	1
Total	332	131	89	552

Table 3

Economic and Demographic Composition of Sample (Sample with Three or More Quarterly Interviews per Household)

Expenditure Class	Single Individuals	Childless Couples
0 to 5,000	342	14
5,000 to 10,000	1009	147
10,000 to 15,000	1054	368
15,000 to 20,000	628	470
20,000 to 30,000	463	745
30,000 to 40,000	147	306
40,000 to 60,000	51	152
Over 60,000	5	50
Total	3699	2252

Two-Adult Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	5	3	1	9
5,000 to 10,000	83	73	60	216
10,000 to 15,000	273	246	147	666
15,000 to 20,000	323	399	218	940
20,000 to 30,000	494	680	345	1519
30,000 to 40,000	227	335	160	722
40,000 to 60,000	123	200	92	415
Over 60,000	23	35	30	88
Total	1551	1971	1053	4575

One-Adult (Divorced) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	16	7	2	25
5,000 to 10,000	68	63	27	158
10,000 to 15,000	102	50	29	181
15,000 to 20,000	58	39	10	107
20,000 to 30,000	66	42	11	119
30,000 to 40,000	9	10	3	22
40,000 to 60,000	3	4	1	8
Over 60,000	0	1	0	1
Total	322	216	83	621

Table 3 -- Continued

One-Adult (Separated) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	9	11	4	24
5,000 to 10,000	24	27	20	71
10,000 to 15,000	18	18	8	44
15,000 to 20,000	14	6	2	22
20,000 to 30,000	9	13	5	27
30,000 to 40,000	1	2	2	5
40,000 to 60,000	2	1	0	3
Over 60,000	0	0	0	0
Total	77	78	41	196

One-Adult (Never Married) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	53	11	4	68
5,000 to 10,000	68	33	32	133
10,000 to 15,000	17	5	8	30
15,000 to 20,000	6	4	1	11
20,000 to 30,000	3	0	0	3
30,000 to 40,000	3	0	0	3
40,000 to 60,000	0	0	0	0
Over 60,000	0	0	0	0
Total	150	53	45	248

A third sample was needed to estimate the cost of children according to the Barten-Gorman methodology, which requires information on the after-tax income of the household. Households having incomplete income data had to be dropped from the sample. After making this exclusion, an analysis of the relationship between spending (E) and disposable income (DI) yielded an average propensity to consume (E/DI) of over four, implying that on average households were reporting total expenditures four times their after-tax income. While this result could be the result of the BLS's definition of an expenditure, it also calls into question the reasonableness of the income data in CEX.[25] While it is possible for a household to spend more than its disposable income in any year, it is not believable that the average propensity to consume would be that high. Since the CEX is primarily designed to collect expenditure data, the income data were viewed to be suspect. After an investigation of this result, I decided to exclude all households whose propensity to consume was greater than two.

The effect of these two exclusions and the requirement that there be at least three quarterly interviews is shown in Table 4. While the exclusions affect all subgroups of the sample almost equally (18 percent reduction for single individuals; 16 percent reduction for childless couples; 15 percent reduction for both one- and two-parent families with children), the exclusions were proportionally higher at low levels of total expenditure. However, it was judged that this restricted sample was sufficiently comparable to the second analysis sample to estimate the Barten-Gorman methodology.

[25] Recall that any purchase during the interview period is counted as an expenditure. Hence, purchases on major durables such as a car would be counted as an expenditure even though the purchase of the car was financed through installment payments.

Table 4

Economic and Demographic Composition of Sample with Three or More Quarterly Interviews,Complete Income Data, and a Propensity to Consume of Less Than 2.0

Expenditure Class	Single Individuals	Childless Couples
0 to 5,000	236	9
5,000 to 10,000	775	103
10,000 to 15,000	909	290
15,000 to 20,000	536	415
20,000 to 30,000	386	646
30,000 to 40,000	112	266
40,000 to 60,000	36	131
Over 60,000	3	33
Total	2993	1893

Two-Adult Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	3	2	1	6
5,000 to 10,000	72	61	46	179
10,000 to 15,000	220	207	128	555
15,000 to 20,000	272	340	191	803
20,000 to 30,000	429	578	302	1309
30,000 to 40,000	203	301	142	646
40,000 to 60,000	99	173	71	343
Over 60,000	17	24	20	61
Total	1315	1686	901	3902

One-Adult (Divorced) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	16	5	2	23
5,000 to 10,000	58	54	25	137
10,000 to 15,000	91	45	22	158
15,000 to 20,000	48	32	10	90
20,000 to 30,000	56	34	9	99
30,000 to 40,000	8	10	2	20
40,000 to 60,000	2	3	1	6
Over 60,000	0	1	0	1
Total	279	184	71	534

Table 4 -- Continued

One-Adult (Separated) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	8	11	44	23
5,000 to 10,000	19	26	17	62
10,000 to 15,000	15	10	7	32
15,000 to 20,000	12	5	1	18
20,000 to 30,000	8	9	4	21
30,000 to 40,000	1	2	1	4
40,000 to 60,000	2	1	0	3
Over 60,000	0	0	0	0
Total	65	64	34	163

One-Adult (Never Married) Families with:

Expenditure Class	One Child	Two Children	Three or more Children	Total
0 to 5,000	46	11	3	60
5,000 to 10,000	52	27	28	107
10,000 to 15,000	16	5	7	28
15,000 to 20,000	5	3	1	9
20,000 to 30,000	3	0	0	3
30,000 to 40,000	1	0	0	1
40,000 to 60,000	0	0	0	0
Over 60,000	0	0	0	0
Total	123	46	39	208

V. Regression Results

This section describes the regression analyses that forms the basis of the estimates of the cost of children, which are presented in the next section. All the empirical methodologies used in this study concern the relationship between the household's standard of living, proxied by its expenditures on various commodities, and the household's composition, and total expenditures. The Engel and ISO-PROP approaches both utilize the share of total expenditures on a specific commodity group (Θ) as the proxy for the household's standard of living. The results of the Engel model using both the total sample and the sample including only households with three or more quarters of information are reported in Appendix Tables B1 to B8. Appendix Tables B9 to B20 display the results utilizing the three alternative definitions of necessities for the ISO-PROP approach.

I estimated the relationships for the Engel and ISO-PROP methods using the logistic functional form which in general can be written as:

$$\Theta = 1 / (1+ \exp(-\alpha-\beta x)),$$

estimated as the following functional form:

$$\log (\Theta / 1-\Theta) = \alpha + \beta x.$$

Thus the interpretation of the estimated coefficients (β) is the marginal effect of a change in x on the log of the ratio of the share of total expenditures spent on the commodity group of necessities relative to the share spent on other goods. The marginal effect of the variable x on Θ is

$$\partial\Theta/\partial x = \beta\ \Theta\ (1-\Theta)$$

which has the sign of β. Hence if β is positive then x and Θ will be positively related, and if β is negative it indicates that if x increases Θ will fall.

The Engel and ISO-PROP approaches are both based upon the assumption that as total expenditures rise, the share spent on food or any groups of necessities will fall. The results show that all the models estimated are consistent with this assumption within the range of total expenditures in the data.

These two methods are also based upon the assumption that as family size increases, the share spent on necessities will rise, reflecting a fall in the household's standard of living. To examine whether the estimates support this assumption, recall that family size is included in three variables: LFSIZE, LEFS and LEFS2. Although the coefficient on LFSIZE is often negative, the combined effect of all three effects on share spent on necessities is positive throughout the range of expenditures in the data.

The estimation of the Rothbarth approach was performed by regressing the log of annual expenditures (in $1,000) on the various control variables. The results of these regressions are reported in Appendix Tables B21 to B28 for the different family groups, samples, and definitions of adult goods.

The Rothbarth approach, in which adult goods proxy for the household's standard of living, posits that expenditures on adult goods will rise as total expenditures rise and fall as family size falls. The tables indicate that both of these conditions are met in these results.

The final set of regression results for the Barten-Gorman approach are reported in Appendix Tables B29 and B30, which present estimates of the system of five commodity groups used in this study. As indicated earlier, the estimates from the regression models are not directly used to compute the cost of children. They are instead used to identify the

underlying parameters of the utility function (β and μ) and the components used to compute the scaling factors (d_{ij}). These coefficients are reported in Appendix Tables B31 and B32 for two- and one-adult families respectively.

Even though the regression coefficients in this form provide little information on the magnitude of the costs of children, we gain one insight from these tables. One of the goals of this study was to explore the level of expenditures in one-parent households whose head was either divorced, separated, or never married. The list of variables included in each analysis contained variables for each of these three types of households (DIV, SEP, and NMAR). Although the coefficients on these variables are not statistically different in any of the models, there appears to be a consistent ordering of the effect of these three types of household structure on the various proxies for the household's standard of living. Holding all variables constant, divorced women have higher standards of living than do separated women. The lowest standards of living are experienced by never-married women. The implications are that, holding all else constant, the cost of a child to a never-married woman is highest, to a separated woman intermediate, and to a divorced woman lowest. I wish to stress that these differences are not statistically significant.

VI. Estimates of the Cost of Children

In principle the methodologies can provide estimates over a wide range of household compositions. In this report, for each methodology, estimates are provided for one- and two-adult households with one, two, and three children at different levels of total expenditures. The effect of varying the age of the children is also shown. For the Engel, ISO-PROP, and Rothbarth approaches, estimates are given for both the full sample and the sample restricted to household with a minimum of three quarters of information.

The point estimates are informative, but we should remember that they are subject to some uncertainty. To indicate the extent of variability in the estimates and to provide a means for statistical comparison of the results across methodologies, I have computed the standard deviations of the mean cost estimates. To compute these standard deviations, I employed a bootstrapping technique using 500 replications of the sample. The description of this technique is provided in Appendix D.

The tables depicting the cost of children appear in Appendix E. Tables E1 to E8 present the results from the Engel method. The three variants of the ISO-PROP methods are shown in Tables E9 to E20. Tables E21 to E28 present the estimates from the Rothbarth method, and Tables E29 and E30 show the results from the Barten-Gorman model.[26]

To demonstrate how to read these tables, let us consider Table E1, reproduced on the next page. According to the Engel method, the mean cost estimate for one child aged 8 in a two-parent household spending $25,000 per year is $8,296. The standard deviation of this estimate is $262, or 3 percent of the mean. A 95 percent confidence bound for this

[26] Because I was not able to construct a bootstrap technique for the system of equations estimated in the Barten-Gorman model, the standard deviations of the estimates from this approach are not shown.

estimate would be $8,296 plus or minus $514 (±6 percent). Alternatively, we could express the costs of the children as a percentage of the household's total expenditures. For this example, the point estimate would tell us that 33 percent plus or minus 2 percentage points of the household's expenditures went to the child. The cost estimates expressed in this fashion are presented in Appendix F.

In the same table, let us examine the effect of having more children close in age in the same household. Moving to the panel with two children, we see that for the household with $25,000 in total expenditures and two children aged 8 and 10, the total cost of the children is $12,200. Given the previous estimate, the cost of the second child of this age to the family is $3,904; on average the household spends $6,100 on each child. For three children aged 4, 8, and 13, Table E1 shows that the cost of the children to the household is $14,535. The marginal cost of the third child is $2,335 or, on average, the household spends $4,845 on each of the children. Put simply, the tables tells us that both the marginal and average costs of children fall as the number of children rises.

Before attempting to summarize this large body of estimates, I would like to highlight two problems encountered in their computation. First, under the ISO-PROP approach we could not compute the costs of children in various household types because households without children were not predicted to spend as much of their total expenditures on necessities as was predicted for the household with children. This problem is depicted in Figure 3. For the family with one child (FS=3) and X_3 of total expenditures, Θ_3 of total expenditures would be predicted to be spent on necessities. As the figure shows, a level of total expenditures is absent for a similar household without a child (FS=2) spending Θ_3 of total expenditures on necessities. When this problem occurred, a dash (--) was entered in the table. An example of this occurs in Appendix Table E21 for households with two or more children and at low levels of total expenditures.

Table E1

Cost of Children in Two-Adult Families Employing the Engel Method
Food at Home -- All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child:			
Total Expenditures	(4)		(8)		(16)	
5	1285	91	1656	69	1961	85
10	2661	157	3316	121	3856	152
15	4057	218	4975	170	5736	215
20	5466	277	6635	217	7607	276
25	6882	334	8296	262	9472	335
30	8304	390	9956	307	11333	393
35	9732	444	11616	350	13190	450
40	11163	498	13277	393	15044	506
45	12598	551	14938	435	16895	561
50	14035	603	16599	477	18744	616
			Two Children:			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2196	73	2420	70	2607	66
10	4469	124	4860	122	5189	117
15	6758	172	7304	171	7765	164
20	9057	218	9751	217	10338	209
25	11362	262	12200	262	12909	253
30	13672	305	14649	306	15478	296
35	15986	348	17100	349	18045	338
40	18304	389	19552	391	20612	379
45	20624	431	22004	433	23177	420
50	22946	471	24457	474	25742	460
			Three Children:			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2708	66	2875	68	3141	58
10	5494	113	5782	117	6248	101
15	8295	156	8696	163	9346	141
20	11105	197	11614	207	12441	179
25	13922	237	14535	249	15532	217
30	16743	276	17458	290	18622	253
35	19568	314	20382	330	21709	289
40	22397	352	23308	370	24795	324
45	25227	389	26235	409	27880	358
50	28061	426	29162	448	30963	393

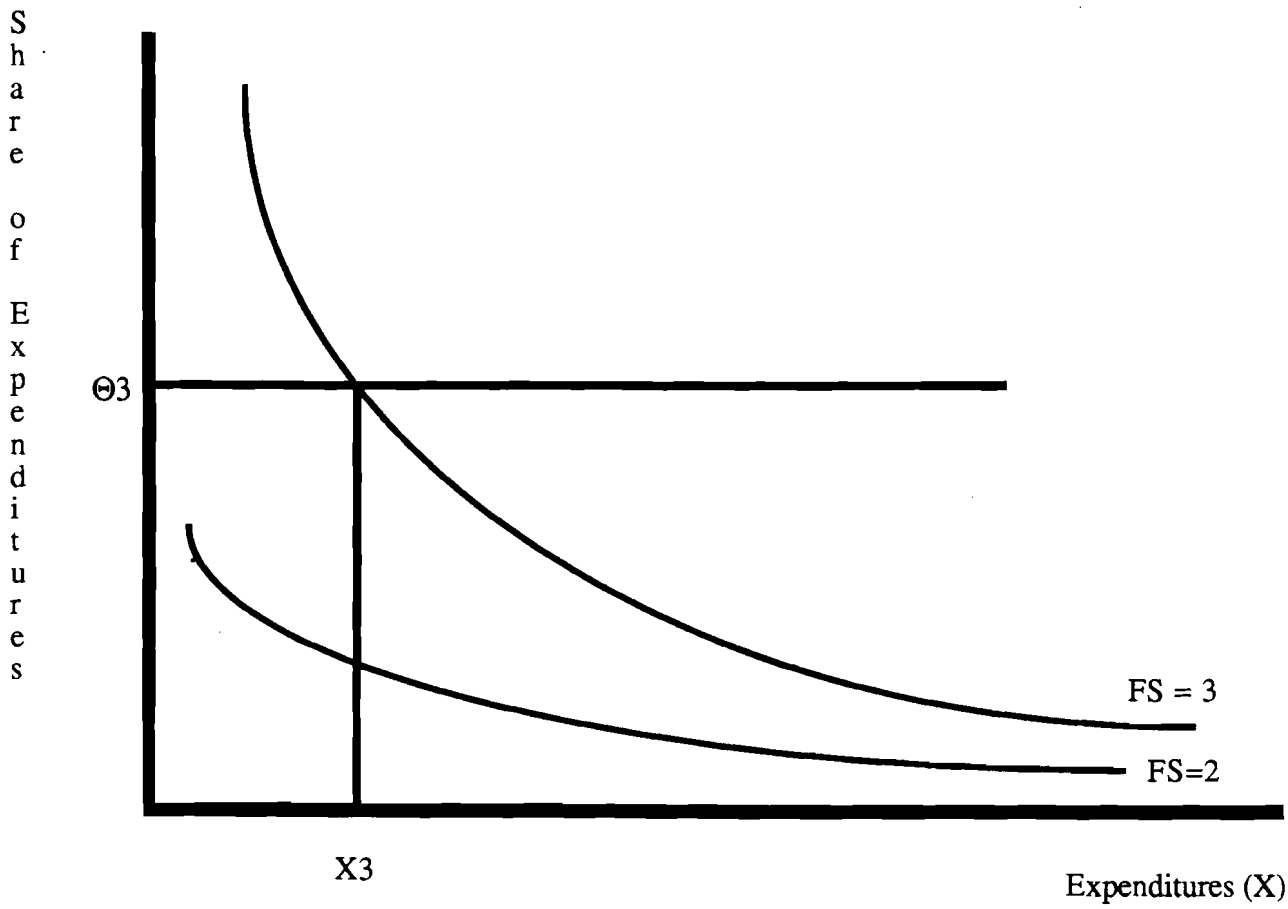

Figure 3

Potential Problem in the Determination of Equivalent Incomes

The second problem was encountered in the Rothbarth method. In all other methodologies, the costs of children continually rise with the age of the child. Under the Rothbarth method, the costs steadily rise until the child is about 15, but then they fall. This can be explained by the fact that in the CEX, clothing purchases of children over 16 are classified as purchases of adult clothing. Thus, the regression results would predict that the expenditures on adults rise with the number of older children and hence the cost of the older children would fall.

Summary of Results

I offer the following observations concerning what can be generally learned from this exercise, that is, what is generalizable from all of the methods.

- Using the sample with households with three or more quarterly interviews does not significantly affect the costs of children in two-adult families but significantly lowers the cost estimates in one-adult families relative to the estimates derived from the total analysis sample. In my opinion, estimates from the sample of households with three or more quarters are more reliable.

- The standard deviations of the cost estimates at average levels of total expenditures are higher for one-adult families than for two-adult households. The greatest variability in estimates are for the ISO-PROP method. The standard deviations in both the Engel and Rothbarth methods are similar.

- More children in the family lead to higher total costs of children. However, as the number of children rises, the average cost of a child does not rise.

- With the exception of the Rothbarth method, there is evidence that as a child grows older, the cost of the child rises.

- When total household expenditures rise, expenditures on children rise in roughly the same proportion. In other words, the cost of children expressed as percentage of total expenditures is almost constant across all levels of total expenditures. This observation is limited to the sample used in the estimation, i.e., where total expenditures are less than $75,000.

- Holding all else constant, including total expenditures, the cost of a child to a single parent is higher than to a family with two adults. Taking differences in average total expenditures into account, the total costs of children are quite similar.

Finally, it is useful to compare all of these methods to a previously mentioned alternative which is very simple to compute: per capita allocation of expenditures. Using this method, child costs as percentage of total expenditures would not vary with income or age of child, but, only with number of children and of adults in the household. In one-adult families, the costs for one, two, and three children are 50 percent, 67 percent and 75 percent of household expenditures respectively. In two-adult families the cost are 33 percent, 50 percent and 60 percent of expenditures.

A graphical summary of the relationship between the various methods is presented in Figures 4 and 5. In each figure there are three horizontal lines. Each line represents the number of children in the household. For simplicity, I chose the intermediate age child or group of children from the age groups in the tables. Since the cost of the children expressed as a percentage of total expenditures did not vary significantly with levels of total expenditures, I chose the $25,000 and $15,000 levels for two and one-adult families to construct these figures.[27] For each set of children, I used an abbreviation designating each

[27] These levels were chosen because they represent the average levels of real total expenditures for the two groups. The cost estimates reported in the figures also are from the sample of households which had three or more quarters of data.

method, placed to depict its relative position on a line representing costs as a percentage of total household expenditures. The abbreviations are:

PC	=	Per capita
E1	=	Engel using food at home
E2	=	Engel using total food expenditures
I1	=	ISO-PROP using food at home,shelter,clothing and health care
I2	=	ISO-PROP using food at home,shelter and clothing
I3	=	ISO-PROP using food at home and shelter
R1	=	Rothbarth using adult clothing, alcohol and tobacco
R2	=	Rothbarth using adult clothing
BG	=	Barten-Gorman

Examining the figure for two-adult families (Figure 4), the first observation we can make is that the Engel and per capita methods yield very similar cost estimates. All other methodologies using proportional approaches indicate that the costs of children in two-adult households are significantly less than indicted by the per capita method. The Rothbarth method produces child costs lower than either the Engel or per capita methods, while the ISO-PROP and Barten-Gorman methods yield significantly lower estimates for one child. The difference between the ISO-PROP and the Rothbarth approaches diminishes as the number of children increases, but the Barten-Gorman results remain significantly lower than all others.

Child costs in percentage-of-expenditures terms are higher in one-adult household (Figure 5) than in two-adult households. This is the expected result from a per capita apportionment of total expenditures, which indicates that 50 percent, 67 percent and 75 percent of total expenditures would be required for raising one, two, and three children, respectively. But what is surprising is that all the equal-proportional methods (Engel and ISO-PROP) provide estimates that are at least as great as those under the per capita method. Only the Rothbarth and Barten-Gorman methods consistently yield estimates which are smaller than those under the per capita method.

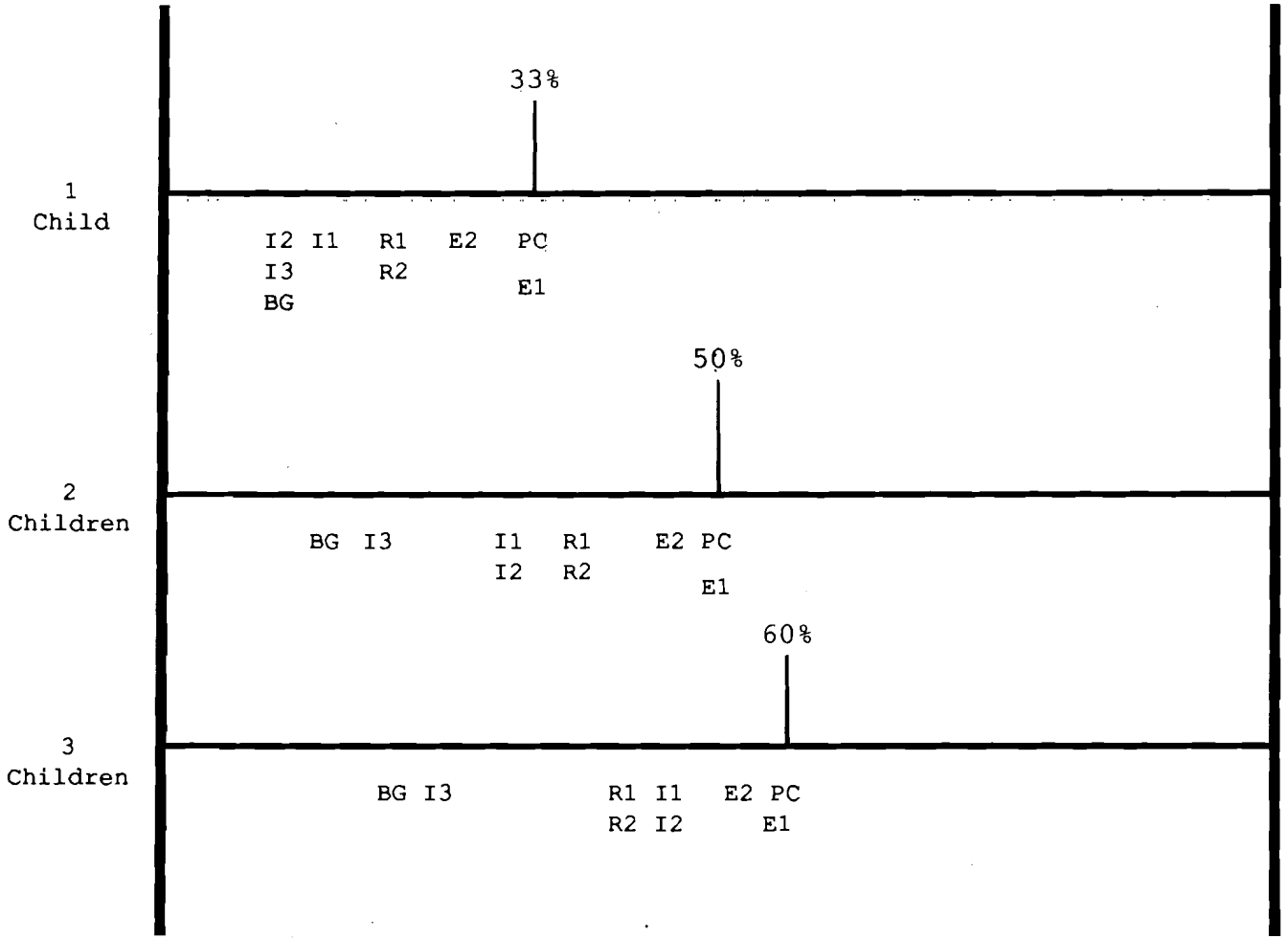

Figure 4

The Cost of Raising Children in Two-Parent Families
(Expressed as a Percentage of Total Household Expenditures)

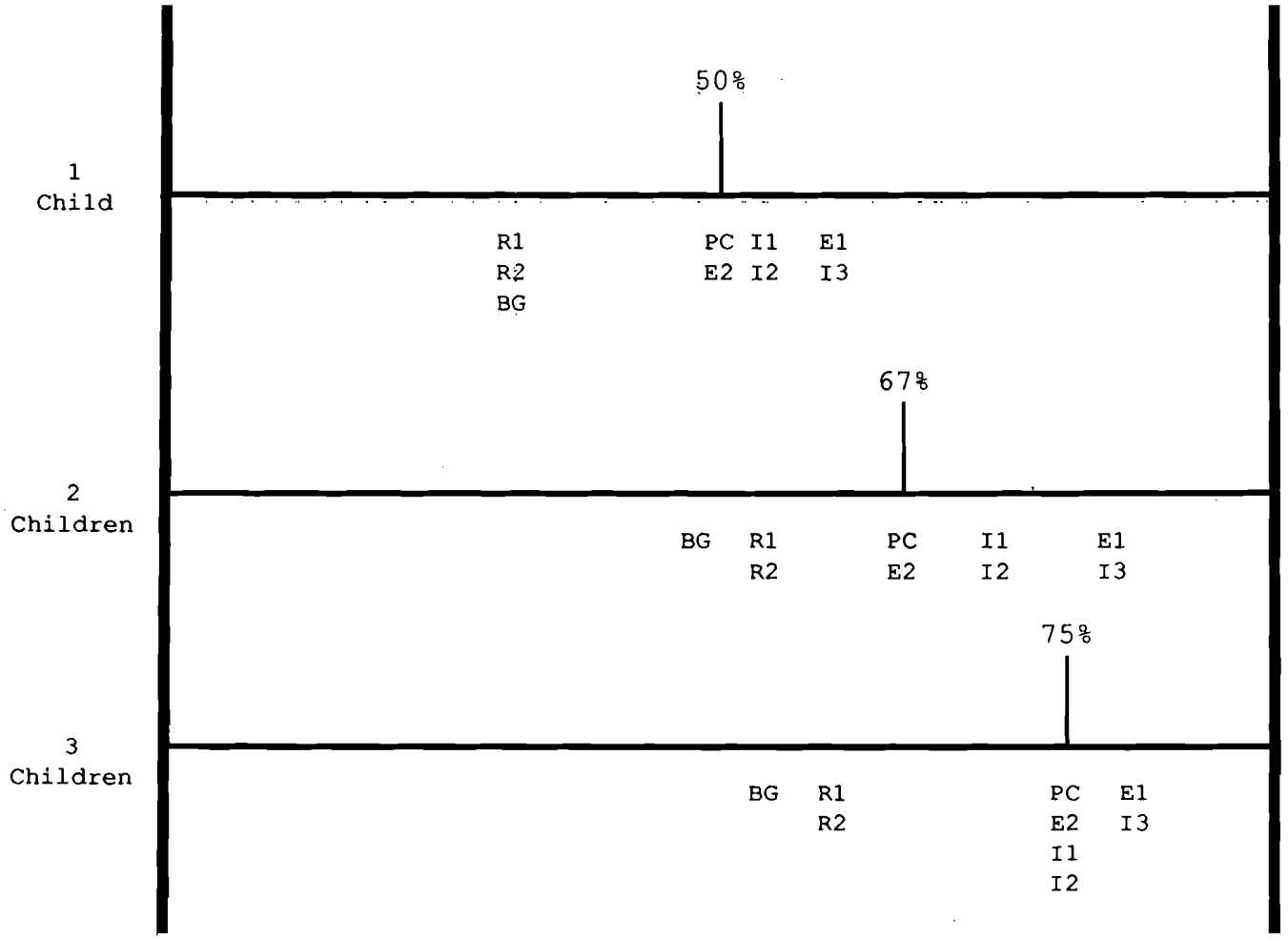

FIGURE 5

The Cost of Raising Children in a Single-Parent Family
(Expressed as a Percentage of Total Household Expenditures)

These two figures show that the definition of commodities utilized within each method does not significantly alter the estimates derived. The only exception to this observation is ISO3, which employed the share of total expenditures on food at home and shelter. For two-adult families this ISO-PROP variant yielded lower estimates of child costs, and for one-adult families it yielded higher estimates than the other two variants.

Were these results to be expected? The finding that the Engel and the per capita approaches yielded similar results was to be expected from previous work by Espenshade,[28] who used the 1972-73 CEX to estimate the cost of raising a child under the Engel method and obtained results similar to a per capita apportionment.

The consistency with which the Engel approach yielded higher estimates of the cost of children than did the Rothbarth method was not unexpected, in view of the theoretical work of Deaton and Muellbauer,[29] which demonstrated that in general this relationship should hold. However, they also argued that in theory the Barten-Gorman approach should yield estimates falling between those produced by Engel and Rothbarth. Why was this not true in my study?

We need to remember the conditions under which the Barten-Gorman model was estimated in comparison to the other two methods. First, to identify the Barten-Gorman model a series of very restrictive assumptions were needed concerning the preferences and hence the behavior of the households. In particular, we had to assume that expenditures on goods were linear in relation to total expenditures. Both the Engel and Rothbarth approaches allowed for expenditures on their respective commodities to be non-linear. In

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[28] Thomas Espenshade, *Investing in Children*, Washington, D.C., Urban Institute Press, 1984.

[29] Angus Deaton and John Muellbauer, "On measuring child costs." Journal of Political Economy, Vol. 94, No. 4, 1986, pp. 720-744.

previous work, I showed that the linearity assumption used in implementing the Barten-Gorman model is not appropriate and that the functional forms used in the specification of the Engel and Rothbarth provide a better fit of the expenditure data.[30]

These differences in functional forms point to an additional difference confounding the comparison. To illustrate, let us compute the Engel and Rothbarth methods from the estimates of the linear expenditure system in Tables 35 and 36. Using these estimates of the scaling factors and parameters of the utility function, one can calculate, with the Engel method, that the cost of an eight-year-old child to a two-adult family with expenditures of $25,000 is 38 percent of total expenditures. The corresponding figure for the Rothbarth method is 23 percent. Thus, differences in functional forms can not explain this departure from our theoretical expectations.

The implicit commodity scaling factors for this household type may account for this result. In this case of the household with an eight year old child the scaling factor (m) is 1.32 for food ; 1.02 for housing; .96 for transportation; .75 for adult goods; and 1.33 for all other goods. Given that these scales have been normalized to equal one for a two-adult household without children, the two scale factors that are less than one imply that a household with a child needs less transportation and fewer adult goods to achieve the same standard of living as a household without children. The scale for transportation is not significantly different from one, but the scale for adult goods is. If we recalculate child costs requiring that all scales be at least one, then our theoretical expectations are met.

These scales also explain why the estimates from the ISO-PROP methodology for two-adult families are low compared to the Engel and Rothbarth methods. While the scale for food (1.32) is close to a per capita share, the scale for housing (1.02) indicates larger

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[30] David Betson "Are Engel Curves Really Linear?" mimeo, 1986.

economies of scale in housing as compared to food. The third ISO-PROP variant, which considers only food at home and housing, should represent the budget share weighted economies of scales in these two goods. Hence it should come as no surprise then that any of the ISO-PROP variants that include housing produce estimates lower than does the Engel method.

VII. Conclusions

The main findings of this study are as follows:

- More children in a family result in higher total costs of children in the family. However, as the number of children rises, the average cost of each child does not rise.
- With the exception of results under the Rothbarth method, there is evidence that as the child grows older, the cost of the child rises.
- When total expenditures rise in the household, the expenditures on the children rise in roughly the same proportion. In other words, the cost of children expressed as percentage of total expenditures is almost constant across all levels of expenditures observed in the survey.
- Holding all else constant, including levels of total expenditures, the cost of a child to a single-parent is higher than to a two-parent family. Taking differences in average total expenditures into account, the costs of children are quite similar.

Ideally, I would have hoped that many of the assumptions needed to perform these estimates would not have made a difference to the end results. Some did not. At the mean of the samples, the choice of functional form to estimate the various models did not make much difference in the final results. However, the choice of method did have a substantial effect on the estimates. The variation in results across methods can not be explained by the uncertainty in our estimates of the underlying relationship describing the expenditure patterns of households of different composition. The choice of underlying assumptions did make an important difference.

Thus, arriving at what would be described as best estimates will depend on which set of underlying assumptions seems to be most realistic and which set of estimates conforms to common sense. The Engel approach theoretically is believed to provide an upper bound estimate of the cost of raising children. The use of economies of scale in food consumption to estimate the average economies in other goods seems on the surface unrealistic in today's society. But given the high estimates that result from this

methodology, even when compared to the per capita method, the estimates from the Engel method should be discounted.

The Barten-Gorman approach, while most theoretically pleasing, was hindered by the large set of restricting assumptions required to identify the model with this data set. Moreover, implementation of the model relied upon the validity of the income data in the survey, which is suspect. These problems reduced the acceptability of the Barten-Gorman estimates.

The ISO-PROP approach resembles the Engel approach, but differs in several ways. By including other goods which could be considered necessities, this approach potentially could overcome some objections to the Engel method. However, the estimates from this method are quite different if we compare one- and two-adult families. For ISO2 (which included food at home, shelter, and clothing), the average and marginal cost of children is equal to constant 14 percent of total expenditures. For one-adult families, the estimates reflect almost a per capita appoportionment of expenditures. The reason this a result is not clear. Given the sensitivity of the estimates to what is included in the definition of a necessity, the robustness of these results is questionable. The ISO-PROP approach, as opposed to other approaches, was significantly affected by the choice of the level of total expenditures. For all of these reasons, I have tended to discount the ISO-PROP estimates.

The others having been discounted or eliminated from consideration, the Rothbarth method remains the leading contender. In the first section of the report, this method, based on how adults reduced spending on themselves in favor of their children, was considered a reasonable approach. The similarity of its results for one- and two-parent families, in comparison with the per capita appoportionment of total expenditures, is

striking.[31] My own experience is that the marginal and average costs of children appear to fall with the number of children, while the percentage of total expenditures devoted to children remains constant. For these reasons, I have concluded that the Rothbarth method produces what I would consider the "best" set of estimates of the cost of raising children. Rounding the numbers, I arrive at my best guess of the total cost of raising children, expressed in percentage of total household expenditures as 25 percent, 35 percent and 40 percent for one, two, and three children in a two-parent household and 40 percent, 55 percent and 60 percent for one, two, and three children in a one-parent household.[32]

The estimates of the cost of children prepared for this report are given as estimates of expenditures on children. Two cautionary points should be made. First, the Consumer Expenditure Survey contains expenditure information only on households whose total expenditures were less than $75,000 per year. Thus, the costs of children in households with expenditures in excess of $75,000 remains purely speculation. Second, all estimates of expenditures on children were made as a function of total expenditures, not income, of the household. It is tempting to equate total expenditures with income, but these are two distinct concepts.[33] For the purpose of child support guidelines, it would be more informative to know how expenditure patterns varied according with income. Unfortunately, the income data on the CEX is not of sufficient quality to permit such

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[31] The Rothbarth estimates imply 25 and 38 percent of total expenditures are devoted to the child in two- and one-adult families respectively. The ratio of these estimates to the per capita estimate is 25/33 =.75 and 38/50=.76.

[32] In Appendix G, I compare my Rothbarth estimates with another set of Rothbarth estimates from the recent study by Lazear and Michael.

[33] Given the way that the BLS defines expenditures as the purchases of the household, the difference between income and expenditures as reported in the CEX is not truly the savings of the household. For example, the purchase of new car would appear as an expenditure of the household, while an economic definition of expenditure would include only the stream of services derived from the ownership of the car during the year. For this reason, the BLS definition tends to overstate the amount of expenditures in the year the purchase is made, and to understate the amount of expenditures of the household in other years.

analysis. The relationship between the estimates given in this report to child support guidelines are left to the report prepared by Lewin/ICF.

Appendix A

Listing of Extract Program for Analysis Sample

```
//F6WXFN1 JOB (AF,E409),BETSON,NOTIFY=F6WXFN,TIME=10,
// MSGLEVEL=(2,0),MSGCLASS=Q
/*OPENBIN
/*SETUP CEX1,NOCODE
/*SETUP CEX2,NOCODE
//STEP1 EXEC VSFORT
//FORT.SYSIN DD *
      INTEGER IRD(4,73),YKID,OKID,NREC(11),IPL(4),IEP(41)

      REAL XIN(4,90),XOUT(62),AGEKID(5),DUM(12)

      DATA IEP/2,3,4,5,6,7,8,9,10,11,14,15,16,18,19,20,21,22,23,24,
     *25,26,27,28,29,30,32,34,35,36,38,39,40,41,42,44,45,46,47,48,
     *49/

      DATA NREC/11*0/

1     READ(10,200,END=100) ((IRD(K,J),J=1,29),XIN(K,1),
     $ (IRD(K,J),J=30,69),(XIN(K,J),J=2,68),IRD(K,70),
     $ (XIN(K,J),J=69,90),(IRD(K,J),J=71,73),K=1,4)

200    FORMAT(4(I7,I1,2(I3,1X),14I2,I1,2(I8,1X),I1,I9,1X,I1,2I2,
     $ I1,I9,1X,I9,F11.3,4(I8,1X),2I3,4I1,2I2,I8,1X,I1,4I2,2I1,
     $ 4I2,3I1,2I8,3I1,5I8,1X,2(I8,1X),I3,67F9.2,I1,22F9.2,
     $ 2(I8,1X),I3))

       NREC(1)=NREC(1)+1

      IGOOD=0

      DO 2 K=1,4
      IF(IRD(K,1).LE.0) GO TO 2
      IF(XIN(K,67).LE.0.) GO TO 2
      IGOOD=IGOOD+1
      IPL(IGOOD)=K
2     CONTINUE

      IFIRST=IPL(1)
      ILAST=IPL(IGOOD)

      IF(IGOOD.LT.1) GO TO 1
      NREC(2)=NREC(2)+1

C ELIMINATE IF AGE OF RP IS GT 55

      IF(IRD(ILAST,3).GT.55) GO TO 1
      NREC(3)=NREC(3)+1

C ELIMINATE OTHER FAMILIES

      IF(IRD(ILAST,27).GT.8) GO TO 1
      NREC(4)=NREC(4)+1

      GOOD=IGOOD

      DO 300 K=1,62
300   XOUT(K)=0.0

      XOUT(1)=IRD(IFIRST,1)
```

```
      XOUT(2)=GOOD

      DO 13 I=1,IGOOD
      J=IPL(I)
      K=I+2
      JQ=(IRD(J,50)-1)/3 + 1
13    XOUT(K)= JQ + (IRD(J,51)-80)*4

      XOUT(7)=IRD(ILAST,70)

      XOUT(8)=XIN(ILAST,1)
      XOUT(9)=IRD(ILAST,19)
      XOUT(10)=IRD(ILAST,56)
      XOUT(11)=IRD(ILAST,61)

      NKID=0
      DO 4 KK=5,16
4     IF(IRD(ILAST,KK).GT.0) NKID=NKID+1

      IF(NKID.LT.1) GO TO 9

      YKID=IRD(ILAST,5)
      OKID=0
      IEND=4+NKID
      DO 5 KK=5,IEND
      YKID=MIN(YKID,IRD(ILAST,KK))
      OKID=MAX(OKID,IRD(ILAST,KK))
5     CONTINUE
      XOUT(12)=YKID
      XOUT(13)=OKID

9     CONTINUE

      DO 6 KK=1,5
6     AGEKID(KK)=0.0

      DO 7 J=1,IGOOD
      KJ=IPL(J)
      DO 7 LL=5,16
      KID=IRD(KJ,LL)
      IF(KID.GT.0.AND.KID.LT.3) AGEKID(1)=AGEKID(1)+1
      IF(KID.GT.2.AND.KID.LT.6) AGEKID(2)=AGEKID(2)+1
      IF(KID.GT.5.AND.KID.LT.13) AGEKID(3)=AGEKID(3)+1
      IF(KID.GT.12.AND.KID.LT.15) AGEKID(4)=AGEKID(4)+1
      IF(KID.GT.14.AND.KID.LT.18) AGEKID(5)=AGEKID(5)+1
7     CONTINUE

      XOUT(14)=AGEKID(1)/GOOD
      XOUT(15)=AGEKID(2)/GOOD
      XOUT(16)=AGEKID(3)/GOOD
      XOUT(17)=AGEKID(4)/GOOD
      XOUT(18)=AGEKID(5)/GOOD

      DO 8 K=14,18
8     XOUT(19)=XOUT(19)+XOUT(K)

      DO 10 K=1,IGOOD
      J=IPL(K)
10    XOUT(20)=XOUT(20)+IRD(J,26)
      XOUT(20)=XOUT(20)/GOOD

C   ELIMINATE IF MORE THAN TWO ADULTS IN LAST INTERVIEW

      KID=0
```

```
      DO 400 KK=5,16
400   IF(IRD(ILAST,KK).GT.0.AND.IRD(ILAST,KK).LT.18) KID=KID+1

      IAD=IRD(ILAST,26)-KID
      IF(IAD.LT.1) GO TO 1
      IF(IAD.GT.2) GO TO 1
      AD=XOUT(20)-XOUT(19)
      IF(AD.GT.2..OR.AD.LE.0.) GO TO 1
      IF(XOUT(20).LT.1.0) GO TO 1

      NREC(5)=NREC(5)+1

      IFAM=0
      ISP=0
      IF(IRD(ILAST,4).GT.12)ISP=1

      IF(IAD.EQ.2.AND.KID.GT.0.AND.ISP.EQ.1) IFAM=4
      IF(IAD.EQ.2.AND.KID.LE.0.AND.ISP.EQ.1) IFAM=2
      IF(IAD.EQ.1.AND.KID.GT.0.AND.ISP.EQ.0) IFAM=3
      IF(IAD.EQ.1.AND.KID.LE.0.AND.ISP.EQ.0) IFAM=1

      XOUT(21)=IFAM

      IF(IFAM.EQ.0) GO TO 1
      IF(KID.GT.0.AND.XOUT(19).LE.0.) GO TO 1


      NREC(6)=NREC(6)+1


      XOUT(22)=IRD(ILAST,43)
      XOUT(23)=IRD(ILAST,44)
      XOUT(24)=IRD(ILAST,22)

      DO 15 K=1,IGOOD
      J=IPL(K)
      Z=IRD(J,32)
      XOUT(25)=AMAX1(XOUT(25),Z)
      Z=IRD(J,23)
      XOUT(26)=AMAX1(XOUT(26),Z)
      Z=IRD(J,28)
      XOUT(27)=AMAX1(XOUT(27),Z)
      Z=IRD(J,29)
      XOUT(28)=AMAX1(XOUT(28),Z)
      Z=IRD(J,31)
      XOUT(29)=AMAX1(XOUT(29),Z)
      Z=IRD(J,33)
      XOUT(30)=AMAX1(XOUT(30),Z)
      Z=IRD(J,67)
      XOUT(31)=AMAX1(XOUT(31),Z)
      Z=IRD(J,68)
      XOUT(32)=AMAX1(XOUT(32),Z)
      Z=IRD(J,66)
      XOUT(33)=AMAX1(XOUT(33),Z)
      Z=IRD(J,42)
      XOUT(34)=AMAX1(XOUT(34),Z)
      Z=IRD(J,20)
      XOUT(35)=AMAX1(XOUT(35),Z)
 15   CONTINUE

      XOUT(36)=IRD(ILAST,3)
      XOUT(37)=IRD(ILAST,59)
      XOUT(38)=IRD(ILAST,55)
      XOUT(39)=IRD(ILAST,24)
```

```
      IF(XOUT(39).GE.7.) XOUT(39)=0.
      XOUT(40)=IRD(ILAST,57)
      XOUT(41)=IRD(ILAST,34)
      XOUT(42)=IRD(ILAST,40)
      XOUT(43)=IRD(ILAST,46)

      DO 30 KK=44,51
30    XOUT(KK)=-1.
      IF(IRD(ILAST,4).LE.12) GO TO 31

      XOUT(44)=IRD(ILAST,4)
      XOUT(45)=IRD(ILAST,60)
      XOUT(46)=IRD(ILAST,54)
      IED=IRD(ILAST,25)
      IF(IED.EQ.0) XOUT(47)=0.
      IF(IED.GT.0.AND.IED.LE.8) XOUT(47)=1.
      IF(IED.GE.9.AND.IED.LT.12) XOUT(47)=2.
      IF(IED.EQ.12) XOUT(47)=3.
      IF(IED.GT.20.AND.IED.LE.23) XOUT(47)=4.
      IF(IED.EQ.24) XOUT(47)=5.
      IF(IED.GT.24) XOUT(47)=6.
      XOUT(48)=IRD(ILAST,58)
      XOUT(49)=IRD(ILAST,35)
      XOUT(50)=IRD(ILAST,41)
      XOUT(51)=IRD(ILAST,47)

31    CONTINUE

      DO 40 K=1,11
40    DUM(K)=0.

      DO 41 J=1,IGOOD
      K=IPL(J)

      DUM(1)=DUM(1)+XIN(K,15)
      DUM(2)=DUM(2)+XIN(K,16)
      DUM(3)=DUM(3)+XIN(K,4)
      DUM(4)=DUM(4)+XIN(K,23)+XIN(K,24)
      DUM(5)=DUM(5)+XIN(K,10)+XIN(K,21)
      DUM(6)=DUM(6)+XIN(K,50)
      DUM(7)=DUM(7)+XIN(K,80)
      DUM(8)=DUM(8)+XIN(K,82)
      DUM(10)=DUM(10)+XIN(K,67)
      DUM(11)=DUM(11)+XIN(K,5)+XIN(K,9)+XIN(K,11)+XIN(K,70)+XIN(K,72)
     * +XIN(K,73)+XIN(K,74)

      DO 45 IJ=1,41
      L=IEP(IJ)
45    DUM(9)=DUM(9)+XIN(K,L)

41    CONTINUE

      DUM(2)=DUM(2)+DUM(1)

      DO 42 K=1,11
      J=K+51
42    XOUT(J)=4.*DUM(K)/GOOD

C  ELIMINATE IF FOOD EXPENDITURES < 1 OR
C  ELIMINATE IF NOMINAL TOTAL EXPENDITURES < 1

      IF(XOUT(52).LT.1.0) GO TO 1
      IF(XOUT(60).LT.1.0) GO TO 1
```

```
      NREC(7)=NREC(7)+1

      J=IGOOD+7
      NREC(J)=NREC(J)+1

      WRITE(11) XOUT

      GO TO 1

100   CONTINUE

      WRITE(6,101) NREC
101   FORMAT(I20)


      ENDFILE(11)
      STOP
      END
//GO.FT06F001 DD SYSOUT=T
//GO.FT10F001 DD UNIT=TAPE,VOL=SER=(CEX1,CEX2),LABEL=(1,SL,,IN),
//  DISP=(OLD,KEEP),DSN=BETSON.CEX8086.DATA,
//  DCB=(RECFM=FB,LRECL=4380,BLKSIZE=17520,DSORG=PS)
//GO.FT11F001 DD UNIT=DISK,DISP=(NEW,CATLG),DSN=AUDMB0.CEX8086.DATA,
//  DCB=(RECFM=VBS,LRECL=252,BLKSIZE=19069,DSORG=PS),
//  SPACE=(TRK,(50,15),RLSE),VOL=SER=USER08
//
```

Appendix B

Regression Analysis of
Various Commodity Groups
By One- and Two-Adult Families

Definitions of Dependent Variables Used in Study

Engel :

Θ_{FH}	=	the share of total expenditures devoted to food consumption at home
L_FHSHR	=	Log [Θ_{FH} / (1- Θ_{FH})]
Θ_{FT}	=	the share of total expenditures devoted to total food consumption
L_FTSHR	=	Log [Θ_{FH} / (1- Θ_{FH})]

ISO-PROP :

Θ_{ISO1}	=	the share of total expenditures devoted to food at home, shelter, clothing and health care
L_ISO1	=	Log [Θ_{ISO1} / (1- Θ_{ISO1})]
Θ_{ISO2}	=	the share of total expenditures devoted to food at home, shelter and clothing
L_ISO1	=	Log [Θ_{ISO2} / (1- Θ_{ISO2})]
Θ_{ISO3}	=	the share of total expenditures devoted to food at home and shelter
L_ISO3	=	Log [Θ_{ISO3} / (1- Θ_{ISO3})]

Rothbarth :

RE_{R1}	=	Real expenditures on adult clothing, alcohol and tobacco consumption
L_ROTH1	=	Log[RE_{R1}]
RE_{R2}	=	Real expenditures on adult clothing
L_ROTH2	=	Log[RE_{R2}]

Barten-Gorman :

FOOD	=	Real expenditures on Food at Home (in 1000's)
HOUSE	=	Real expenditures on Shelter and Utilities (in 1000's)
TRANS	=	Real expenditures on Transportation (in 1000's)
AGOODS	=	Real expenditures on Adult Clothing, Alcohol and Tobacco (in 1000's)
OTHER	=	Real expenditures on All Other Goods (in 1000's)

Definition of Explanatory Variables Used in Study

Total Expenditures (X):

LEFS	=	Log of per capita Total Real Expenditures
LEFS2	=	LEFS * LEFS

Household Composition (d):

LNFSIZE	=	Log of family size
CKA1	=	Number of children 1 to 2 years old divided by family size
CKA2	=	Number of children 3 to 5 years old divided by family size
CKA3	=	Number of children 6 to 12 years old divided by family size
CKA4	=	Number of children 13 to 14 years old divided by family size
CKA5	=	Number of children 15 to 17 years old divided by family size
CAA6	=	Number of adults 18 to 24 years old divided by family size
CAA7	=	Number of adults 25 to 35 years old divided by family size
CAA8	=	Number of adults 36 to 45 years old divided by family size (note this variable was omitted in the analysis)
CAA9	=	Number of adults 46 to 55 years old divided by family size

Other Socioeconomic Variables (s):

HD_NO_HS	=	1 if Head's education was less than 12 years, 0 otherwise
HD_COLL	=	1 if Head's education was greater than 12 years, 0 otherwise
BLACK	=	1 if the Head was black, 0 otherwise

In Two-Adult Families :

SP_NO_HS	=	1 if spouse's education was less than 12 years, 0 otherwise
SP_COLL	=	1 if spouse's education was greater than 12 years, 0 otherwise
TWOERN	=	1 if both adults worked, 0 otherwise
W_WORK	=	Weeks worked by spouse divided by 52
FTIME	=	1 if the spouse worked more than 30 hours per week, 0 otherwise

In One-Adult Families :

FEMALE	=	1 if the Head was a female, 0 otherwise
H_WORK	=	Weeks worked by head divided by 52
HFTIME	=	1 if the head worked more than 30 hours per week, 0 otherwise
DIV	=	1 if the head is a divorced single parent, 0 otherwise
SEP	=	1 if the head is a separated single parent, 0 otherwise
NMAR	=	1 if the head is a never married single parent, 0 otherwise

Table B1

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	2969.364	F RATIO	778.84
		DFE	13332	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.222725	R-SQUARE	0.5261
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.530727	0.060382	-8.7894	0.0001
LFSIZE	1	-0.174694	0.068361	-2.5555	0.0106
CKA1	1	-0.038457	0.104381	-0.3684	0.7126
CKA2	1	0.008169597	0.107765	0.0758	0.9396
CKA3	1	0.201295	0.107561	1.8714	0.0613
CKA4	1	0.403097	0.115977	3.4757	0.0005
CKA5	1	0.367675	0.109686	3.3521	0.0008
CAA6	1	-0.116943	0.019622	-5.9599	0.0001
CAA8	1	0.173319	0.018839	9.1999	0.0001
CAA9	1	0.213965	0.017619	12.1441	0.0001
HD_NO_HS	1	0.088087	0.013084	6.7322	0.0001
HD_COLL	1	0.013851	0.010745	1.2891	0.1974
SP_NO_HS	1	0.051917	0.013955	3.7203	0.0002
SP_COLL	1	-0.076751	0.012147	-6.3186	0.0001
BLACK	1	-0.114079	0.016280	-7.0075	0.0001
TWOERN	1	-0.067779	0.013290	-5.0999	0.0001
W_WORK	1	-0.066157	0.015179	-4.3583	0.0001
FTIME	1	0.013596	0.011220	1.2118	0.2256
LEFS	1	-0.538572	0.027178	-19.8162	0.0001
LEFS2	1	-0.055550	0.006711724	-8.2765	0.0001

Table B2

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	1112.906	F RATIO	468.80
		DFE	6807	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.163494	R-SQUARE	0.5668
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.522392	0.076846	-6.7979	0.0001
LFSIZE	1	-0.075977	0.077885	-0.9755	0.3293
CKA1	1	-0.114710	0.122750	-0.9345	0.3501
CKA2	1	-0.133740	0.124926	-1.0706	0.2844
CKA3	1	0.072195	0.122676	0.5885	0.5562
CKA4	1	0.329402	0.133984	2.4585	0.0140
CKA5	1	0.286434	0.126399	2.2661	0.0235
CAA6	1	-0.172607	0.026764	-6.4493	0.0001
CAA8	1	0.140176	0.022465	6.2396	0.0001
CAA9	1	0.229296	0.020619	11.1204	0.0001
HD_NO_HS	1	0.054967	0.016459	3.3397	0.0008
HD_COLL	1	-0.00462274	0.012767	-0.3621	0.7173
SP_NO_HS	1	0.042193	0.017737	2.3788	0.0174
SP_COLL	1	-0.078128	0.014215	-5.4963	0.0001
BLACK	1	-0.101610	0.019989	-5.0834	0.0001
TWOERN	1	-0.046492	0.016159	-2.8771	0.0040
W_WORK	1	-0.065935	0.018534	-3.5575	0.0004
FTIME	1	-0.000161226	0.013404	-0.0120	0.9904
LEFS	1	-0.614720	0.041148	-14.9394	0.0001
LEFS2	1	-0.033680	0.010035	-3.3563	0.0008

Table B3

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	8757.588	F RATIO	364.02
		DFE	13625	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.642759	R-SQUARE	0.3483
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.000493	0.040087	-24.9577	0.0001
LFSIZE	1	0.038014	0.104319	0.3644	0.7156
CKA1	1	0.431857	0.258289	1.6720	0.0945
CKA2	1	0.372629	0.242200	1.5385	0.1239
CKA3	1	0.368901	0.240908	1.5313	0.1257
CKA4	1	0.513164	0.257415	1.9935	0.0462
CKA5	1	0.328560	0.248108	1.3243	0.1854
CAA6	1	-0.419863	0.019077	-22.0094	0.0001
CAA8	1	0.121099	0.024191	5.0059	0.0001
CAA9	1	0.244625	0.027443	8.9138	0.0001
DIV	1	-0.063818	0.065972	-0.9674	0.3334
SEP	1	-0.020294	0.072095	-0.2815	0.7783
NMAR	1	0.086825	0.070551	1.2307	0.2185
HD_NO_HS	1	0.015663	0.021248	0.7372	0.4610
HD_COLL	1	-0.035335	0.017682	-1.9984	0.0457
BLACK	1	0.092572	0.021531	4.2994	0.0001
FEMALE	1	-0.089703	0.015062	-5.9556	0.0001
H_WORK	1	-0.119742	0.023869	-5.0167	0.0001
HFTIME	1	-0.026094	0.018707	-1.3949	0.1631
LEFS	1	-0.351589	0.031528	-11.1518	0.0001
LEFS2	1	-0.064873	0.007239508	-8.9610	0.0001

Table B4

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	1954.46	F RATIO	217.18
		DFE	4803	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.406925	R-SQUARE	0.4749
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.922234	0.068437	-13.4757	0.0001
LFSIZE	1	0.018231	0.103439	0.1762	0.8601
CKA1	1	0.303253	0.276896	1.0952	0.2735
CKA2	1	0.258187	0.243126	1.0619	0.2883
CKA3	1	0.356287	0.237119	1.5026	0.1330
CKA4	1	0.509558	0.258610	1.9704	0.0489
CKA5	1	0.336629	0.249088	1.3514	0.1766
CAA6	1	-0.378335	0.028909	-13.0873	0.0001
CAA8	1	0.129543	0.028656	4.5207	0.0001
CAA9	1	0.208989	0.031737	6.5851	0.0001
DIV	1	-0.023271	0.068569	-0.3394	0.7343
SEP	1	-0.012051	0.079080	-0.1524	0.8789
NMAR	1	0.164405	0.075769	2.1698	0.0301
HD_NO_HS	1	0.062924	0.030111	2.0897	0.0367
HD_COLL	1	-0.072218	0.022663	-3.1866	0.0014
BLACK	1	0.083552	0.028291	2.9533	0.0032
FEMALE	1	-0.108627	0.020458	-5.3097	0.0001
H_WORK	1	-0.181441	0.036482	-4.9734	0.0001
HFTIME	1	-0.071550	0.029370	-2.4361	0.0149
LEFS	1	-0.360842	0.057057	-6.3243	0.0001
LEFS2	1	-0.058807	0.012482	-4.7115	0.0001

Table B5

Regression on the Logit of the Share of Total Expenditures Spend on Food
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	2601.482	F RATIO	465.62
		DFE	13332	PROB>F	0.0001
DEP VAR: L_FTSHR		MSE	0.195131	R-SQUARE	0.3989
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.330078	0.056518	-5.8402	0.0001
LFSIZE	1	-0.153372	0.063986	-2.3970	0.0165
CKA1	1	-0.301817	0.097701	-3.0892	0.0020
CKA2	1	-0.237402	0.100869	-2.3536	0.0186
CKA3	1	0.088347	0.100678	0.8775	0.3802
CKA4	1	0.298479	0.108555	2.7496	0.0060
CKA5	1	0.264216	0.102667	2.5735	0.0101
CAA6	1	-0.097531	0.018366	-5.3104	0.0001
CAA8	1	0.144685	0.017634	8.2050	0.0001
CAA9	1	0.174529	0.016491	10.5830	0.0001
HD_NO_HS	1	0.049001	0.012247	4.0010	0.0001
HD_COLL	1	0.031486	0.010057	3.1306	0.0017
SP_NO_HS	1	0.012786	0.013062	0.9788	0.3277
SP_COLL	1	-0.039516	0.011369	-3.4756	0.0005
BLACK	1	-0.160744	0.015238	-10.5490	0.0001
TWOERN	1	-0.046725	0.012440	-3.7561	0.0002
W_WORK	1	-0.034529	0.014208	-2.4302	0.0151
FTIME	1	0.014830	0.010502	1.4122	0.1579
LEFS	1	-0.543676	0.025439	-21.3717	0.0001
LEFS2	1	-0.010653	0.006282215	-1.6957	0.0900

Table B6

Regression on the Logit of the Share of Total Expenditures Spend on Food
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	974.471597	F RATIO	267.86
		DFE	6807	PROB>F	0.0001
DEP VAR: L_FTSHR		MSE	0.143157	R-SQUARE	0.4278

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.312202	0.071907	-4.3417	0.0001
LFSIZE	1	-0.120427	0.072880	-1.6524	0.0985
CKA1	1	-0.297348	0.114862	-2.5887	0.0097
CKA2	1	-0.229630	0.116898	-1.9644	0.0495
CKA3	1	0.079558	0.114793	0.6931	0.4883
CKA4	1	0.419148	0.125374	3.3432	0.0008
CKA5	1	0.288998	0.118277	2.4434	0.0146
CAA6	1	-0.133046	0.025044	-5.3125	0.0001
CAA8	1	0.116798	0.021022	5.5560	0.0001
CAA9	1	0.189311	0.019294	9.8116	0.0001
HD_NO_HS	1	0.031277	0.015401	2.0308	0.0423
HD_COLL	1	0.020149	0.011947	1.6866	0.0917
SP_NO_HS	1	0.004110512	0.016598	0.2477	0.8044
SP_COLL	1	-0.056040	0.013301	-4.2132	0.0001
BLACK	1	-0.151669	0.018704	-8.1088	0.0001
TWOERN	1	-0.025544	0.015121	-1.6893	0.0912
W_WORK	1	-0.035064	0.017343	-2.0218	0.0432
FTIME	1	0.003656543	0.012542	0.2915	0.7707
LEFS	1	-0.623214	0.038503	-16.1859	0.0001
LEFS2	1	0.016907	0.009390165	1.8005	0.0718

Table B7

Regression on the Logit of the Share of Total Expenditures Spend on Food
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	5519.968	F RATIO	269.91
		DFE	13623	PROB>F	0.0001
DEP VAR: L_FTSHR		MSE	0.405195	R-SQUARE	0.2838
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.406442	0.031895	-12.7432	0.0001
LFSIZE	1	-0.035065	0.082830	-0.4233	0.6721
CKA1	1	0.029459	0.205075	0.1437	0.8858
CKA2	1	-0.00295137	0.192301	-0.0153	0.9878
CKA3	1	0.201551	0.191276	1.0537	0.2920
CKA4	1	0.305623	0.204381	1.4954	0.1348
CKA5	1	0.277699	0.196993	1.4097	0.1587
CAA6	1	-0.146401	0.015153	-9.6616	0.0001
CAA8	1	0.046559	0.019209	2.4238	0.0154
CAA9	1	0.078768	0.021791	3.6146	0.0003
DIV	1	-0.112568	0.052381	-2.1490	0.0316
SEP	1	-0.094214	0.057242	-1.6459	0.0998
NMAR	1	-0.00969045	0.056017	-0.1730	0.8627
HD_NO_HS	1	0.076325	0.016874	4.5231	0.0001
HD_COLL	1	-0.00240008	0.014039	-0.1710	0.8643
BLACK	1	0.001796127	0.017100	0.1050	0.9164
FEMALE	1	-0.224862	0.011960	-18.8019	0.0001
H_WORK	1	-0.111967	0.018954	-5.9073	0.0001
HFTIME	1	-0.056928	0.014853	-3.8328	0.0001
LEFS	1	-0.365208	0.025085	-14.5588	0.0001
LEFS2	1	-0.026068	0.005756796	-4.5282	0.0001

Table B8

Regression on the Logit of the Share of Total Expenditures Spend on Food
Three or More Observations

One-Adult Families

MODEL: MODEL01		SSE	1209.377	F RATIO	150.23
		DFE	4803	PROB>F	0.0001
DEP VAR: L_FTSHR		MSE	0.251796	R-SQUARE	0.3848
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.212333	0.053834	-3.9442	0.0001
LFSIZE	1	-0.154567	0.081368	-1.8996	0.0575
CKA1	1	0.129638	0.217813	0.5952	0.5518
CKA2	1	0.065922	0.191249	0.3447	0.7303
CKA3	1	0.347606	0.186524	1.8636	0.0624
CKA4	1	0.492439	0.203429	2.4207	0.0155
CKA5	1	0.485154	0.195938	2.4761	0.0133
CAA6	1	-0.120936	0.022740	-5.3182	0.0001
CAA8	1	0.034365	0.022541	1.5245	0.1274
CAA9	1	0.041442	0.024965	1.6600	0.0970
DIV	1	-0.086872	0.053938	-1.6106	0.1073
SEP	1	-0.076304	0.062206	-1.2266	0.2200
NMAR	1	0.038730	0.059602	0.6498	0.5158
HD_NO_HS	1	0.094952	0.023686	4.0088	0.0001
HD_COLL	1	-0.013247	0.017827	-0.7431	0.4575
BLACK	1	-0.032178	0.022254	-1.4459	0.1483
FEMALE	1	-0.239952	0.016093	-14.9103	0.0001
H_WORK	1	-0.099036	0.028698	-3.4510	0.0006
HFTIME	1	-0.057097	0.023104	-2.4714	0.0135
LEFS	1	-0.569807	0.044882	-12.6956	0.0001
LEFS2	1	0.021145	0.009818284	2.1537	0.0313

Table B9

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care

All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	3612.126	F RATIO	312.33
		DFE	13329	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.270998	R-SQUARE	0.3081
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.140121	0.066713	17.0899	0.0001
LFSIZE	1	-0.118412	0.075417	-1.5701	0.1164
CKA1	1	-0.132105	0.115182	-1.1469	0.2514
CKA2	1	-0.271542	0.118880	-2.2842	0.0224
CKA3	1	-0.219281	0.118659	-1.8480	0.0646
CKA4	1	-0.130747	0.127943	-1.0219	0.3068
CKA5	1	-0.166661	0.121005	-1.3773	0.1684
CAA6	1	-0.193449	0.021644	-8.9378	0.0001
CAA8	1	0.069109	0.020781	3.3255	0.0009
CAA9	1	0.034168	0.019442	1.7574	0.0789
HD_NO_HS	1	0.011964	0.014435	0.8288	0.4072
HD_COLL	1	0.113454	0.011855	9.5702	0.0001
SP_NO_HS	1	0.027406	0.015400	1.7797	0.0752
SP_COLL	1	0.028701	0.013399	2.1420	0.0322
BLACK	1	-0.019516	0.017958	-1.0867	0.2772
TWOERN	1	-0.115895	0.014663	-7.9040	0.0001
W_WORK	1	-0.034965	0.016744	-2.0881	0.0368
FTIME	1	0.018966	0.012376	1.5324	0.1254
LEFS	1	-0.580936	0.030117	-19.2895	0.0001
LEFS2	1	-0.00396594	0.007432949	-0.5336	0.5937

Table B10

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	1391.593	F RATIO	161.48
		DFE	6807	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.204436	R-SQUARE	0.3107
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.330662	0.085930	15.4854	0.0001
LFSIZE	1	-0.166692	0.087093	-1.9140	0.0557
CKA1	1	-0.025007	0.137261	-0.1822	0.8554
CKA2	1	-0.212193	0.139694	-1.5190	0.1288
CKA3	1	-0.135621	0.137179	-0.9886	0.3229
CKA4	1	0.025390	0.149823	0.1695	0.8654
CKA5	1	0.019138	0.141342	0.1354	0.8923
CAA6	1	-0.163581	0.029928	-5.4659	0.0001
CAA8	1	0.037851	0.025121	1.5067	0.1319
CAA9	1	-0.00430276	0.023057	-0.1866	0.8520
HD_NO_HS	1	-0.018186	0.018404	-0.9881	0.3231
HD_COLL	1	0.102514	0.014276	7.1806	0.0001
SP_NO_HS	1	0.005154361	0.019834	0.2599	0.7950
SP_COLL	1	0.000232356	0.015895	0.0146	0.9883
BLACK	1	-0.042695	0.022352	-1.9101	0.0562
TWOERN	1	-0.112377	0.018070	-6.2191	0.0001
W_WORK	1	-0.025762	0.020725	-1.2430	0.2139
FTIME	1	0.001753236	0.014988	0.1170	0.9069
LEFS	1	-0.783611	0.046012	-17.0306	0.0001
LEFS2	1	0.055427	0.011221	4.9394	0.0001

Table B11

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	9708.52	F RATIO	317.23
		DFE	13611	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.713285	R-SQUARE	0.3179
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.189623	0.042289	4.4840	0.0001
LFSIZE	1	0.276563	0.110078	2.5124	0.0120
CKA1	1	0.341346	0.272558	1.2524	0.2105
CKA2	1	-0.052703	0.255664	-0.2061	0.8367
CKA3	1	-0.239234	0.254251	-0.9409	0.3468
CKA4	1	-0.045176	0.272172	-0.1660	0.8682
CKA5	1	-0.361836	0.261818	-1.3820	0.1670
CAA6	1	-0.734580	0.020106	-36.5353	0.0001
CAA8	1	0.199201	0.025494	7.8137	0.0001
CAA9	1	0.245994	0.028928	8.5037	0.0001
DIV	1	-0.056716	0.069658	-0.8142	0.4155
SEP	1	0.076148	0.076108	1.0005	0.3171
NMAR	1	0.201873	0.074478	2.7105	0.0067
HD_NO_HS	1	0.037786	0.022405	1.6865	0.0917
HD_COLL	1	0.072829	0.018631	3.9091	0.0001
BLACK	1	0.177388	0.022707	7.8121	0.0001
FEMALE	1	0.268483	0.015873	16.9145	0.0001
H_WORK	1	-0.086611	0.025154	-3.4432	0.0006
HFTIME	1	0.015158	0.019709	0.7691	0.4419
LEFS	1	-0.000927978	0.033241	-0.0279	0.9777
LEFS2	1	-0.100440	0.007630758	-13.1625	0.0001

Table B12

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	2083.176	F RATIO	156.33
		DFE	4799	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.434085	R-SQUARE	0.3945
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.874058	0.070721	12.3593	0.0001
LFSIZE	1	-0.050406	0.106845	-0.4718	0.6371
CKA1	1	0.389380	0.285992	1.3615	0.1734
CKA2	1	-0.064654	0.251159	-0.2574	0.7969
CKA3	1	-0.017422	0.244915	-0.0711	0.9433
CKA4	1	0.187659	0.267103	0.7026	0.4824
CKA5	1	-0.077682	0.257268	-0.3019	0.7627
CAA6	1	-0.617761	0.029867	-20.6836	0.0001
CAA8	1	0.149986	0.029615	5.0646	0.0001
CAA9	1	0.142643	0.032796	4.3494	0.0001
DIV	1	0.021632	0.070821	0.3054	0.7600
SEP	1	0.146810	0.081730	1.7963	0.0725
NMAR	1	0.191131	0.078262	2.4422	0.0146
HD_NO_HS	1	0.054748	0.031137	1.7583	0.0788
HD_COLL	1	0.048353	0.023411	2.0654	0.0389
BLACK	1	0.167333	0.029229	5.7249	0.0001
FEMALE	1	0.186810	0.021137	8.8379	0.0001
H_WORK	1	-0.164258	0.037692	-4.3579	0.0001
HFTIME	1	-0.046462	0.030338	-1.5315	0.1257
LEFS	1	-0.401566	0.058952	-6.8117	0.0001
LEFS2	1	-0.019658	0.012894	-1.5246	0.1274

Table B13

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	3683.094	F RATIO	293.35
		DFE	13330	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.276301	R-SQUARE	0.2948
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.974235	0.067361	14.4629	0.0001
LFSIZE	1	-0.060262	0.076152	-0.7913	0.4288
CKA1	1	-0.246606	0.116303	-2.1204	0.0340
CKA2	1	-0.365202	0.120038	-3.0424	0.0024
CKA3	1	-0.329903	0.119814	-2.7535	0.0059
CKA4	1	-0.243268	0.129189	-1.8830	0.0597
CKA5	1	-0.287200	0.122182	-2.3506	0.0188
CAA6	1	-0.188826	0.021855	-8.6400	0.0001
CAA8	1	0.040160	0.020984	1.9139	0.0557
CAA9	1	-0.061492	0.019626	-3.1333	0.0017
HD_NO_HS	1	0.016972	0.014575	1.1645	0.2443
HD_COLL	1	0.109382	0.011968	9.1396	0.0001
SP_NO_HS	1	0.027979	0.015550	1.7994	0.0720
SP_COLL	1	0.041350	0.013529	3.0564	0.0022
BLACK	1	0.006942919	0.018133	0.3829	0.7018
TWOERN	1	-0.099648	0.014803	-6.7315	0.0001
W_WORK	1	-0.035441	0.016907	-2.0962	0.0361
FTIME	1	0.025653	0.012497	2.0528	0.0401
LEFS	1	-0.621284	0.030409	-20.4309	0.0001
LEFS2	1	0.009517284	0.007505329	1.2681	0.2048

Table B14

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	1425.842	F RATIO	144.83
		DFE	6807	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.209467	R-SQUARE	0.2879
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.123310	0.086981	12.9144	0.0001
LFSIZE	1	-0.087368	0.088158	-0.9910	0.3217
CKA1	1	-0.151326	0.138940	-1.0891	0.2761
CKA2	1	-0.314727	0.141403	-2.2257	0.0261
CKA3	1	-0.249012	0.138857	-1.7933	0.0730
CKA4	1	-0.080721	0.151656	-0.5323	0.5946
CKA5	1	-0.108433	0.143071	-0.7579	0.4485
CAA6	1	-0.149944	0.030294	-4.9496	0.0001
CAA8	1	0.008090321	0.025429	0.3182	0.7504
CAA9	1	-0.084962	0.023339	-3.6403	0.0003
HD_NO_HS	1	-0.017430	0.018629	-0.9356	0.3495
HD_COLL	1	0.097117	0.014451	6.7204	0.0001
SP_NO_HS	1	0.006405857	0.020077	0.3191	0.7497
SP_COLL	1	0.00787762	0.016089	0.4896	0.6244
BLACK	1	-0.018027	0.022625	-0.7967	0.4256
TWOERN	1	-0.099406	0.018291	-5.4348	0.0001
W_WORK	1	-0.021262	0.020978	-1.0135	0.3108
FTIME	1	0.008962696	0.015172	0.5908	0.5547
LEFS	1	-0.819989	0.046575	-17.6058	0.0001
LEFS2	1	0.071508	0.011359	6.2955	0.0001

Table B15

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	9847.84	F RATIO	308.30
		DFE	13612	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.723468	R-SQUARE	0.3118
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.167107	0.042600	3.9227	0.0001
LFSIZE	1	0.287250	0.110861	2.5911	0.0096
CKA1	1	0.331766	0.274497	1.2086	0.2268
CKA2	1	-0.022537	0.257483	-0.0875	0.9303
CKA3	1	-0.269737	0.256060	-1.0534	0.2922
CKA4	1	-0.081186	0.274108	-0.2962	0.7671
CKA5	1	-0.364070	0.263680	-1.3807	0.1674
CAA6	1	-0.732073	0.020251	-36.1501	0.0001
CAA8	1	0.177069	0.025669	6.8982	0.0001
CAA9	1	0.174607	0.029133	5.9935	0.0001
DIV	1	-0.090074	0.070154	-1.2840	0.1992
SEP	1	0.057603	0.076649	0.7515	0.4524
NMAR	1	0.202230	0.075008	2.6961	0.0070
HD_NO_HS	1	0.048938	0.022560	2.1692	0.0301
HD_COLL	1	0.076448	0.018763	4.0745	0.0001
BLACK	1	0.181631	0.022868	7.9425	0.0001
FEMALE	1	0.229513	0.015985	14.3576	0.0001
H_WORK	1	-0.091599	0.025334	-3.6157	0.0003
HFTIME	1	0.010096	0.019850	0.5086	0.6110
LEFS	1	-0.022207	0.033476	-0.6634	0.5071
LEFS2	1	-0.100547	0.007684984	-13.0836	0.0001

Table B16

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	2086.274	F RATIO	156.70
		DFE	4801	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.434550	R-SQUARE	0.3950
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.895980	0.070734	12.6670	0.0001
LFSIZE	1	-0.074844	0.106899	-0.7001	0.4839
CKA1	1	0.381387	0.286144	1.3328	0.1826
CKA2	1	-0.047941	0.251292	-0.1908	0.8487
CKA3	1	-0.023175	0.245045	-0.0946	0.9247
CKA4	1	0.107409	0.267245	0.4019	0.6878
CKA5	1	-0.088654	0.257406	-0.3444	0.7305
CAA6	1	-0.610104	0.029876	-20.4215	0.0001
CAA8	1	0.121354	0.029614	4.0978	0.0001
CAA9	1	0.048062	0.032808	1.4650	0.1430
DIV	1	0.014308	0.070858	0.2019	0.8400
SEP	1	0.155985	0.081773	1.9076	0.0565
NMAR	1	0.213415	0.078302	2.7255	0.0064
HD_NO_HS	1	0.059455	0.031133	1.9097	0.0562
HD_COLL	1	0.046091	0.023420	1.9680	0.0491
BLACK	1	0.177737	0.029242	6.0782	0.0001
FEMALE	1	0.152785	0.021145	7.2257	0.0001
H_WORK	1	-0.173824	0.037705	-4.6101	0.0001
HFTIME	1	-0.039802	0.030352	-1.3113	0.1898
LEFS	1	-0.477484	0.058964	-8.0979	0.0001
LEFS2	1	-0.00594721	0.012899	-0.4611	0.6448

Table B17

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	3934.556	F RATIO	321.33
		DFE	13331	PROB>F	0.0001
DEP VAR: L_ISO3		MSE	0.295143	R-SQUARE	0.3141
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.962945	0.069511	13.8532	0.0001
LFSIZE	1	-0.143245	0.078694	-1.8203	0.0687
CKA1	1	-0.247563	0.120161	-2.0603	0.0394
CKA2	1	-0.271085	0.124056	-2.1852	0.0289
CKA3	1	-0.318039	0.123820	-2.5686	0.0102
CKA4	1	-0.334064	0.133508	-2.5022	0.0124
CKA5	1	-0.331428	0.126266	-2.6248	0.0087
CAA6	1	-0.214466	0.022588	-9.4949	0.0001
CAA8	1	0.044462	0.021687	2.0501	0.0404
CAA9	1	-0.087373	0.020284	-4.3076	0.0001
HD_NO_HS	1	0.033169	0.015063	2.2020	0.0277
HD_COLL	1	0.092394	0.012369	7.4696	0.0001
SP_NO_HS	1	0.034249	0.016066	2.1318	0.0330
SP_COLL	1	0.028055	0.013983	2.0064	0.0448
BLACK	1	-0.025764	0.018740	-1.3748	0.1692
TWOERN	1	-0.103095	0.015300	-6.7383	0.0001
W_WORK	1	-0.041356	0.017474	-2.3667	0.0180
FTIME	1	0.025723	0.012916	1.9916	0.0464
LEFS	1	-0.651775	0.031287	-20.8324	0.0001
LEFS2	1	0.004843013	0.007726216	0.6268	0.5308

Table B18

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
Three or More Observations

All Two-Adult Families

MODEL:	MODEL01	SSE	1541.96	F RATIO	155.24
		DFE	6807	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.226526	R-SQUARE	0.3023

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.073422	0.090454	11.8671	0.0001
LFSIZE	1	-0.152304	0.091677	-1.6613	0.0967
CKA1	1	-0.154326	0.144487	-1.0681	0.2855
CKA2	1	-0.256127	0.147048	-1.7418	0.0816
CKA3	1	-0.287617	0.144400	-1.9918	0.0464
CKA4	1	-0.213063	0.157710	-1.3510	0.1767
CKA5	1	-0.206736	0.148782	-1.3895	0.1647
CAA6	1	-0.172425	0.031503	-5.4732	0.0001
CAA8	1	0.014521	0.026444	0.5491	0.5829
CAA9	1	-0.107280	0.024271	-4.4201	0.0001
HD_NO_HS	1	-0.00648849	0.019373	-0.3349	0.7377
HD_COLL	1	0.084049	0.015028	5.5928	0.0001
SP_NO_HS	1	0.022027	0.020878	1.0550	0.2915
SP_COLL	1	-0.00185396	0.016732	-0.1108	0.9118
BLACK	1	-0.039913	0.023529	-1.6963	0.0899
TWOERN	1	-0.100564	0.019021	-5.2871	0.0001
W_WORK	1	-0.027751	0.021816	-1.2720	0.2034
FTIME	1	0.010671	0.015777	0.6764	0.4988
LEFS	1	-0.818472	0.048434	-16.8986	0.0001
LEFS2	1	0.058237	0.011812	4.9303	0.0001

Table B19

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	14147.44	F RATIO	279.85
		DFE	13618	PROB>F	0.0001
DEP VAR: L_ISO3		MSE	1.038878	R-SQUARE	0.2913
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.184400	0.051006	-3.6152	0.0003
LFSIZE	1	0.253022	0.132678	1.9070	0.0565
CKA1	1	0.648579	0.328413	1.9749	0.0483
CKA2	1	0.345889	0.307987	1.1231	0.2614
CKA3	1	-0.030695	0.306308	-0.1002	0.9202
CKA4	1	0.088575	0.327325	0.2706	0.7867
CKA5	1	-0.209181	0.315482	-0.6631	0.5073
CAA6	1	-1.022448	0.024258	-42.1481	0.0001
CAA8	1	0.220036	0.030757	7.1540	0.0001
CAA9	1	0.282020	0.034900	8.0808	0.0001
DIV	1	-0.103075	0.083877	-1.2289	0.2191
SEP	1	0.107500	0.091665	1.1727	0.2409
NMAR	1	0.269557	0.089712	3.0047	0.0027
HD_NO_HS	1	-0.044466	0.027024	-1.6454	0.0999
HD_COLL	1	0.076747	0.022483	3.4135	0.0006
BLACK	1	0.147672	0.027391	5.3913	0.0001
FEMALE	1	0.047699	0.019152	2.4905	0.0128
H_WORK	1	-0.022218	0.030349	-0.7321	0.4641
HFTIME	1	0.054905	0.023784	2.3085	0.0210
LEFS	1	0.095088	0.040099	2.3713	0.0177
LEFS2	1	-0.126470	0.00920631	-13.7374	0.0001

Table B20

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	2973.442	F RATIO	114.19
		DFE	4803	PROB>F	0.0001
DEP VAR: L_ISO3		MSE	0.619080	R-SQUARE	0.3223
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.380120	0.084412	4.5032	0.0001
LFSIZE	1	-0.010908	0.127585	-0.0855	0.9319
CKA1	1	0.423418	0.341534	1.2398	0.2151
CKA2	1	0.088647	0.299881	0.2956	0.7675
CKA3	1	0.001071365	0.292471	0.0037	0.9971
CKA4	1	-.0000937206	0.318979	-0.0003	0.9998
CKA5	1	-0.162445	0.307234	-0.5287	0.5970
CAA6	1	-0.864987	0.035657	-24.2586	0.0001
CAA8	1	0.156507	0.035345	4.4280	0.0001
CAA9	1	0.115792	0.039145	2.9580	0.0031
DIV	1	0.030791	0.084575	0.3641	0.7158
SEP	1	0.213873	0.097540	2.1927	0.0284
NMAR	1	0.301645	0.093456	3.2277	0.0013
HD_NO_HS	1	0.057990	0.037140	1.5614	0.1185
HD_COLL	1	0.029693	0.027953	1.0622	0.2882
BLACK	1	0.181078	0.034895	5.1892	0.0001
FEMALE	1	0.001194435	0.025234	0.0473	0.9622
H_WORK	1	-0.162545	0.044999	-3.6122	0.0003
HFTIME	1	-0.024440	0.036227	-0.6746	0.4999
LEFS	1	-0.177340	0.070376	-2.5199	0.0118
LEFS2	1	-0.065822	0.015395	-4.2755	0.0001

Table B21

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	3554.22	F RATIO	25.59
		DFE	6431	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.552670	R-SQUARE	0.0703
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.663585	0.124324	-13.3811	0.0001
LFSIZE	1	0.182265	0.146896	1.2408	0.2147
CKA1	1	-0.029912	0.229528	-0.1303	0.8963
CKA2	1	-0.175482	0.237148	-0.7400	0.4593
CKA3	1	-0.147087	0.238301	-0.6172	0.5371
CKA4	1	-0.079405	0.259534	-0.3060	0.7597
CKA5	1	0.169004	0.249326	0.6778	0.4979
CAA6	1	-0.056806	0.043874	-1.2948	0.1955
CAA8	1	0.003072947	0.046374	0.0663	0.9472
CAA9	1	-0.151095	0.043261	-3.4926	0.0005
HD_NO_HS	1	-0.039813	0.027068	-1.4708	0.1414
HD_COLL	1	-0.059118	0.026076	-2.2671	0.0234
SP_NO_HS	1	0.089470	0.028446	3.1453	0.0017
SP_COLL	1	-0.031320	0.030898	-1.0137	0.3108
BLACK	1	-0.092940	0.033024	-2.8144	0.0049
TWOERN	1	0.013185	0.028564	0.4616	0.6444
W_WORK	1	-0.00174511	0.033650	-0.0519	0.9586
FTIME	1	0.016791	0.025151	0.6676	0.5044
LEFS	1	0.539117	0.059618	9.0428	0.0001
LEFS2	1	-0.053223	0.017576	-3.0281	0.0025

Table B22

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	1391.239	F RATIO	25.23
		DFE	3036	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.458247	R-SQUARE	0.1364
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.458059	0.178693	-13.7557	0.0001
LFSIZE	1	0.612436	0.187770	3.2616	0.0011
CKA1	1	-0.653103	0.302644	-2.1580	0.0310
CKA2	1	-0.769765	0.309718	-2.4854	0.0130
CKA3	1	-0.722560	0.305571	-2.3646	0.0181
CKA4	1	-0.503491	0.337422	-1.4922	0.1358
CKA5	1	-0.175388	0.321093	-0.5462	0.5850
CAA6	1	0.0008095229	0.066102	0.0122	0.9902
CAA8	1	-0.017262	0.060627	-0.2847	0.7759
CAA9	1	-0.170378	0.056221	-3.0305	0.0025
HD_NO_HS	1	-0.062620	0.037433	-1.6729	0.0945
HD_COLL	1	-0.018105	0.034299	-0.5279	0.5976
SP_NO_HS	1	0.059288	0.038810	1.5276	0.1267
SP_COLL	1	-0.023684	0.039359	-0.6017	0.5474
BLACK	1	-0.120427	0.044263	-2.7207	0.0066
TWOERN	1	-0.00693865	0.037739	-0.1839	0.8541
W_WORK	1	0.030228	0.045039	0.6712	0.5022
FTIME	1	0.008455277	0.032890	0.2571	0.7971
LEFS	1	1.040622	0.107094	9.7169	0.0001
LEFS2	1	-0.160238	0.031222	-5.1323	0.0001

Table B23

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	6728.358	F RATIO	31.77
		DFE	8524	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.789343	R-SQUARE	0.0694
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.523215	0.050239	-30.3191	0.0001
LFSIZE	1	0.285608	0.143744	1.9869	0.0470
CKA1	1	-0.829397	0.347273	-2.3883	0.0169
CKA2	1	-0.765688	0.330296	-2.3182	0.0205
CKA3	1	-0.717603	0.332095	-2.1608	0.0307
CKA4	1	-0.805591	0.349747	-2.3034	0.0213
CKA5	1	-0.396551	0.344762	-1.1502	0.2501
CAA6	1	0.068964	0.027494	2.5083	0.0121
CAA8	1	-0.107131	0.036367	-2.9459	0.0032
CAA9	1	-0.157736	0.039451	-3.9983	0.0001
DIV	1	0.128416	0.086986	1.4763	0.1399
SEP	1	0.027272	0.092738	0.2941	0.7687
NMAR	1	-0.020083	0.090072	-0.2230	0.8236
HD_NO_HS	1	0.045039	0.027276	1.6512	0.0987
HD_COLL	1	-0.022104	0.026745	-0.8265	0.4086
BLACK	1	-0.068340	0.027722	-2.4652	0.0137
FEMALE	1	0.067434	0.021614	3.1200	0.0018
H_WORK	1	0.029140	0.031837	0.9153	0.3601
HFTIME	1	0.057279	0.025072	2.2845	0.0224
LEFS	1	0.287504	0.041057	7.0025	0.0001
LEFS2	1	-0.00685291	0.010818	-0.6335	0.5264

Table B24

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	2114.438	F RATIO	31.09
		DFE	2899	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.729368	R-SQUARE	0.1766
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.413651	0.104780	-23.0355	0.0001
LFSIZE	1	0.170061	0.178068	0.9550	0.3396
CKA1	1	-0.612421	0.451097	-1.3576	0.1747
CKA2	1	-0.195695	0.407227	-0.4806	0.6309
CKA3	1	-0.222281	0.404897	-0.5490	0.5831
CKA4	1	-0.311316	0.432615	-0.7196	0.4718
CKA5	1	-0.024168	0.432049	-0.0559	0.9554
CAA6	1	0.211202	0.050405	4.1901	0.0001
CAA8	1	-0.067584	0.052592	-1.2851	0.1989
CAA9	1	-0.199518	0.055837	-3.5732	0.0004
DIV	1	0.069852	0.111130	0.6286	0.5297
SEP	1	0.040524	0.124414	0.3257	0.7447
NMAR	1	-0.073909	0.116641	-0.6336	0.5264
HD_NO_HS	1	0.046279	0.046266	1.0003	0.3173
HD_COLL	1	-0.036398	0.042138	-0.8638	0.3878
BLACK	1	-0.017305	0.044263	-0.3909	0.6959
FEMALE	1	0.172292	0.036760	4.6869	0.0001
H_WORK	1	-0.026103	0.057875	-0.4510	0.6520
HFTIME	1	0.083139	0.047470	1.7514	0.0800
LEFS	1	0.914196	0.094450	9.6792	0.0001
LEFS2	1	-0.109528	0.023657	-4.6298	0.0001

Table B25

Regression on the Log of the Expenditures Spend on Adult Clothing
All Observations

All Two-Adult Families

MODEL: MODEL01		SSE	9165.732	F RATIO	51.13
		DFE	9991	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	0.917399	R-SQUARE	0.0886
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.150071	0.137754	-15.6081	0.0001
LFSIZE	1	0.260004	0.158095	1.6446	0.1001
CKA1	1	-0.187500	0.243310	-0.7706	0.4409
CKA2	1	-0.288495	0.251679	-1.1463	0.2517
CKA3	1	-0.235865	0.251772	-0.9368	0.3489
CKA4	1	-0.171720	0.271524	-0.6324	0.5271
CKA5	1	0.514559	0.260708	1.9737	0.0484
CAA6	1	0.010629	0.045550	0.2333	0.8155
CAA8	1	0.008478148	0.045522	0.1862	0.8523
CAA9	1	-0.020254	0.043644	-0.4641	0.6426
HD_NO_HS	1	-0.078817	0.028242	-2.7908	0.0053
HD_COLL	1	0.075451	0.026734	2.8223	0.0048
SP_NO_HS	1	-0.075223	0.030002	-2.5072	0.0122
SP_COLL	1	0.092102	0.031562	2.9182	0.0035
BLACK	1	-0.062690	0.037179	-1.6862	0.0918
TWOERN	1	0.026727	0.030164	0.8861	0.3756
W_WORK	1	0.042035	0.034907	1.2042	0.2286
FTIME	1	0.012012	0.026060	0.4609	0.6449
LEFS	1	0.404040	0.065895	6.1316	0.0001
LEFS2	1	0.011121	0.018195	0.6112	0.5411

Table B26

Regression on the Log of the Expenditures Spend on Adult Clothing
Three or More Observations

All Two-Adult Families

MODEL: MODEL01		SSE	3545.087	F RATIO	82.10
		DFE	5082	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	0.697577	R-SQUARE	0.2349
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-4.038403	0.182680	-22.1065	0.0001
LFSIZE	1	1.048741	0.186129	5.6345	0.0001
CKA1	1	-1.103542	0.294890	-3.7422	0.0002
CKA2	1	-1.060159	0.300986	-3.5223	0.0004
CKA3	1	-1.099716	0.296803	-3.7052	0.0002
CKA4	1	-1.050196	0.323541	-3.2459	0.0012
CKA5	1	-0.057947	0.309965	-0.1869	0.8517
CAA6	1	0.019882	0.063256	0.3143	0.7533
CAA8	1	-0.077221	0.054904	-1.4065	0.1596
CAA9	1	-0.095194	0.052213	-1.8232	0.0683
HD_NO_HS	1	-0.081205	0.036173	-2.2449	0.0248
HD_COLL	1	0.097572	0.032457	3.0062	0.0027
SP_NO_HS	1	-0.103344	0.038785	-2.6645	0.0077
SP_COLL	1	0.059439	0.037199	1.5978	0.1101
BLACK	1	-0.092275	0.046481	-1.9852	0.0472
TWOERN	1	0.029136	0.037336	0.7804	0.4352
W_WORK	1	0.059221	0.043507	1.3612	0.1735
FTIME	1	-0.012373	0.031791	-0.3892	0.6972
LEFS	1	1.450199	0.107381	13.5052	0.0001
LEFS2	1	-0.170355	0.029276	-5.8190	0.0001

Table B27

Regression on the Log of the Expenditures Spend on Adult Clothing
All Observations

All One-Adult Families

MODEL: MODEL01		SSE	14409.1	F RATIO	25.53
		DFE	11623	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	1.239706	R-SQUARE	0.0421
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.733301	0.057895	-29.9388	0.0001
LFSIZE	1	-0.018798	0.155584	-0.1208	0.9038
CKA1	1	-0.429931	0.384659	-1.1177	0.2637
CKA2	1	-0.313522	0.361957	-0.8662	0.3864
CKA3	1	-0.214393	0.361611	-0.5929	0.5533
CKA4	1	-0.099407	0.384381	-0.2586	0.7959
CKA5	1	0.364593	0.377785	0.9651	0.3345
CAA6	1	0.204129	0.028727	7.1059	0.0001
CAA8	1	-0.103193	0.037013	-2.7880	0.0053
CAA9	1	-0.025633	0.041571	-0.6166	0.5375
DIV	1	0.076672	0.098564	0.7779	0.4367
SEP	1	0.053042	0.106145	0.4997	0.6173
NMAR	1	-0.022023	0.103602	-0.2126	0.8317
HD_NO_HS	1	0.016796	0.030815	0.5450	0.5857
HD_COLL	1	0.088934	0.027531	3.2304	0.0012
BLACK	1	0.025518	0.031907	0.7998	0.4239
FEMALE	1	0.150580	0.023160	6.5018	0.0001
H_WORK	1	0.037872	0.035216	1.0754	0.2822
HFTIME	1	0.082574	0.027728	2.9780	0.0029
LEFS	1	-0.00309865	0.046742	-0.0663	0.9471
LEFS2	1	0.061972	0.011420	5.4267	0.0001

Table B28

Regression on the Log of the Expenditures Spend on Adult Clothing
Three or More Observations

All One-Adult Families

MODEL: MODEL01		SSE	4457.709	F RATIO	38.49
		DFE	4098	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	1.087777	R-SQUARE	0.1581

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-3.165128	0.116768	-27.1061	0.0001
LFSIZE	1	0.410198	0.183770	2.2321	0.0257
CKA1	1	-0.580545	0.483327	-1.2011	0.2298
CKA2	1	-0.792017	0.428421	-1.8487	0.0646
CKA3	1	-0.500592	0.421748	-1.1869	0.2353
CKA4	1	-0.375654	0.457248	-0.8216	0.4114
CKA5	1	0.006007082	0.451918	0.0133	0.9894
CAA6	1	0.269289	0.050770	5.3041	0.0001
CAA8	1	-0.131948	0.051820	-2.5463	0.0109
CAA9	1	0.022496	0.056295	0.3996	0.6895
DIV	1	-0.016589	0.120495	-0.1377	0.8905
SEP	1	-0.088156	0.136015	-0.6481	0.5169
NMAR	1	-0.055555	0.129919	-0.4276	0.6690
HD_NO_HS	1	0.034473	0.050441	0.6834	0.4944
HD_COLL	1	0.149707	0.041363	3.6193	0.0003
BLACK	1	0.049543	0.049064	1.0098	0.3127
FEMALE	1	0.444590	0.037210	11.9481	0.0001
H_WORK	1	0.119811	0.062713	1.9105	0.0561
HFTIME	1	0.067159	0.050727	1.3239	0.1856
LEFS	1	0.656513	0.100544	6.5296	0.0001
LEFS2	1	-0.019386	0.023207	-0.8353	0.4036

Table B29

Regression of the Linear Expenditure System for the Barten Gorman Model

Two-Adult Families

MODEL: MODEL01		SSE	10297.98	F RATIO	224.74
		DFE	5776	PROB>F	0.0001
DEP VAR: FOOD		MSE	1.782892	R-SQUARE	0.4119

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.635553	0.190241	3.3408	0.0008
LFSIZE	1	1.669585	0.268610	6.2157	0.0001
CKA1	1	-1.250456	0.428670	-2.9171	0.0035
CKA2	1	-1.200668	0.434981	-2.7603	0.0058
CKA3	1	-0.066089	0.427270	-0.1547	0.8771
CKA4	1	1.575534	0.469399	3.3565	0.0008
CKA5	1	1.017240	0.444341	2.2893	0.0221
CAA6	1	-0.222756	0.095319	-2.3369	0.0195
CAA8	1	0.392984	0.080526	4.8802	0.0001
CAA9	1	0.542431	0.075870	7.1495	0.0001
HD_NO_HS	1	-0.116009	0.058338	-1.9886	0.0468
HD_COLL	1	0.146855	0.046265	3.1742	0.0015
SP_NO_HS	1	-0.117051	0.063361	-1.8474	0.0647
SP_COLL	1	-0.099856	0.051130	-1.9530	0.0509
BLACK	1	-0.666418	0.070590	-9.4407	0.0001
TWOERN	1	-0.016639	0.059221	-0.2810	0.7787
W_WORK	1	-0.116627	0.066986	-1.7411	0.0817
FTIME	1	0.009028779	0.047657	0.1895	0.8497
INCOME	1	0.047514	0.001303262	36.4580	0.0001

MODEL: MODEL02		SSE	43953.49	F RATIO	152.04
		DFE	5776	PROB>F	0.0001
DEP VAR: HOUSE		MSE	7.609676	R-SQUARE	0.3215

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.852180	0.393029	4.7126	0.0001
LFSIZE	1	0.533411	0.554935	0.9612	0.3365
CKA1	1	0.336184	0.885612	0.3796	0.7043
CKA2	1	-0.766093	0.898650	-0.8525	0.3940
CKA3	1	-1.247663	0.882720	-1.4134	0.1576
CKA4	1	-2.108529	0.969756	-2.1743	0.0297
CKA5	1	-2.145836	0.917988	-2.3375	0.0194
CAA6	1	-0.565641	0.196925	-2.8724	0.0041
CAA8	1	0.085426	0.166363	0.5135	0.6076
CAA9	1	-1.265317	0.156744	-8.0725	0.0001
HD_NO_HS	1	-0.418482	0.120524	-3.4722	0.0005
HD_COLL	1	0.678027	0.095581	7.0938	0.0001
SP_NO_HS	1	-0.166077	0.130900	-1.2687	0.2046
SP_COLL	1	0.327912	0.105633	3.1043	0.0019
BLACK	1	-0.181395	0.145836	-1.2438	0.2136
TWOERN	1	-0.120780	0.122348	-0.9872	0.3236
W_WORK	1	-0.175073	0.138390	-1.2651	0.2059
FTIME	1	0.050111	0.098456	0.5090	0.6108
INCOME	1	0.103467	0.002692478	38.4282	0.0001

Table B29 -- Continued

MODEL: MODEL03		SSE	123293.5	F RATIO	31.29
		DFE	5776	PROB>F	0.0001
DEP VAR: TRANS		MSE	21.345835	R-SQUARE	0.0889
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	3.216069	0.658261	4.8857	0.0001
LFSIZE	1	-1.257019	0.929428	-1.3525	0.1763
CKA1	1	0.819989	1.483258	0.5528	0.5804
CKA2	1	0.888001	1.505095	0.5900	0.5552
CKA3	1	1.125578	1.478416	0.7613	0.4465
CKA4	1	1.750148	1.624187	1.0776	0.2813
CKA5	1	2.358447	1.537484	1.5340	0.1251
CAA6	1	0.090682	0.329819	0.2749	0.7834
CAA8	1	-0.027049	0.278632	-0.0971	0.9227
CAA9	1	-0.813436	0.262521	-3.0985	0.0020
HD_NO_HS	1	-0.248475	0.201858	-1.2309	0.2184
HD_COLL	1	-0.692251	0.160083	-4.3243	0.0001
SP_NO_HS	1	-0.266095	0.219237	-1.2137	0.2249
SP_COLL	1	0.308397	0.176919	1.7432	0.0814
BLACK	1	-0.411257	0.244252	-1.6837	0.0923
TWOERN	1	0.436776	0.204913	2.1315	0.0331
W_WORK	1	0.128351	0.231781	0.5538	0.5798
FTIME	1	0.329655	0.164899	1.9991	0.0456
INCOME	1	0.080809	0.004509472	17.9199	0.0001

MODEL: MODEL04		SSE	5814.184	F RATIO	116.04
		DFE	5776	PROB>F	0.0001
DEP VAR: AGOODS		MSE	1.006611	R-SQUARE	0.2656
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.661961	0.142946	4.6308	0.0001
LFSIZE	1	0.010054	0.201832	0.0498	0.9603
CKA1	1	-0.963231	0.322100	-2.9905	0.0028
CKA2	1	-1.079964	0.326842	-3.3042	0.0010
CKA3	1	-0.979582	0.321049	-3.0512	0.0023
CKA4	1	-0.780527	0.352704	-2.2130	0.0269
CKA5	1	0.176862	0.333876	0.5297	0.5963
CAA6	1	-0.069990	0.071622	-0.9772	0.3285
CAA8	1	0.037063	0.060507	0.6125	0.5402
CAA9	1	-0.080382	0.057008	-1.4100	0.1586
HD_NO_HS	1	-0.025660	0.043835	-0.5854	0.5583
HD_COLL	1	0.063817	0.034763	1.8358	0.0664
SP_NO_HS	1	-0.062238	0.047609	-1.3073	0.1912
SP_COLL	1	0.045740	0.038419	1.1906	0.2339
BLACK	1	-0.150659	0.053041	-2.8404	0.0045
TWOERN	1	0.032481	0.044498	0.7299	0.4655
W_WORK	1	-0.060090	0.050333	-1.1938	0.2326
FTIME	1	0.092666	0.035809	2.5878	0.0097
INCOME	1	0.032444	0.0009792643	33.1309	0.0001

Table B29 -- Continued

MODEL: MODEL05		SSE	93429.51	F RATIO	368.30
		DFE	5776	PROB>F	0.0001
DEP VAR: OTHER		MSE	16.175469	R-SQUARE	0.5344

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.360164	0.573020	0.6285	0.5297
LFSIZE	1	0.252182	0.809073	0.3117	0.7553
CKA1	1	2.060198	1.291186	1.5956	0.1106
CKA2	1	1.782634	1.310195	1.3606	0.1737
CKA3	1	2.306690	1.286970	1.7923	0.0731
CKA4	1	3.130444	1.413865	2.2141	0.0269
CKA5	1	1.028192	1.338390	0.7682	0.4424
CAA6	1	-0.332998	0.287109	-1.1598	0.2462
CAA8	1	1.392257	0.242551	5.7401	0.0001
CAA9	1	2.243181	0.228527	9.8158	0.0001
HD_NO_HS	1	-1.036407	0.175719	-5.8981	0.0001
HD_COLL	1	1.152906	0.139353	8.2733	0.0001
SP_NO_HS	1	-0.949552	0.190847	-4.9755	0.0001
SP_COLL	1	1.442495	0.154009	9.3663	0.0001
BLACK	1	-1.036157	0.212623	-4.8732	0.0001
TWOERN	1	0.126920	0.178378	0.7115	0.4768
W_WORK	1	0.238807	0.201767	1.1836	0.2366
FTIME	1	0.00769088	0.143546	0.0536	0.9573
INCOME	1	0.219987	0.003925524	56.0401	0.0001

Table B30

Regression of the Linear Expenditure System for the Barten Gorman Model

One-Adult Families

MODEL: MODEL01		SSE	3808.049	F RATIO	105.52
		DFE	3878	PROB>F	0.0001
DEP VAR: FOOD		MSE	0.971689	R-SQUARE	0.3384

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.426684	0.062966	22.6581	0.0001
LFSIZE	1	0.912044	0.179489	5.0813	0.0001
CKA1	1	0.222557	0.481976	0.4618	0.6443
CKA2	1	-0.136657	0.429236	-0.3184	0.7502
CKA3	1	0.671379	0.417045	1.6098	0.1075
CKA4	1	1.117504	0.457380	2.4433	0.0146
CKA5	1	1.279414	0.440921	2.9017	0.0037
CAA6	1	-0.245769	0.050226	-4.8932	0.0001
CAA8	1	0.050756	0.048639	1.0435	0.2968
CAA9	1	0.084707	0.054849	1.5444	0.1226
DIV	1	-0.349533	0.120474	-2.9013	0.0037
SEP	1	-0.400028	0.137973	-2.8993	0.0038
NMAR	1	-0.383964	0.132803	-2.8912	0.0039
HD_NO_HS	1	-0.056676	0.051146	-1.1081	0.2679
HD_COLL	1	0.109079	0.038459	2.8362	0.0046
BLACK	1	-0.235142	0.048527	-4.8456	0.0001
FEMALE	1	-0.450277	0.035270	-12.7664	0.0001
H_WORK	1	0.150594	0.064914	2.3199	0.0204
HFTIME	1	0.005070274	0.052811	0.0960	0.9235
INCOME	1	0.040271	0.001680363	23.9654	0.0001

MODEL: MODEL02		SSE	13270.72	F RATIO	110.02
		DFE	3878	PROB>F	0.0001
DEP VAR: HOUSE		MSE	3.386252	R-SQUARE	0.3478

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.178643	0.117544	10.0272	0.0001
LFSIZE	1	-0.170550	0.335069	-0.5090	0.6108
CKA1	1	1.691229	0.899750	1.8797	0.0602
CKA2	1	1.188136	0.801294	1.4828	0.1382
CKA3	1	1.281180	0.778536	1.6456	0.0999
CKA4	1	1.360798	0.853833	1.5938	0.1111
CKA5	1	1.624396	0.823108	1.9735	0.0485
CAA6	1	-0.783492	0.093762	-8.3562	0.0001
CAA8	1	0.230855	0.090799	2.5425	0.0110
CAA9	1	-0.024181	0.102391	-0.2362	0.8133
DIV	1	-0.154496	0.224899	-0.6870	0.4922
SEP	1	0.333304	0.257567	1.2940	0.1957
NMAR	1	-0.385357	0.247915	-1.5544	0.1202
HD_NO_HS	1	-0.314180	0.095479	-3.2905	0.0010
HD_COLL	1	0.421967	0.071795	5.8774	0.0001
BLACK	1	-0.109799	0.090589	-1.2121	0.2256
FEMALE	1	0.157541	0.065843	2.3927	0.0168
H_WORK	1	0.375434	0.121181	3.0981	0.0020
HFTIME	1	0.270245	0.098588	2.7412	0.0061
INCOME	1	0.091274	0.003136889	29.0970	0.0001

Table 34 -- Continued

MODEL: MODEL03		SSE	39455.11	F RATIO	32.93
		DFE	3878	PROB>F	0.0001
DEP VAR: TRANS		MSE	10.067647	R-SQUARE	0.1377

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.538413	0.202678	2.6565	0.0079
LFSIZE	1	1.547299	0.577749	2.6782	0.0074
CKA1	1	-1.274214	1.551408	-0.8213	0.4115
CKA2	1	-1.313556	1.381644	-0.9507	0.3418
CKA3	1	-1.792000	1.342403	-1.3349	0.1820
CKA4	1	-3.401189	1.472236	-2.3102	0.0209
CKA5	1	-0.679725	1.419257	-0.4789	0.6320
CAA6	1	0.064497	0.161670	0.3989	0.6900
CAA8	1	0.018991	0.156562	0.1213	0.9035
CAA9	1	-0.182046	0.176549	-1.0311	0.3025
DIV	1	-0.353349	0.387786	-0.9112	0.3622
SEP	1	-0.366661	0.444114	-0.8256	0.4091
NMAR	1	-0.617681	0.427472	-1.4450	0.1485
HD_NO_HS	1	-0.525401	0.164632	-3.1914	0.0014
HD_COLL	1	-0.029897	0.123793	-0.2415	0.8092
BLACK	1	-0.249694	0.156200	-1.5985	0.1100
FEMALE	1	-0.425811	0.113530	-3.7506	0.0002
H_WORK	1	0.794872	0.208947	3.8042	0.0001
HFTIME	1	0.373104	0.169991	2.1948	0.0282
INCOME	1	0.080980	0.005408832	14.9719	0.0001

MODEL: MODEL04		SSE	2813.236	F RATIO	70.69
		DFE	3878	PROB>F	0.0001
DEP VAR: AGOODS		MSE	0.717845	R-SQUARE	0.2552

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.523237	0.054120	9.6681	0.0001
LFSIZE	1	-0.220787	0.154273	-1.4311	0.1525
CKA1	1	-0.387917	0.414264	-0.9364	0.3491
CKA2	1	-0.159823	0.368933	-0.4332	0.6649
CKA3	1	-0.325042	0.358455	-0.9068	0.3646
CKA4	1	-0.482053	0.393123	-1.2262	0.2202
CKA5	1	0.620411	0.378977	1.6371	0.1017
CAA6	1	0.061643	0.043170	1.4279	0.1534
CAA8	1	-0.184409	0.041806	-4.4111	0.0001
CAA9	1	-0.286530	0.047143	-6.0779	0.0001
DIV	1	-0.114945	0.103549	-1.1101	0.2670
SEP	1	-0.121982	0.118589	-1.0286	0.3037
NMAR	1	-0.152971	0.114146	-1.3401	0.1803
HD_NO_HS	1	-0.022664	0.043961	-0.5155	0.6062
HD_COLL	1	0.066329	0.033056	2.0066	0.0449
BLACK	1	-0.085992	0.041709	-2.0617	0.0393
FEMALE	1	0.089676	0.030315	2.9581	0.0031
H_WORK	1	0.088939	0.055794	1.5941	0.1110
HFTIME	1	0.040076	0.045392	0.8829	0.3773
INCOME	1	0.036199	0.001444292	25.0632	0.0001

Table B30 -- Continued

MODEL: MODEL05	SSE	27526.3	F RATIO	235.69
	DFE	3878	PROB>F	0.0001
DEP VAR: OTHER	MSE	7.023807	R-SQUARE	0.5333

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.233818	0.169289	-1.3812	0.1673
LFSIZE	1	-0.196042	0.482571	-0.4062	0.6846
CKA1	1	1.943340	1.295831	1.4997	0.1338
CKA2	1	2.142580	1.154034	1.8566	0.0634
CKA3	1	1.563584	1.121257	1.3945	0.1632
CKA4	1	2.310644	1.229702	1.8790	0.0603
CKA5	1	1.095880	1.185450	0.9244	0.3553
CAA6	1	0.042164	0.135037	0.3122	0.7549
CAA8	1	0.491498	0.130770	3.7585	0.0002
CAA9	1	0.791313	0.147465	5.3661	0.0001
DIV	1	0.190761	0.323903	0.5889	0.5559
SEP	1	0.018611	0.370951	0.0502	0.9600
NMAR	1	-0.097438	0.357051	-0.2729	0.7849
HD_NO_HS	1	-0.611688	0.137511	-4.4483	0.0001
HD_COLL	1	1.068517	0.103400	10.3338	0.0001
BLACK	1	-0.105604	0.130468	-0.8094	0.4183
FEMALE	1	-0.087691	0.094827	-0.9247	0.3552
H_WORK	1	0.972128	0.174526	5.5701	0.0001
HFTIME	1	0.185714	0.141987	1.3080	0.1910
INCOME	1	0.214537	0.004517788	47.4871	0.0001

Table B31

Estimated Preference Parameters (β's and μ's)
and the
Components of the Scaling Factors (m's)
of the
Barten-Gorman Model

Two-Adult Families

	FOOD	HOUSE	TRANS	AGOODS	OTHER
β_i	.098	.214	.167	.067	.454
μ_i	2.455	3.715	3.582	1.148	3.757
d_{ik} :					
LFSIZE	.722	-.005	.200	.296	.219
CKA1	-1.036	.448	-.585	-1.327	.467
CKA2	-1.053	.098	-.665	-1.517	.245
CKA3	-.528	.057	-.551	-1.354	.555
CKA4	.246	-.043	-.268	-1.042	1.053
CKA5	-.019	-.123	-.123	-.258	.370
CAA6	-.133	-.210	-.028	-.124	-.215
CAA8	.226	.123	.078	.135	.583
CAA9	.257	-.303	-.204	-.033	.673
HD_NO_HS	-.117	-.209	-.148	-.120	-.477
HD_COLL	.109	.255	-.136	.128	.459
SP_NO_HS	-.102	-.132	-.150	-.147	-.441
SP_COLL	.037	.197	.176	.152	.614
BLACK	-.370	-.182	-.221	-.267	-.555
TWOERN	.006	-.007	.137	.049	.082
W_WORK	-.044	-.048	.042	-.048	.067
FTIME	.021	.039	.117	.109	.058

Table B32

Estimated Preference Parameters (β's and μ's)
and the
Components of the Scaling Factors (m's)
of the
Barten-Gorman Model

One-Adult Families

	FOOD	HOUSE	TRANS	AGOODS	OTHER
β_i	.088	.196	.177	.078	.461
μ_i	1.687	1.769	1.090	.752	1.156
d_{ik} :					
LFSIZE	1.016	-.250	-.249	.154	-.798
CKA1	-.393	1.818	3.132	-.875	4.961
CKA2	-.719	1.490	2.890	-.609	4.956
CKA3	-.286	1.535	2.537	-.877	4.433
CKA4	-.045	1.533	.990	-1.130	4.909
CKA5	.221	1.958	3.842	.620	4.850
CAA6	-.181	-.526	-.057	.005	-.262
CAA8	.060	.187	.093	-.189	.629
CAA9	.079	.022	-.101	-.347	.817
DIV	-.177	-.245	-.959	-.152	-.426
SEP	-.201	.067	-.849	-.150	-.441
NMAR	-.231	-.455	-1.292	-.282	-.959
HD_NO_HS	-.109	-.320	-.667	-.172	-1.039
HD_COLL	.132	.396	.191	.235	1.490
BLACK	-.183	-.137	-.350	-.184	-.364
FEMALE	-.300	.020	-.492	.055	-.324
H_WORK	.200	.438	1.039	.335	1.651
HFTIME	.045	.235	.455	.133	.457

Appendix C

Regression Results for Various Commodity Groups Estimated Separately for Single Individuals, Childless Couples and One- and Two-Parent Families

Definitions of Dependent Variables Used in Study

Engel :

Θ_{FH}	=	the share of total expenditures devoted to food consumption at home
L_FHSHR	=	Log [Θ_{FH} / (1- Θ_{FH})]
Θ_{FT}	=	the share of total expenditures devoted to total food consumption
L_FTSHR	=	Log [Θ_{FH} / (1- Θ_{FH})]

ISO-PROP :

Θ_{ISO1}	=	the share of total expenditures devoted to food at home, shelter, clothing and health care
L_ISO1	=	Log [Θ_{ISO1} / (1- Θ_{ISO1})]
Θ_{ISO2}	=	the share of total expenditures devoted to food at home, shelter and clothing
L_ISO1	=	Log [Θ_{ISO2} / (1- Θ_{ISO2})]
Θ_{ISO3}	=	the share of total expenditures devoted to food at home and shelter
L_ISO3	=	Log [Θ_{ISO3} / (1- Θ_{ISO3})]

Rothbarth :

RE_{R1}	=	Real expenditures on adult clothing, alcohol and tobacco consumption
L_ROTH1	=	Log[RE_{R1}]
RE_{R2}	=	Real expenditures on adult clothing
L_ROTH2	=	Log[RE_{R2}]

Barten-Gorman :

FOOD	=	Real expenditures on Food at Home (in 1000's)
HOUSE	=	Real expenditures on Shelter and Utilities (in 1000's)
TRANS	=	Real expenditures on Transportation (in 1000's)
AGOODS	=	Real expenditures on Adult Clothing, Alcohol and Tobacco (in 1000's)
OTHER	=	Real expenditures on All Other Goods (in 1000's)

Definition of Explanatory Variables Used in Study

Total Expenditures (X):

LEFS	=	Log of per capita Total Real Expenditures
LEFS2	=	LEFS * LEFS

Household Composition (d):

LNFSIZE	=	Log of family size
CKA1	=	Number of children 1 to 2 years old divided by family size
CKA2	=	Number of children 3 to 5 years old divided by family size
CKA3	=	Number of children 6 to 12 years old divided by family size
CKA4	=	Number of children 13 to 14 years old divided by family size
CKA5	=	Number of children 15 to 17 years old divided by family size
CAA6	=	Number of adults 18 to 24 years old divided by family size
CAA7	=	Number of adults 25 to 35 years old divided by family size
CAA8	=	Number of adults 36 to 45 years old divided by family size (note this variable was omitted in the analysis)
CAA9	=	Number of adults 46 to 55 years old divided by family size

Other Socioeconomic Variables (s):

HD_NO_HS	=	1 if Head's education was less than 12 years, 0 otherwise
HD_COLL	=	1 if Head's education was greater than 12 years, 0 otherwise
BLACK	=	1 if the Head was black, 0 otherwise

In Two-Adult Families :

SP_NO_HS	=	1 if spouse's education was less than 12 years, 0 otherwise
SP_COLL	=	1 if spouse's education was greater than 12 years, 0 otherwise
TWOERN	=	1 if both adults worked, 0 otherwise
W_WORK	=	Weeks worked by spouse divided by 52
FTIME	=	1 if the spouse worked more than 30 hours per week, 0 otherwise

In One-Adult Families :

FEMALE	=	1 if the Head was a female, 0 otherwise
H_WORK	=	Weeks worked by head divided by 52
HFTIME	=	1 if the head worked more than 30 hours per week, 0 otherwise
DIV	=	1 if the head is a divorced single parent, 0 otherwise
SEP	=	1 if the head is a separated single parent, 0 otherwise
NMAR	=	1 if the head is a never married single parent, 0 otherwise

Table C1

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
All Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	1695.02	F RATIO	442.80
		DFE	8676	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.195369	R-SQUARE	0.4923

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.504309	0.071034	-7.0995	0.0001
LFSIZE	1	-0.119732	0.121650	-0.9842	0.3250
CKA1	1	-0.228056	0.251078	-0.9083	0.3637
CKA2	1	-0.168761	0.246528	-0.6846	0.4936
CKA3	1	0.035330	0.243932	0.1448	0.8848
CKA4	1	0.241983	0.248029	0.9756	0.3293
CKA5	1	0.193829	0.246538	0.7862	0.4318
CAA6	1	-0.116326	0.041113	-2.8294	0.0047
CAA8	1	0.157287	0.027917	5.6341	0.0001
CAA9	1	0.263154	0.041495	6.3418	0.0001
HD_NO_HS	1	0.078759	0.014783	5.3275	0.0001
HD_COLL	1	0.022017	0.012812	1.7184	0.0858
SP_NO_HS	1	0.050722	0.015698	3.2312	0.0012
SP_COLL	1	-0.057070	0.014725	-3.8758	0.0001
BLACK	1	-0.142345	0.018342	-7.7604	0.0001
TWOERN	1	-0.077650	0.014515	-5.3497	0.0001
W_WORK	1	-0.060330	0.017002	-3.5484	0.0004
FTIME	1	0.020855	0.012635	1.6506	0.0988
LEFS	1	-0.549643	0.032194	-17.0727	0.0001
LEFS2	1	-0.055592	0.009023797	-6.1606	0.0001

Two-Adult Families without Children

MODEL:	MODEL01	SSE	1268.151	F RATIO	292.54
		DFE	4641	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.273250	R-SQUARE	0.4688

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.786859	0.140166	-5.6137	0.0001
LFSIZE	1	0.171297	0.162406	1.0547	0.2916
CAA6	1	-0.124738	0.025615	-4.8698	0.0001
CAA8	1	0.170988	0.028256	6.0514	0.0001
CAA9	1	0.191816	0.022822	8.4048	0.0001
HD_NO_HS	1	0.106301	0.026140	4.0666	0.0001
HD_COLL	1	0.0001884342	0.019668	0.0096	0.9924
SP_NO_HS	1	0.054486	0.028147	1.9358	0.0530
SP_COLL	1	-0.107437	0.021494	-4.9985	0.0001
BLACK	1	-0.051859	0.032804	-1.5809	0.1140
TWOERN	1	-0.037398	0.028884	-1.2948	0.1955
W_WORK	1	-0.083078	0.030798	-2.6975	0.0070
FTIME	1	0.0003024193	0.022592	0.0134	0.9893
LEFS	1	-0.534038	0.069096	-7.7289	0.0001
LEFS2	1	-0.053093	0.014819	-3.5828	0.0003

Table C2

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home Three or More Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	679.072105	F RATIO	262.62
		DFE	4555	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.149083	R-SQUARE	0.5228

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.560914	0.092281	-6.0783	0.0001
LFSIZE	1	-0.138102	0.140438	-0.9834	0.3255
CKA1	1	0.019897	0.293121	0.0679	0.9459
CKA2	1	-0.0079261	0.285880	-0.0277	0.9779
CKA3	1	0.187657	0.282571	0.6641	0.5067
CKA4	1	0.436563	0.288236	1.5146	0.1299
CKA5	1	0.372947	0.284878	1.3091	0.1906
CAA6	1	-0.182936	0.058271	-3.1394	0.0017
CAA8	1	0.161279	0.032918	4.8995	0.0001
CAA9	1	0.320245	0.048273	6.6340	0.0001
HD_NO_HS	1	0.055028	0.018885	2.9139	0.0036
HD_COLL	1	-0.012094	0.015257	-0.7927	0.4280
SP_NO_HS	1	0.040552	0.020305	1.9971	0.0459
SP_COLL	1	-0.054047	0.017219	-3.1388	0.0017
BLACK	1	-0.113307	0.022670	-4.9981	0.0001
TWOERN	1	-0.053350	0.017864	-2.9864	0.0028
W_WORK	1	-0.066424	0.020748	-3.2015	0.0014
FTIME	1	0.010268	0.015104	0.6798	0.4967
LEFS	1	-0.533172	0.051389	-10.3753	0.0001
LEFS2	1	-0.058550	0.014080	-4.1584	0.0001

Two-Adult Families without Children

MODEL:	MODEL01	SSE	428.455831	F RATIO	163.60
		DFE	2237	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.191531	R-SQUARE	0.5059

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.327860	0.171094	-1.9163	0.0555
LFSIZE	1	0.208948	0.155525	1.3435	0.1792
CAA6	1	-0.179734	0.033640	-5.3429	0.0001
CAA8	1	0.111209	0.033753	3.2948	0.0010
CAA9	1	0.193961	0.026630	7.2835	0.0001
HD_NO_HS	1	0.055904	0.032549	1.7176	0.0860
HD_COLL	1	0.00508618	0.023464	0.2168	0.8284
SP_NO_HS	1	0.046805	0.035162	1.3311	0.1833
SP_COLL	1	-0.128032	0.025460	-5.0602	0.0001
BLACK	1	-0.078821	0.040938	-1.9254	0.0543
TWOERN	1	-0.022262	0.035091	-0.6344	0.5259
W_WORK	1	-0.066584	0.038667	-1.7220	0.0852
FTIME	1	-0.020579	0.027603	-0.7455	0.4560
LEFS	1	-0.961054	0.111633	-8.6091	0.0001
LEFS2	1	0.042504	0.023538	1.8058	0.0711

Table C3

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
All Observations

One-Adult Families with Children

MODEL: MODEL01		SSE	728.875986	F RATIO	171.67
		DFE	2409	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.302564	R-SQUARE	0.5619

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.629418	0.126600	-4.9717	0.0001
LFSIZE	1	-0.255492	0.135801	-1.8814	0.0600
CKA1	1	0.401766	0.389697	1.0310	0.3027
CKA2	1	0.477069	0.375619	1.2701	0.2042
CKA3	1	0.720750	0.374936	1.9223	0.0547
CKA4	1	0.862861	0.380391	2.2684	0.0234
CKA5	1	0.800644	0.379449	2.1100	0.0350
CAA6	1	0.068322	0.091333	0.7481	0.4545
CAA8	1	0.026458	0.074370	0.3558	0.7220
CAA9	1	0.322384	0.123016	2.6207	0.0088
SEP	1	-0.034219	0.029580	-1.1568	0.2475
NMAR	1	-0.026249	0.033341	-0.7873	0.4312
HD_NO_HS	1	0.149207	0.028657	5.2066	0.0001
HD_COLL	1	-0.026376	0.038560	-0.6840	0.4940
BLACK	1	0.038125	0.027464	1.3882	0.1652
H_WORK	1	-0.325566	0.043597	-7.4676	0.0001
HFTIME	1	-0.050619	0.037324	-1.3562	0.1752
LEFS	1	-0.556206	0.057305	-9.7060	0.0001
LEFS2	1	-0.047755	0.017718	-2.6953	0.0071

One-Adult Families without Children

MODEL: MODEL01		SSE	7876.32	F RATIO	272.71
		DFE	11205	PROB>F	0.0001
DEP VAR: L_FHSHR		MSE	0.702929	R-SQUARE	0.2260

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.215898	0.047393	-25.6558	0.0001
LFSIZE	1	-0.033087	0.115384	-0.2868	0.7743
CAA6	1	-0.384359	0.020560	-18.6946	0.0001
CAA8	1	0.138264	0.026040	5.3098	0.0001
CAA9	1	0.270034	0.029213	9.2437	0.0001
HD_NO_HS	1	-0.070276	0.026033	-2.6995	0.0070
HD_COLL	1	-0.041334	0.019555	-2.1137	0.0346
BLACK	1	0.118791	0.026901	4.4159	0.0001
FEMALE	1	-0.101036	0.016329	-6.1875	0.0001
H_WORK	1	-0.035801	0.027521	-1.3009	0.1933
HFTIME	1	0.0002129886	0.021028	0.0101	0.9919
LEFS	1	-0.220969	0.037153	-5.9476	0.0001
LEFS2	1	-0.093762	0.00833185	-11.2534	0.0001

Table C4

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	231.912227	F RATIO	114.90
		DFE	1106	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.209686	R-SQUARE	0.6516

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.450910	0.142647	-3.1610	0.0016
LFSIZE	1	-0.271707	0.138253	-1.9653	0.0496
CKA1	1	0.455651	0.402587	1.1318	0.2580
CKA2	1	0.417299	0.373001	1.1188	0.2635
CKA3	1	0.753364	0.372425	2.0229	0.0433
CKA4	1	0.921044	0.379146	2.4293	0.0153
CKA5	1	0.835028	0.380421	2.1950	0.0284
CAA6	1	0.099403	0.120346	0.8260	0.4090
CAA8	1	0.083880	0.089047	0.9420	0.3464
CAA9	1	0.217424	0.139947	1.5536	0.1206
SEP	1	-0.041646	0.038707	-1.0759	0.2822
NMAR	1	0.029114	0.041739	0.6975	0.4856
HD_NO_HS	1	0.072949	0.035774	2.0392	0.0417
HD_COLL	1	-0.069979	0.046043	-1.5199	0.1288
BLACK	1	0.005901604	0.033897	0.1741	0.8618
H_WORK	1	-0.279557	0.056441	-4.9531	0.0001
HFTIME	1	-0.011365	0.048806	-0.2329	0.8159
LEFS	1	-0.807224	0.087642	-9.2105	0.0001
LEFS2	1	0.015971	0.027063	0.5901	0.5552

One-Adult Families without Children

MODEL:	MODEL01	SSE	1662.861	F RATIO	122.87
		DFE	3686	PROB>F	0.0001
DEP VAR:	L_FHSHR	MSE	0.451129	R-SQUARE	0.2857

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.557365	0.096642	-16.1148	0.0001
LFSIZE	1	-0.014354	0.103031	-0.1393	0.8892
CAA6	1	-0.340113	0.031478	-10.8046	0.0001
CAA8	1	0.150833	0.031203	4.8340	0.0001
CAA9	1	0.242082	0.034386	7.0401	0.0001
HD_NO_HS	1	0.021480	0.040162	0.5348	0.5928
HD_COLL	1	-0.068401	0.025670	-2.6646	0.0077
BLACK	1	0.118844	0.037749	3.1483	0.0017
FEMALE	1	-0.126813	0.022750	-5.5743	0.0001
H_WORK	1	-0.112017	0.044206	-2.5339	0.0113
HFTIME	1	-0.083386	0.034445	-2.4208	0.0155
LEFS	1	0.139342	0.079741	1.7474	0.0806
LEFS2	1	-0.159407	0.016765	-9.5086	0.0001

Table C5

Regression on the Logit of the Share of Total Expenditures Spend on Food
All Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	1532.346	F RATIO	309.04
		DFE	8676	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.176619	R-SQUARE	0.4036

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.303727	0.067540	-4.4970	0.0001
LFSIZE	1	-0.279096	0.115666	-2.4130	0.0158
CKA1	1	-0.024870	0.238726	-0.1042	0.9170
CKA2	1	0.028091	0.234400	0.1198	0.9046
CKA3	1	0.357867	0.231931	1.5430	0.1229
CKA4	1	0.574674	0.235827	2.4368	0.0148
CKA5	1	0.538240	0.234410	2.2961	0.0217
CAA6	1	-0.088140	0.039091	-2.2547	0.0242
CAA8	1	0.144444	0.026544	5.4417	0.0001
CAA9	1	0.216361	0.039454	5.4839	0.0001
HD_NO_HS	1	0.050757	0.014056	3.6110	0.0003
HD_COLL	1	0.039989	0.012182	3.2827	0.0010
SP_NO_HS	1	0.022469	0.014925	1.5055	0.1322
SP_COLL	1	-0.038039	0.014000	-2.7170	0.0066
BLACK	1	-0.161217	0.017440	-9.2441	0.0001
TWOERN	1	-0.058438	0.013801	-4.2344	0.0001
W_WORK	1	-0.040582	0.016166	-2.5104	0.0121
FTIME	1	0.019253	0.012013	1.6027	0.1090
LEFS	1	-0.493794	0.030611	-16.1315	0.0001
LEFS2	1	-0.031394	0.008579863	-3.6590	0.0003

Two-Adult Families without Children

MODEL:	MODEL01	SSE	1062.553	F RATIO	162.47
		DFE	4641	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.228949	R-SQUARE	0.3289

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.442736	0.128302	-3.4507	0.0006
LFSIZE	1	-0.200454	0.148659	-1.3484	0.1776
CAA6	1	-0.094365	0.023446	-4.0247	0.0001
CAA8	1	0.160896	0.025864	6.2208	0.0001
CAA9	1	0.180046	0.020890	8.6186	0.0001
HD_NO_HS	1	0.050328	0.023928	2.1034	0.0355
HD_COLL	1	0.025637	0.018003	1.4240	0.1545
SP_NO_HS	1	-0.00526459	0.025764	-0.2043	0.8381
SP_COLL	1	-0.039478	0.019674	-2.0066	0.0449
BLACK	1	-0.147738	0.030027	-4.9201	0.0001
TWOERN	1	-0.013745	0.026439	-0.5199	0.6032
W_WORK	1	-0.020247	0.028191	-0.7182	0.4727
FTIME	1	-0.00264589	0.020680	-0.1279	0.8982
LEFS	1	-0.463509	0.063248	-7.3285	0.0001
LEFS2	1	-0.021925	0.013565	-1.6163	0.1061

Table C6

Regression on the Logit of the Share of Total Expenditures Spend on Food Three or More Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	600.854266	F RATIO	175.67
		DFE	4555	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.131911	R-SQUARE	0.4229

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.417557	0.086804	-4.8103	0.0001
LFSIZE	1	-0.224468	0.132103	-1.6992	0.0894
CKA1	1	0.035368	0.275724	0.1283	0.8979
CKA2	1	0.075490	0.268912	0.2807	0.7789
CKA3	1	0.375366	0.265799	1.4122	0.1580
CKA4	1	0.710391	0.271128	2.6201	0.0088
CKA5	1	0.583129	0.267969	2.1761	0.0296
CAA6	1	-0.116006	0.054812	-2.1164	0.0344
CAA8	1	0.134440	0.030964	4.3418	0.0001
CAA9	1	0.237908	0.045408	5.2393	0.0001
HD_NO_HS	1	0.042290	0.017764	2.3807	0.0173
HD_COLL	1	0.008867491	0.014351	0.6179	0.5367
SP_NO_HS	1	0.011546	0.019100	0.6045	0.5456
SP_COLL	1	-0.040442	0.016197	-2.4969	0.0126
BLACK	1	-0.132428	0.021324	-6.2102	0.0001
TWOERN	1	-0.042685	0.016804	-2.5402	0.0111
W_WORK	1	-0.038946	0.019516	-1.9956	0.0460
FTIME	1	0.007021127	0.014208	0.4942	0.6212
LEFS	1	-0.488525	0.048339	-10.1063	0.0001
LEFS2	1	-0.022372	0.013244	-1.6892	0.0913

Two-Adult Families without Children

MODEL:	MODEL01	SSE	369.206014	F RATIO	85.30
		DFE	2237	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.165045	R-SQUARE	0.3480

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.076783	0.158824	-0.4834	0.6288
LFSIZE	1	-0.206626	0.144371	-1.4312	0.1525
CAA6	1	-0.143557	0.031228	-4.5971	0.0001
CAA8	1	0.118034	0.031332	3.7672	0.0002
CAA9	1	0.190053	0.024720	7.6881	0.0001
HD_NO_HS	1	0.020926	0.030214	0.6926	0.4886
HD_COLL	1	0.043269	0.021781	1.9865	0.0471
SP_NO_HS	1	-0.00767804	0.032641	-0.2352	0.8141
SP_COLL	1	-0.085524	0.023634	-3.6187	0.0003
BLACK	1	-0.185175	0.038002	-4.8728	0.0001
TWOERN	1	0.019745	0.032575	0.6062	0.5445
W_WORK	1	-0.020811	0.035894	-0.5798	0.5621
FTIME	1	-0.013178	0.025624	-0.5143	0.6071
LEFS	1	-0.812180	0.103627	-7.8375	0.0001
LEFS2	1	0.058878	0.021850	2.6947	0.0071

Table C7

Regression on the Logit of the Share of Total Expenditures Spend on Food
All Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	627.391271	F RATIO	121.83
		DFE	2409	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.260436	R-SQUARE	0.4765

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.538583	0.117456	-4.5854	0.0001
LFSIZE	1	-0.266272	0.125993	-2.1134	0.0347
CKA1	1	0.369823	0.361551	1.0229	0.3065
CKA2	1	0.401016	0.348489	1.1507	0.2500
CKA3	1	0.696063	0.347856	2.0010	0.0455
CKA4	1	0.812465	0.352917	2.3021	0.0214
CKA5	1	0.843652	0.352043	2.3964	0.0166
CAA6	1	0.054121	0.084736	0.6387	0.5231
CAA8	1	0.049392	0.068999	0.7158	0.4742
CAA9	1	0.294739	0.114131	2.5825	0.0099
SEP	1	-0.043470	0.027444	-1.5840	0.1133
NMAR	1	-0.025518	0.030933	-0.8250	0.4095
HD_NO_HS	1	0.122229	0.026587	4.5973	0.0001
HD_COLL	1	0.042429	0.035775	1.1860	0.2357
BLACK	1	0.017886	0.025481	0.7019	0.4828
H_WORK	1	-0.250365	0.040448	-6.1898	0.0001
HFTIME	1	-0.027672	0.034628	-0.7991	0.4243
LEFS	1	-0.483161	0.053166	-9.0877	0.0001
LEFS2	1	-0.030469	0.016438	-1.8536	0.0639

One-Adult Families without Children

MODEL:	MODEL01	SSE	4821.789	F RATIO	278.75
		DFE	11203	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.430402	R-SQUARE	0.2299

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.556646	0.037187	-14.9689	0.0001
LFSIZE	1	-0.272583	0.090288	-3.0191	0.0025
CAA6	1	-0.123585	0.016097	-7.6774	0.0001
CAA8	1	0.060932	0.020378	2.9901	0.0028
CAA9	1	0.093580	0.022862	4.0933	0.0001
HD_NO_HS	1	0.039763	0.020376	1.9515	0.0510
HD_COLL	1	-0.00996302	0.015302	-0.6511	0.5150
BLACK	1	-0.00975864	0.021060	-0.4634	0.6431
FEMALE	1	-0.237307	0.012778	-18.5713	0.0001
H_WORK	1	-0.060383	0.021538	-2.8035	0.0051
HFTIME	1	-0.047565	0.016455	-2.8906	0.0039
LEFS	1	-0.263213	0.029155	-9.0279	0.0001
LEFS2	1	-0.047428	0.006534082	-7.2585	0.0001

Table C8

Regression on the Logit of the Share of Total Expenditures Spend on Food
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	210.501263	F RATIO	75.19
		DFE	1106	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.190327	R-SQUARE	0.5503

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.340475	0.135903	-2.5053	0.0124
LFSIZE	1	-0.274816	0.131717	-2.0864	0.0372
CKA1	1	0.328959	0.383553	0.8577	0.3913
CKA2	1	0.286767	0.355365	0.8070	0.4199
CKA3	1	0.676280	0.354817	1.9060	0.0569
CKA4	1	0.823954	0.361220	2.2810	0.0227
CKA5	1	0.807709	0.362434	2.2286	0.0260
CAA6	1	0.180817	0.114656	1.5770	0.1151
CAA8	1	0.139657	0.084837	1.6462	0.1000
CAA9	1	0.208928	0.133330	1.5670	0.1174
SEP	1	-0.035853	0.036877	-0.9722	0.3312
NMAR	1	0.015900	0.039765	0.3999	0.6893
HD_NO_HS	1	0.070142	0.034082	2.0580	0.0398
HD_COLL	1	-0.00185088	0.043866	-0.0422	0.9664
BLACK	1	-0.015697	0.032294	-0.4861	0.6270
H_WORK	1	-0.213602	0.053772	-3.9724	0.0001
HFTIME	1	0.014601	0.046499	0.3140	0.7536
LEFS	1	-0.772529	0.083498	-9.2520	0.0001
LEFS2	1	0.053450	0.025784	2.0730	0.0384

One-Adult Families without Children

MODEL:	MODEL01	SSE	972.436091	F RATIO	114.93
		DFE	3686	PROB>F	0.0001
DEP VAR:	L_FTSHR	MSE	0.263819	R-SQUARE	0.2723

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.582143	0.073904	-7.8770	0.0001
LFSIZE	1	-0.232979	0.078790	-2.9570	0.0031
CAA6	1	-0.099890	0.024072	-4.1496	0.0001
CAA8	1	0.047297	0.023861	1.9822	0.0475
CAA9	1	0.060243	0.026296	2.2910	0.0220
HD_NO_HS	1	0.092259	0.030713	3.0039	0.0027
HD_COLL	1	-0.013246	0.019631	-0.6748	0.4999
BLACK	1	-0.047979	0.028867	-1.6621	0.0966
FEMALE	1	-0.263870	0.017397	-15.1674	0.0001
H_WORK	1	-0.046030	0.033806	-1.3616	0.1734
HFTIME	1	-0.069268	0.026341	-2.6297	0.0086
LEFS	1	-0.271888	0.060979	-4.4587	0.0001
LEFS2	1	-0.039260	0.012820	-3.0624	0.0022

Table C9

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
All Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	2198.078	F RATIO	197.22
		DFE	8675	PROB>F	0.0001
DEP VAR:	L_ISO1	MSE	0.253381	R-SQUARE	0.3016

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.302944	0.081076	16.0706	0.0001
LFSIZE	1	-0.492385	0.138582	-3.5530	0.0004
CKA1	1	0.590281	0.286038	2.0636	0.0391
CKA2	1	0.458696	0.280815	1.6334	0.1024
CKA3	1	0.512281	0.277864	1.8436	0.0653
CKA4	1	0.600896	0.282532	2.1268	0.0335
CKA5	1	0.558453	0.280831	1.9886	0.0468
CAA6	1	-0.142545	0.046821	-3.0444	0.0023
CAA8	1	0.087162	0.031794	2.7415	0.0061
CAA9	1	0.054043	0.047256	1.1436	0.2528
HD_NO_HS	1	0.014930	0.016837	0.8867	0.3753
HD_COLL	1	0.116780	0.014591	8.0036	0.0001
SP_NO_HS	1	0.024532	0.017885	1.3716	0.1702
SP_COLL	1	0.017951	0.016769	1.0705	0.2844
BLACK	1	-0.048757	0.020890	-2.3340	0.0196
TWOERN	1	-0.113027	0.016530	-6.8377	0.0001
W_WORK	1	-0.032976	0.019363	-1.7031	0.0886
FTIME	1	0.010363	0.014389	0.7202	0.4714
LEFS	1	-0.566040	0.036910	-15.3355	0.0001
LEFS2	1	-0.012634	0.010336	-1.2223	0.2216

Two-Adult Families without Children

MODEL:	MODEL01	SSE	1406.16	F RATIO	121.96
		DFE	4639	PROB>F	0.0001
DEP VAR:	L_ISO1	MSE	0.303117	R-SQUARE	0.2690

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.779273	0.147684	5.2766	0.0001
LFSIZE	1	0.300170	0.171053	1.7548	0.0794
CAA6	1	-0.193393	0.026978	-7.1684	0.0001
CAA8	1	0.056937	0.029762	1.9131	0.0558
CAA9	1	0.033581	0.024055	1.3960	0.1628
HD_NO_HS	1	0.008685706	0.027539	0.3154	0.7525
HD_COLL	1	0.114408	0.020724	5.5205	0.0001
SP_NO_HS	1	0.034156	0.029655	1.1518	0.2495
SP_COLL	1	0.042188	0.022639	1.8635	0.0625
BLACK	1	0.060447	0.034552	1.7494	0.0803
TWOERN	1	-0.119274	0.030442	-3.9181	0.0001
W_WORK	1	-0.036997	0.032441	-1.1404	0.2542
FTIME	1	0.038362	0.023799	1.6120	0.1070
LEFS	1	-0.551920	0.072835	-7.5777	0.0001
LEFS2	1	-0.00569464	0.015617	-0.3646	0.7154

Table C10

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

Two-Adult Families with Children

MODEL: MODEL01		SSE	892.942306	F RATIO	101.87
		DFE	4555	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.196036	R-SQUARE	0.2982

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.472509	0.105820	13.9152	0.0001
LFSIZE	1	-0.739668	0.161042	-4.5930	0.0001
CKA1	1	1.205001	0.336125	3.5850	0.0003
CKA2	1	1.005389	0.327821	3.0669	0.0022
CKA3	1	1.067479	0.324027	3.2944	0.0010
CKA4	1	1.215571	0.330523	3.6777	0.0002
CKA5	1	1.186436	0.326672	3.6319	0.0003
CAA6	1	-0.096283	0.066820	-1.4409	0.1497
CAA8	1	0.069402	0.037747	1.8386	0.0660
CAA9	1	0.051934	0.055355	0.9382	0.3482
HD_NO_HS	1	-0.021402	0.021655	-0.9883	0.3231
HD_COLL	1	0.088443	0.017495	5.0553	0.0001
SP_NO_HS	1	0.0042052	0.023284	0.1806	0.8567
SP_COLL	1	-0.00930685	0.019745	-0.4713	0.6374
BLACK	1	-0.068331	0.025996	-2.6285	0.0086
TWOERN	1	-0.100548	0.020485	-4.9083	0.0001
W_WORK	1	-0.040065	0.023792	-1.6840	0.0923
FTIME	1	0.003268787	0.017320	0.1887	0.8503
LEFS	1	-0.721191	0.058928	-12.2385	0.0001
LEFS2	1	0.041041	0.016146	2.5419	0.0111

Two-Adult Families without Children

MODEL: MODEL01		SSE	488.525843	F RATIO	61.24
		DFE	2237	PROB>F	0.0001
DEP VAR: L_ISO1		MSE	0.218384	R-SQUARE	0.2771

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.495571	0.182695	8.1862	0.0001
LFSIZE	1	0.314128	0.166070	1.8915	0.0587
CAA6	1	-0.168254	0.035921	-4.6840	0.0001
CAA8	1	0.007652426	0.036041	0.2123	0.8319
CAA9	1	-0.022654	0.028436	-0.7967	0.4257
HD_NO_HS	1	-0.00966032	0.034755	-0.2780	0.7811
HD_COLL	1	0.128194	0.025055	5.1165	0.0001
SP_NO_HS	1	-0.00175523	0.037547	-0.0467	0.9627
SP_COLL	1	0.001886326	0.027186	0.0694	0.9447
BLACK	1	0.027526	0.043713	0.6297	0.5290
TWOERN	1	-0.129000	0.037470	-3.4427	0.0006
W_WORK	1	0.014734	0.041288	0.3568	0.7212
FTIME	1	0.002550241	0.029475	0.0865	0.9311
LEFS	1	-1.224839	0.119202	-10.2753	0.0001
LEFS2	1	0.146186	0.025134	5.8163	0.0001

Table C11

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
All Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	1138.14	F RATIO	102.89
		DFE	2404	PROB>F	0.0001
DEP VAR:	L_ISO1	MSE	0.473436	R-SQUARE	0.4352

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.663277	0.158636	10.4849	0.0001
LFSIZE	1	-0.176838	0.169978	-1.0404	0.2983
CKA1	1	0.054918	0.487578	0.1126	0.9103
CKA2	1	-0.154232	0.470034	-0.3281	0.7428
CKA3	1	-0.017873	0.469152	-0.0381	0.9696
CKA4	1	0.134558	0.475997	0.2827	0.7774
CKA5	1	0.044330	0.474767	0.0934	0.9256
CAA6	1	-0.339987	0.114283	-2.9749	0.0030
CAA8	1	0.183681	0.093169	1.9715	0.0488
CAA9	1	0.148051	0.153979	0.9615	0.3364
SEP	1	0.019112	0.037035	0.5160	0.6059
NMAR	1	0.014731	0.041767	0.3527	0.7243
HD_NO_HS	1	0.180576	0.035898	5.0303	0.0001
HD_COLL	1	0.038880	0.048235	0.8061	0.4203
BLACK	1	0.014024	0.034379	0.4079	0.6834
H_WORK	1	-0.392919	0.054541	-7.2042	0.0001
HFTIME	1	-0.088126	0.046690	-1.8875	0.0592
LEFS	1	-0.544640	0.071839	-7.5814	0.0001
LEFS2	1	-0.036261	0.022192	-1.6339	0.1024

One-Adult Families without Children

MODEL:	MODEL01	SSE	8137.397	F RATIO	263.32
		DFE	11196	PROB>F	0.0001
DEP VAR:	L_ISO1	MSE	0.726813	R-SQUARE	0.2201

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.250023	0.048237	-5.1832	0.0001
LFSIZE	1	0.003089624	0.117330	0.0263	0.9790
CAA6	1	-0.661899	0.020915	-31.6473	0.0001
CAA8	1	0.213348	0.026488	8.0546	0.0001
CAA9	1	0.291749	0.029721	9.8161	0.0001
HD_NO_HS	1	-0.084125	0.026492	-3.1756	0.0015
HD_COLL	1	0.070734	0.019889	3.5564	0.0004
BLACK	1	0.247615	0.027388	9.0410	0.0001
FEMALE	1	0.266146	0.016611	16.0222	0.0001
H_WORK	1	0.052546	0.027998	1.8768	0.0606
HFTIME	1	0.069414	0.021387	3.2456	0.0012
LEFS	1	0.263697	0.037799	6.9764	0.0001
LEFS2	1	-0.157531	0.008474427	-18.5890	0.0001

Table C12

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

One-Adult Families with Children

MODEL: MODEL01	SSE	405.044040	F RATIO	60.31
	DFE	1105	PROB>F	0.0001
DEP VAR: L_ISO1	MSE	0.366556	R-SQUARE	0.4956

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.835224	0.188616	9.7300	0.0001
LFSIZE	1	-0.461072	0.182837	-2.5218	0.0118
CKA1	1	0.757504	0.532359	1.4229	0.1550
CKA2	1	0.279118	0.493372	0.5657	0.5717
CKA3	1	0.572855	0.492519	1.1631	0.2450
CKA4	1	0.808898	0.501352	1.6134	0.1069
CKA5	1	0.669367	0.503033	1.3307	0.1836
CAA6	1	-0.287285	0.159143	-1.8052	0.0713
CAA8	1	0.035947	0.117895	0.3049	0.7605
CAA9	1	0.065430	0.185058	0.3536	0.7237
SEP	1	0.084141	0.051256	1.6416	0.1010
NMAR	1	0.033794	0.055186	0.6124	0.5404
HD_NO_HS	1	0.111228	0.047330	2.3501	0.0189
HD_COLL	1	0.059344	0.060876	0.9748	0.3299
BLACK	1	-0.024514	0.044824	-0.5469	0.5846
H_WORK	1	-0.311358	0.074627	-4.1722	0.0001
HFTIME	1	-0.054361	0.064532	-0.8424	0.3998
LEFS	1	-0.947563	0.115879	-8.1772	0.0001
LEFS2	1	0.078725	0.035784	2.2000	0.0280

One-Adult Families without Children

MODEL: MODEL01	SSE	1584.427	F RATIO	105.23
	DFE	3683	PROB>F	0.0001
DEP VAR: L_ISO1	MSE	0.430200	R-SQUARE	0.2553

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.073179	0.094450	0.7748	0.4385
LFSIZE	1	-0.111698	0.100618	-1.1101	0.2670
CAA6	1	-0.561080	0.030752	-18.2453	0.0001
CAA8	1	0.170412	0.030490	5.5892	0.0001
CAA9	1	0.190264	0.033596	5.6632	0.0001
HD_NO_HS	1	-0.031937	0.039282	-0.8130	0.4163
HD_COLL	1	0.050744	0.025072	2.0239	0.0430
BLACK	1	0.277964	0.036873	7.5385	0.0001
FEMALE	1	0.178488	0.022224	8.0313	0.0001
H_WORK	1	-0.047713	0.043186	-1.1048	0.2693
HFTIME	1	-0.038439	0.033642	-1.1426	0.2533
LEFS	1	0.195306	0.077926	2.5063	0.0122
LEFS2	1	-0.141955	0.016378	-8.6673	0.0001

Table C13

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
All Observations

Two-Adult Families with Children

MODEL: MODEL01		SSE	2266.123	F RATIO	187.76
		DFE	8675	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.261225	R-SQUARE	0.2914

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.144111	0.082322	13.8981	0.0001
LFSIZE	1	-0.424067	0.140710	-3.0138	0.0026
CKA1	1	0.446686	0.290432	1.5380	0.1241
CKA2	1	0.344068	0.285128	1.2067	0.2276
CKA3	1	0.388371	0.282133	1.3766	0.1687
CKA4	1	0.482476	0.286872	1.6819	0.0926
CKA5	1	0.440806	0.285145	1.5459	0.1222
CAA6	1	-0.124059	0.047540	-2.6095	0.0091
CAA8	1	0.040690	0.032282	1.2604	0.2075
CAA9	1	-0.073868	0.047982	-1.5395	0.1237
HD_NO_HS	1	0.020196	0.017096	1.1813	0.2375
HD_COLL	1	0.113318	0.014815	7.6489	0.0001
SP_NO_HS	1	0.034460	0.018160	1.8976	0.0578
SP_COLL	1	0.025689	0.017026	1.5088	0.1314
BLACK	1	-0.018608	0.021211	-0.8773	0.3804
TWOERN	1	-0.106364	0.016784	-6.3373	0.0001
W_WORK	1	-0.032448	0.019660	-1.6505	0.0989
FTIME	1	0.012383	0.014610	0.8476	0.3967
LEFS	1	-0.622052	0.037477	-16.5981	0.0001
LEFS2	1	0.008205991	0.010495	0.7819	0.4343

Two-Adult Families without Children

MODEL: MODEL01		SSE	1408.152	F RATIO	112.16
		DFE	4640	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.303481	R-SQUARE	0.2529

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.630340	0.147747	4.2664	0.0001
LFSIZE	1	0.282564	0.171155	1.6509	0.0988
CAA6	1	-0.189687	0.026994	-7.0269	0.0001
CAA8	1	0.044982	0.029780	1.5105	0.1310
CAA9	1	-0.042996	0.024059	-1.7871	0.0740
HD_NO_HS	1	0.012635	0.027554	0.4586	0.6466
HD_COLL	1	0.109693	0.020728	5.2922	0.0001
SP_NO_HS	1	0.011709	0.029671	0.3946	0.6931
SP_COLL	1	0.063880	0.022652	2.8201	0.0048
BLACK	1	0.083183	0.034573	2.4060	0.0162
TWOERN	1	-0.075781	0.030443	-2.4893	0.0128
W_WORK	1	-0.039471	0.032457	-1.2161	0.2240
FTIME	1	0.050334	0.023809	2.1141	0.0346
LEFS	1	-0.569654	0.072854	-7.8192	0.0001
LEFS2	1	-0.000451167	0.015624	-0.0289	0.9770

Table C14

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
Three or More Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	931.857910	F RATIO	92.78
		DFE	4555	PROB>F	0.0001
DEP VAR:	L_ISO2	MSE	0.204579	R-SQUARE	0.2790

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.257931	0.108101	11.6366	0.0001
LFSIZE	1	-0.649700	0.164514	-3.9492	0.0001
CKA1	1	1.059651	0.343372	3.0860	0.0020
CKA2	1	0.884127	0.334888	2.6401	0.0083
CKA3	1	0.938115	0.331012	2.8341	0.0046
CKA4	1	1.097149	0.337648	3.2494	0.0012
CKA5	1	1.055258	0.333715	3.1622	0.0016
CAA6	1	-0.078225	0.068260	-1.1460	0.2519
CAA8	1	0.037825	0.038561	0.9809	0.3267
CAA9	1	-0.050565	0.056549	-0.8942	0.3713
HD_NO_HS	1	-0.019515	0.022122	-0.8822	0.3777
HD_COLL	1	0.080237	0.017872	4.4895	0.0001
SP_NO_HS	1	0.020616	0.023786	0.8667	0.3861
SP_COLL	1	-0.00229631	0.020171	-0.1138	0.9094
BLACK	1	-0.033922	0.026556	-1.2774	0.2015
TWOERN	1	-0.101550	0.020927	-4.8526	0.0001
W_WORK	1	-0.025482	0.024305	-1.0484	0.2945
FTIME	1	0.0006702037	0.017694	0.0379	0.9698
LEFS	1	-0.754463	0.060198	-12.5330	0.0001
LEFS2	1	0.057835	0.016494	3.5064	0.0005

Two-Adult Families without Children

MODEL:	MODEL01	SSE	484.362908	F RATIO	52.23
		DFE	2237	PROB>F	0.0001
DEP VAR:	L_ISO2	MSE	0.216523	R-SQUARE	0.2464

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.271535	0.181915	6.9897	0.0001
LFSIZE	1	0.344149	0.165360	2.0812	0.0375
CAA6	1	-0.156551	0.035768	-4.3769	0.0001
CAA8	1	-0.012777	0.035887	-0.3560	0.7219
CAA9	1	-0.081007	0.028314	-2.8610	0.0043
HD_NO_HS	1	-0.00849794	0.034607	-0.2456	0.8060
HD_COLL	1	0.128404	0.024948	5.1468	0.0001
SP_NO_HS	1	-0.032717	0.037386	-0.8751	0.3816
SP_COLL	1	0.012106	0.027070	0.4472	0.6548
BLACK	1	0.041788	0.043527	0.9600	0.3371
TWOERN	1	-0.076637	0.037310	-2.0540	0.0401
W_WORK	1	-0.00585955	0.041112	-0.1425	0.8867
FTIME	1	0.028238	0.029349	0.9622	0.3361
LEFS	1	-1.230738	0.118693	-10.3691	0.0001
LEFS2	1	0.153252	0.025027	6.1236	0.0001

Table C15

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
All Observations

One-Adult Families with Children

MODEL: MODEL01		SSE	1134.728	F RATIO	120.65
		DFE	2404	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.472017	R-SQUARE	0.4746
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.583197	0.158398	9.9951	0.0001
LFSIZE	1	-0.221821	0.169723	-1.3070	0.1914
CKA1	1	0.166817	0.486846	0.3426	0.7319
CKA2	1	0.007668075	0.469329	0.0163	0.9870
CKA3	1	0.100598	0.468448	0.2147	0.8300
CKA4	1	0.262505	0.475283	0.5523	0.5808
CKA5	1	0.217376	0.474055	0.4585	0.6466
CAA6	1	-0.320521	0.114112	-2.8088	0.0050
CAA8	1	0.163406	0.093029	1.7565	0.0791
CAA9	1	0.027246	0.153748	0.1772	0.8594
SEP	1	0.020848	0.036980	0.5638	0.5730
NMAR	1	0.026491	0.041704	0.6352	0.5253
HD_NO_HS	1	0.200321	0.035844	5.5887	0.0001
HD_COLL	1	0.048803	0.048163	1.0133	0.3110
BLACK	1	0.015871	0.034328	0.4624	0.6439
H_WORK	1	-0.453366	0.054459	-8.3249	0.0001
HFTIME	1	-0.101755	0.046620	-2.1827	0.0292
LEFS	1	-0.562104	0.071732	-7.8362	0.0001
LEFS2	1	-0.039209	0.022159	-1.7694	0.0769

One-Adult Families without Children

MODEL: MODEL01		SSE	8208.002	F RATIO	250.13
		DFE	11197	PROB>F	0.0001
DEP VAR: L_ISO2		MSE	0.733054	R-SQUARE	0.2114
VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.302475	0.048458	-6.2420	0.0001
LFSIZE	1	-0.054448	0.117832	-0.4621	0.6440
CAA6	1	-0.653166	0.021007	-31.0923	0.0001
CAA8	1	0.193050	0.026594	7.2591	0.0001
CAA9	1	0.226612	0.029848	7.5922	0.0001
HD_NO_HS	1	-0.080093	0.026597	-3.0113	0.0026
HD_COLL	1	0.073033	0.019974	3.6565	0.0003
BLACK	1	0.253062	0.027505	9.2006	0.0001
FEMALE	1	0.225677	0.016682	13.5284	0.0001
H_WORK	1	0.066172	0.028119	2.3532	0.0186
HFTIME	1	0.070920	0.021479	3.3018	0.0010
LEFS	1	0.255033	0.037959	6.7187	0.0001
LEFS2	1	-0.160814	0.008510604	-18.8958	0.0001

Table C16

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home, Shelter and Clothing
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	411.732798	F RATIO	68.63
		DFE	1105	PROB>F	0.0001
DEP VAR:	L_ISO2	MSE	0.372609	R-SQUARE	0.5279

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.790773	0.190167	9.4169	0.0001
LFSIZE	1	-0.519479	0.184340	-2.8180	0.0049
CKA1	1	0.813713	0.536737	1.5160	0.1298
CKA2	1	0.380352	0.497429	0.7646	0.4447
CKA3	1	0.673223	0.496569	1.3557	0.1755
CKA4	1	0.852631	0.505474	1.6868	0.0919
CKA5	1	0.789081	0.507170	1.5559	0.1200
CAA6	1	-0.228420	0.160452	-1.4236	0.1548
CAA8	1	-0.00828874	0.118865	-0.0697	0.9444
CAA9	1	-0.122918	0.186580	-0.6588	0.5102
SEP	1	0.091407	0.051678	1.7688	0.0772
NMAR	1	0.042799	0.055640	0.7692	0.4419
HD_NO_HS	1	0.120332	0.047719	2.5217	0.0118
HD_COLL	1	0.047111	0.061377	0.7676	0.4429
BLACK	1	-0.00173591	0.045193	-0.0384	0.9694
H_WORK	1	-0.371318	0.075241	-4.9351	0.0001
HFTIME	1	-0.054655	0.065062	-0.8400	0.4011
LEFS	1	-0.976876	0.116832	-8.3614	0.0001
LEFS2	1	0.081715	0.036078	2.2649	0.0237

One-Adult Families without Children

MODEL:	MODEL01	SSE	1568.496	F RATIO	98.67
		DFE	3685	PROB>F	0.0001
DEP VAR:	L_ISO2	MSE	0.425644	R-SQUARE	0.2432

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.061959	0.093891	0.6599	0.5094
LFSIZE	1	-0.162700	0.100081	-1.6257	0.1041
CAA6	1	-0.548853	0.030579	-17.9487	0.0001
CAA8	1	0.144944	0.030308	4.7823	0.0001
CAA9	1	0.105057	0.033409	3.1446	0.0017
HD_NO_HS	1	-0.030198	0.039031	-0.7737	0.4392
HD_COLL	1	0.050839	0.024935	2.0389	0.0415
BLACK	1	0.282779	0.036672	7.7110	0.0001
FEMALE	1	0.140043	0.022101	6.3365	0.0001
H_WORK	1	-0.035076	0.042947	-0.8167	0.4141
HFTIME	1	-0.025691	0.033460	-0.7678	0.4426
LEFS	1	0.133662	0.077456	1.7256	0.0845
LEFS2	1	-0.132192	0.016284	-8.1178	0.0001

Table C17

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
All Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	2400.303	F RATIO	206.85
		DFE	8676	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.276660	R-SQUARE	0.3118

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.151766	0.084530	13.6255	0.0001
LFSIZE	1	-0.541112	0.144763	-3.7379	0.0002
CKA1	1	0.528873	0.298782	1.7701	0.0767
CKA2	1	0.516556	0.293367	1.7608	0.0783
CKA3	1	0.477278	0.290278	1.6442	0.1002
CKA4	1	0.467253	0.295154	1.5831	0.1134
CKA5	1	0.465919	0.293380	1.5881	0.1123
CAA6	1	-0.160752	0.048925	-3.2857	0.0010
CAA8	1	0.033680	0.033221	1.0138	0.3107
CAA9	1	-0.073694	0.049379	-1.4924	0.1356
HD_NO_HS	1	0.034322	0.017592	1.9510	0.0511
HD_COLL	1	0.099668	0.015246	6.5372	0.0001
SP_NO_HS	1	0.038370	0.018680	2.0540	0.0400
SP_COLL	1	0.011672	0.017522	0.6661	0.5054
BLACK	1	-0.042259	0.021827	-1.9361	0.0529
TWOERN	1	-0.109398	0.017273	-6.3336	0.0001
W_WORK	1	-0.032074	0.020233	-1.5853	0.1129
FTIME	1	0.010576	0.015035	0.7034	0.4818
LEFS	1	-0.674458	0.038311	-17.6048	0.0001
LEFS2	1	0.011517	0.010738	1.0725	0.2835

Two-Adult Families without Children

MODEL:	MODEL01	SSE	1526.686	F RATIO	128.75
		DFE	4640	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.329027	R-SQUARE	0.2798

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	0.600194	0.153839	3.9014	0.0001
LFSIZE	1	0.269953	0.178213	1.5148	0.1299
CAA6	1	-0.217408	0.028108	-7.7349	0.0001
CAA8	1	0.056970	0.031008	1.8373	0.0662
CAA9	1	-0.078711	0.025051	-3.1421	0.0017
HD_NO_HS	1	0.032685	0.028690	1.1393	0.2547
HD_COLL	1	0.084856	0.021582	3.9317	0.0001
SP_NO_HS	1	0.023488	0.030894	0.7603	0.4471
SP_COLL	1	0.049730	0.023586	2.1085	0.0350
BLACK	1	0.026036	0.035999	0.7233	0.4696
TWOERN	1	-0.078663	0.031698	-2.4816	0.0131
W_WORK	1	-0.060105	0.033795	-1.7785	0.0754
FTIME	1	0.054809	0.024791	2.2109	0.0271
LEFS	1	-0.607393	0.075858	-8.0070	0.0001
LEFS2	1	-0.00536344	0.016268	-0.3297	0.7416

Table C18

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
Three or More Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	993.072603	F RATIO	101.62
		DFE	4555	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.218018	R-SQUARE	0.2977

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.219729	0.111595	10.9299	0.0001
LFSIZE	1	-0.725825	0.169831	-4.2738	0.0001
CKA1	1	1.070545	0.354470	3.0201	0.0025
CKA2	1	0.958389	0.345713	2.7722	0.0056
CKA3	1	0.914705	0.341712	2.6768	0.0075
CKA4	1	0.977125	0.348562	2.8033	0.0051
CKA5	1	0.960277	0.344502	2.7874	0.0053
CAA6	1	-0.100339	0.070467	-1.4239	0.1545
CAA8	1	0.040187	0.039807	1.0095	0.3128
CAA9	1	-0.047490	0.058376	-0.8135	0.4160
HD_NO_HS	1	-0.011654	0.022837	-0.5103	0.6099
HD_COLL	1	0.071912	0.018450	3.8977	0.0001
SP_NO_HS	1	0.033517	0.024555	1.3650	0.1723
SP_COLL	1	-0.016881	0.020823	-0.8107	0.4176
BLACK	1	-0.060560	0.027415	-2.2090	0.0272
TWOERN	1	-0.097405	0.021603	-4.5088	0.0001
W_WORK	1	-0.028987	0.025090	-1.1553	0.2480
FTIME	1	0.003139708	0.018266	0.1719	0.8635
LEFS	1	-0.762085	0.062144	-12.2632	0.0001
LEFS2	1	0.046965	0.017027	2.7583	0.0058

Two-Adult Families without Children

MODEL:	MODEL01	SSE	538.685677	F RATIO	59.35
		DFE	2237	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.240807	R-SQUARE	0.2708

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.222140	0.191845	6.3705	0.0001
LFSIZE	1	0.352605	0.174387	2.0220	0.0433
CAA6	1	-0.178327	0.037720	-4.7277	0.0001
CAA8	1	-0.00601909	0.037846	-0.1590	0.8737
CAA9	1	-0.115422	0.029860	-3.8654	0.0001
HD_NO_HS	1	0.005182593	0.036496	0.1420	0.8871
HD_COLL	1	0.106588	0.026310	4.0513	0.0001
SP_NO_HS	1	-0.012309	0.039427	-0.3122	0.7549
SP_COLL	1	0.008660702	0.028548	0.3034	0.7616
BLACK	1	0.024172	0.045903	0.5266	0.5985
TWOERN	1	-0.092142	0.039347	-2.3418	0.0193
W_WORK	1	-0.019709	0.043356	-0.4546	0.6495
FTIME	1	0.031448	0.030951	1.0161	0.3097
LEFS	1	-1.259382	0.125172	-10.0612	0.0001
LEFS2	1	0.146614	0.026393	5.5551	0.0001

Table C19

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
All Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	1107.864	F RATIO	116.18
		DFE	2406	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.460459	R-SQUARE	0.4650

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.411268	0.156199	9.0350	0.0001
LFSIZE	1	-0.377628	0.167595	-2.2532	0.0243
CKA1	1	0.205225	0.480784	0.4269	0.6695
CKA2	1	0.180293	0.463446	0.3890	0.6973
CKA3	1	0.268715	0.462607	0.5809	0.5614
CKA4	1	0.384806	0.469376	0.8198	0.4124
CKA5	1	0.373219	0.468177	0.7972	0.4254
CAA6	1	-0.349666	0.112690	-3.1029	0.0019
CAA8	1	0.162734	0.091768	1.7733	0.0763
CAA9	1	-0.0084576	0.151785	-0.0557	0.9556
SEP	1	0.044210	0.036499	1.2113	0.2259
NMAR	1	0.005033122	0.041164	0.1223	0.9027
HD_NO_HS	1	0.192398	0.035378	5.4384	0.0001
HD_COLL	1	0.033293	0.047569	0.6999	0.4841
BLACK	1	-0.033434	0.033894	-0.9864	0.3240
H_WORK	1	-0.418096	0.053785	-7.7734	0.0001
HFTIME	1	-0.093778	0.046044	-2.0367	0.0418
LEFS	1	-0.568262	0.070731	-8.0341	0.0001
LEFS2	1	-0.045434	0.021866	-2.0779	0.0378

One-Adult Families without Children

MODEL:	MODEL01	SSE	12261.55	F RATIO	267.02
		DFE	11201	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	1.094683	R-SQUARE	0.2224

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.742051	0.059191	-12.5367	0.0001
LFSIZE	1	0.004931024	0.143992	0.0342	0.9727
CAA6	1	-0.926655	0.025663	-36.1085	0.0001
CAA8	1	0.243253	0.032498	7.4853	0.0001
CAA9	1	0.350893	0.036464	9.6229	0.0001
HD_NO_HS	1	-0.217404	0.032494	-6.6906	0.0001
HD_COLL	1	0.074329	0.024407	3.0453	0.0023
BLACK	1	0.227022	0.033597	6.7572	0.0001
FEMALE	1	0.032843	0.020381	1.6114	0.1071
H_WORK	1	0.163501	0.034349	4.7600	0.0001
HFTIME	1	0.129456	0.026244	4.9327	0.0001
LEFS	1	0.428713	0.046383	9.2430	0.0001
LEFS2	1	-0.199264	0.010400	-19.1606	0.0001

Table C20

Regression on the Logit of the Share of Total Expenditures Spend on Food at Home and Shelter
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	412.406295	F RATIO	63.21
		DFE	1106	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.372881	R-SQUARE	0.5071

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	1.611803	0.190223	8.4732	0.0001
LFSIZE	1	-0.580890	0.184364	-3.1508	0.0017
CKA1	1	0.667101	0.536860	1.2426	0.2143
CKA2	1	0.349608	0.497405	0.7029	0.4823
CKA3	1	0.643283	0.496637	1.2953	0.1955
CKA4	1	0.713452	0.505600	1.4111	0.1585
CKA5	1	0.714490	0.507300	1.4084	0.1593
CAA6	1	-0.251172	0.160484	-1.5651	0.1178
CAA8	1	0.028371	0.118747	0.2389	0.8112
CAA9	1	-0.145852	0.186622	-0.7815	0.4347
SEP	1	0.106231	0.051617	2.0581	0.0398
NMAR	1	0.025484	0.055660	0.4579	0.6471
HD_NO_HS	1	0.128854	0.047705	2.7010	0.0070
HD_COLL	1	0.034536	0.061399	0.5625	0.5739
BLACK	1	-0.052238	0.045202	-1.1556	0.2481
H_WORK	1	-0.337670	0.075265	-4.4864	0.0001
HFTIME	1	-0.054246	0.065084	-0.8335	0.4048
LEFS	1	-0.945974	0.116873	-8.0940	0.0001
LEFS2	1	0.068800	0.036089	1.9064	0.0569

One-Adult Families without Children

MODEL:	MODEL01	SSE	2359.708	F RATIO	89.47
		DFE	3686	PROB>F	0.0001
DEP VAR:	L_ISO3	MSE	0.640181	R-SQUARE	0.2256

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-0.773157	0.115124	-6.7159	0.0001
LFSIZE	1	-0.093900	0.122735	-0.7651	0.4443
CAA6	1	-0.781386	0.037499	-20.8378	0.0001
CAA8	1	0.187994	0.037170	5.0577	0.0001
CAA9	1	0.193190	0.040963	4.7163	0.0001
HD_NO_HS	1	-0.054465	0.047843	-1.1384	0.2550
HD_COLL	1	0.038394	0.030580	1.2555	0.2094
BLACK	1	0.310032	0.044968	6.8945	0.0001
FEMALE	1	-0.023875	0.027100	-0.8810	0.3784
H_WORK	1	-0.00548771	0.052661	-0.1042	0.9170
HFTIME	1	-0.00488821	0.041033	-0.1191	0.9052
LEFS	1	0.684292	0.094991	7.2038	0.0001
LEFS2	1	-0.241889	0.019971	-12.1122	0.0001

Table C21

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
All Observations

Two-Adult Families with Children

MODEL: MODEL01		SSE	2652.317	F RATIO	17.28
		DFE	4543	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.583825	R-SQUARE	0.0674

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.595033	0.155240	-10.2746	0.0001
LFSIZE	1	0.130190	0.278506	0.4675	0.6402
CKA1	1	-0.061064	0.584273	-0.1045	0.9168
CKA2	1	-0.133016	0.574491	-0.2315	0.8169
CKA3	1	-0.051310	0.568843	-0.0902	0.9281
CKA4	1	0.070470	0.583327	0.1208	0.9038
CKA5	1	0.359181	0.580422	0.6188	0.5361
CAA6	1	0.058813	0.087983	0.6685	0.5039
CAA8	1	-0.096136	0.068709	-1.3992	0.1618
CAA9	1	-0.281964	0.105545	-2.6715	0.0076
HD_NO_HS	1	-0.039872	0.032594	-1.2233	0.2213
HD_COLL	1	-0.040548	0.032370	-1.2526	0.2104
SP_NO_HS	1	0.070055	0.034191	2.0489	0.0405
SP_COLL	1	-0.023094	0.038944	-0.5930	0.5532
BLACK	1	-0.121675	0.039609	-3.0719	0.0021
TWOERN	1	-0.00418674	0.033484	-0.1250	0.9005
W_WORK	1	-0.024852	0.040363	-0.6157	0.5381
FTIME	1	0.009304154	0.030210	0.3080	0.7581
LEFS	1	0.546889	0.074941	7.2976	0.0001
LEFS2	1	-0.054481	0.024960	-2.1827	0.0291

Two-Adult Families without Children

MODEL: MODEL01		SSE	889.316288	F RATIO	12.69
		DFE	1873	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.474808	R-SQUARE	0.0867

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.759605	0.268114	-6.5629	0.0001
LFSIZE	1	0.171998	0.329210	0.5225	0.6014
CAA6	1	-0.069679	0.050261	-1.3863	0.1658
CAA8	1	0.068787	0.062640	1.0981	0.2723
CAA9	1	-0.109495	0.048722	-2.2473	0.0247
HD_NO_HS	1	-0.045533	0.048779	-0.9335	0.3507
HD_COLL	1	-0.086319	0.044076	-1.9584	0.0503
SP_NO_HS	1	0.138281	0.051314	2.6948	0.0071
SP_COLL	1	-0.024298	0.050353	-0.4825	0.6295
BLACK	1	0.005820787	0.060670	0.0959	0.9236
TWOERN	1	0.076182	0.055833	1.3645	0.1726
W_WORK	1	0.065423	0.060869	1.0748	0.2826
FTIME	1	0.030980	0.045682	0.6782	0.4978
LEFS	1	0.521062	0.135433	3.8474	0.0001
LEFS2	1	-0.050034	0.033801	-1.4803	0.1390

Table C22

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
Three or More Observations

Two-Adult Families with Children

MODEL: MODEL01		SSE	1087.545	F RATIO	18.87
		DFE	2224	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.489004	R-SQUARE	0.1388

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.514097	0.224028	-11.2222	0.0001
LFSIZE	1	0.490702	0.355933	1.3786	0.1681
CKA1	1	-0.349329	0.751578	-0.4648	0.6421
CKA2	1	-0.434733	0.735597	-0.5910	0.5546
CKA3	1	-0.364640	0.727358	-0.5013	0.6162
CKA4	1	-0.092392	0.750995	-0.1230	0.9021
CKA5	1	0.246413	0.736629	0.3345	0.7380
CAA6	1	0.107370	0.128162	0.8378	0.4023
CAA8	1	-0.107538	0.087164	-1.2337	0.2174
CAA9	1	-0.240807	0.132987	-1.8108	0.0703
HD_NO_HS	1	-0.056477	0.045063	-1.2533	0.2102
HD_COLL	1	-0.00555772	0.041651	-0.1334	0.8939
SP_NO_HS	1	0.048097	0.046848	1.0266	0.3047
SP_COLL	1	-0.014570	0.048429	-0.3009	0.7636
BLACK	1	-0.165245	0.053323	-3.0989	0.0020
TWOERN	1	-0.014574	0.043943	-0.3316	0.7402
W_WORK	1	0.048013	0.053022	0.9055	0.3653
FTIME	1	-0.0088339	0.039056	-0.2262	0.8211
LEFS	1	1.136153	0.136999	8.2931	0.0001
LEFS2	1	-0.190833	0.044297	-4.3080	0.0001

Two-Adult Families without Children

MODEL: MODEL01		SSE	298.760434	F RATIO	8.04
		DFE	797	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.374856	R-SQUARE	0.1237

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.956234	0.359160	-5.4467	0.0001
LFSIZE	1	0.180526	0.347296	0.5198	0.6033
CAA6	1	-0.012441	0.074762	-0.1664	0.8679
CAA8	1	0.065774	0.083696	0.7859	0.4322
CAA9	1	-0.142634	0.064234	-2.2205	0.0267
HD_NO_HS	1	-0.082527	0.067030	-1.2312	0.2186
HD_COLL	1	-0.023790	0.060796	-0.3913	0.6957
SP_NO_HS	1	0.075081	0.069040	1.0875	0.2771
SP_COLL	1	-0.027200	0.067815	-0.4011	0.6885
BLACK	1	0.0003239721	0.080710	0.0040	0.9968
TWOERN	1	0.025829	0.075129	0.3438	0.7311
W_WORK	1	-0.019302	0.086139	-0.2241	0.8227
FTIME	1	0.067917	0.061588	1.1028	0.2705
LEFS	1	0.775901	0.271717	2.8556	0.0044
LEFS2	1	-0.094333	0.067157	-1.4047	0.1605

Table C23

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
All Observations

One-Adult Families with Children

MODEL: MODEL01		SSE	2084.297	F RATIO	10.01
		DFE	1917	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	1.087270	R-SQUARE	0.0859

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.114435	0.261331	-8.0910	0.0001
LFSIZE	1	0.009366107	0.279070	0.0336	0.9732
CKA1	1	0.469364	0.800679	0.5862	0.5578
CKA2	1	0.507066	0.772018	0.6568	0.5114
CKA3	1	0.565256	0.771640	0.7325	0.4639
CKA4	1	0.517542	0.786479	0.6580	0.5106
CKA5	1	0.903908	0.782139	1.1557	0.2480
CAA6	1	0.116745	0.183323	0.6368	0.5243
CAA8	1	-0.152527	0.163395	-0.9335	0.3507
CAA9	1	-0.486425	0.276434	-1.7596	0.0786
SEP	1	-0.060567	0.062135	-0.9748	0.3298
NMAR	1	-0.065121	0.067833	-0.9600	0.3372
HD_NO_HS	1	0.088203	0.057908	1.5232	0.1279
HD_COLL	1	-0.087236	0.092360	-0.9445	0.3450
BLACK	1	-0.047668	0.056204	-0.8481	0.3965
H_WORK	1	-0.166348	0.090491	-1.8383	0.0662
HFTIME	1	0.129206	0.077330	1.6708	0.0949
LEFS	1	0.495082	0.122893	4.0286	0.0001
LEFS2	1	0.014312	0.042807	0.3343	0.7382

One-Adult Families without Children

MODEL: MODEL01		SSE	4607.739	F RATIO	26.43
		DFE	6596	PROB>F	0.0001
DEP VAR: L_ROTH1		MSE	0.698566	R-SQUARE	0.0459

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.401243	0.053522	-26.1806	0.0001
LFSIZE	1	0.343324	0.160921	2.1335	0.0329
CAA6	1	0.051389	0.026896	1.9106	0.0561
CAA8	1	-0.112896	0.035570	-3.1739	0.0015
CAA9	1	-0.147675	0.037979	-3.8883	0.0001
HD_NO_HS	1	0.035683	0.031095	1.1476	0.2512
HD_COLL	1	-0.017876	0.026895	-0.6647	0.5063
BLACK	1	-0.067738	0.032242	-2.1009	0.0357
FEMALE	1	0.060067	0.021144	2.8409	0.0045
H_WORK	1	0.058359	0.033742	1.7296	0.0838
HFTIME	1	0.048900	0.025773	1.8973	0.0578
LEFS	1	0.183926	0.043516	4.2266	0.0001
LEFS2	1	0.010787	0.011160	0.9666	0.3338

Table C24

Regression on the Log of the Expenditures Spend on Adult Clothing, Alcohol and Tobacco
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	911.121489	F RATIO	11.57
		DFE	863	PROB>F	0.0001
DEP VAR:	L_ROTH1	MSE	1.055761	R-SQUARE	0.1944

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-3.005767	0.350087	-8.5858	0.0001
LFSIZE	1	-0.190113	0.342064	-0.5558	0.5785
CKA1	1	0.826562	0.985505	0.8387	0.4019
CKA2	1	1.226785	0.914440	1.3416	0.1801
CKA3	1	1.165061	0.913154	1.2759	0.2023
CKA4	1	1.094142	0.940800	1.1630	0.2452
CKA5	1	1.337415	0.938857	1.4245	0.1547
CAA6	1	0.338156	0.281727	1.2003	0.2304
CAA8	1	0.150815	0.235234	0.6411	0.5216
CAA9	1	-0.581215	0.381243	-1.5245	0.1277
SEP	1	0.018646	0.098447	0.1894	0.8498
NMAR	1	-0.082508	0.100462	-0.8213	0.4117
HD_NO_HS	1	0.069100	0.085143	0.8116	0.4173
HD_COLL	1	-0.095559	0.133861	-0.7139	0.4755
BLACK	1	0.131315	0.083350	1.5755	0.1155
H_WORK	1	-0.264760	0.136945	-1.9333	0.0535
HFTIME	1	0.246156	0.117826	2.0891	0.0370
LEFS	1	1.135367	0.226749	5.0071	0.0001
LEFS2	1	-0.109304	0.078596	-1.3907	0.1647

One-Adult Families without Children

MODEL:	MODEL01	SSE	1177.418	F RATIO	22.97
		DFE	2025	PROB>F	0.0001
DEP VAR:	L_ROTH1	MSE	0.581441	R-SQUARE	0.1198

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.051238	0.126224	-16.2508	0.0001
LFSIZE	1	0.486769	0.165501	2.9412	0.0033
CAA6	1	0.162813	0.047134	3.4543	0.0006
CAA8	1	-0.103241	0.049117	-2.1019	0.0357
CAA9	1	-0.207593	0.051752	-4.0113	0.0001
HD_NO_HS	1	0.052705	0.055315	0.9528	0.3408
HD_COLL	1	-0.039108	0.041010	-0.9536	0.3404
BLACK	1	-0.101061	0.052487	-1.9254	0.0543
FEMALE	1	0.175922	0.034826	5.0515	0.0001
H_WORK	1	0.018902	0.061259	0.3086	0.7577
HFTIME	1	0.036606	0.048686	0.7519	0.4522
LEFS	1	0.611539	0.113487	5.3886	0.0001
LEFS2	1	-0.047011	0.027167	-1.7304	0.0837

Table C25

Regression on the Log of the Expenditures Spend on Adult Clothing
All Observations

Two-Adult Families with Children

MODEL: MODEL01		SSE	6532.564	F RATIO	36.65
		DFE	6806	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	0.959824	R-SQUARE	0.0928

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.164963	0.174294	-12.4213	0.0001
LFSIZE	1	0.583414	0.303924	1.9196	0.0549
CKA1	1	-0.939428	0.629651	-1.4920	0.1358
CKA2	1	-1.035158	0.618959	-1.6724	0.0945
CKA3	1	-0.973427	0.613123	-1.5877	0.1124
CKA4	1	-0.885410	0.624958	-1.4168	0.1566
CKA5	1	-0.155469	0.622451	-0.2498	0.8028
CAA6	1	-0.161377	0.097295	-1.6586	0.0972
CAA8	1	-0.073530	0.070683	-1.0403	0.2982
CAA9	1	-0.178179	0.108638	-1.6401	0.1010
HD_NO_HS	1	-0.077045	0.034432	-2.2376	0.0253
HD_COLL	1	0.086845	0.033648	2.5810	0.0099
SP_NO_HS	1	-0.081725	0.036445	-2.2424	0.0250
SP_COLL	1	0.091517	0.040379	2.2664	0.0235
BLACK	1	-0.093706	0.044929	-2.0857	0.0370
TWOERN	1	0.046812	0.035558	1.3165	0.1881
W_WORK	1	-0.00857619	0.042337	-0.2026	0.8395
FTIME	1	0.035014	0.031604	1.1079	0.2679
LEFS	1	0.278729	0.084821	3.2861	0.0010
LEFS2	1	0.066511	0.026671	2.4937	0.0127

Two-Adult Families without Children

MODEL: MODEL01		SSE	2605.149	F RATIO	17.31
		DFE	3170	PROB>F	0.0001
DEP VAR: L_ROTH2		MSE	0.821813	R-SQUARE	0.0710

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.882004	0.289767	-6.4949	0.0001
LFSIZE	1	0.133823	0.345449	0.3874	0.6985
CAA6	1	0.066545	0.051869	1.2829	0.1996
CAA8	1	0.048337	0.059966	0.8061	0.4203
CAA9	1	0.013511	0.048990	0.2758	0.7827
HD_NO_HS	1	-0.083572	0.049642	-1.6835	0.0924
HD_COLL	1	0.038776	0.044452	0.8723	0.3831
SP_NO_HS	1	-0.064071	0.053160	-1.2052	0.2282
SP_COLL	1	0.102860	0.050561	2.0344	0.0420
BLACK	1	-0.013147	0.067021	-0.1962	0.8445
TWOERN	1	-0.023895	0.058030	-0.4118	0.6805
W_WORK	1	0.161401	0.061792	2.6120	0.0090
FTIME	1	-0.026852	0.046449	-0.5781	0.5632
LEFS	1	0.258199	0.148695	1.7364	0.0826
LEFS2	1	0.028394	0.034995	0.8114	0.4172

Table C26

Regression on the Log of the Expenditures Spend on Adult Clothing
Three or More Observations

Two-Adult Families with Children

MODEL:	MODEL01	SSE	2648.057	F RATIO	57.17
		DFE	3574	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	0.740923	R-SQUARE	0.2331

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-3.999544	0.231356	-17.2874	0.0001
LFSIZE	1	1.132134	0.356463	3.1760	0.0015
CKA1	1	-1.278551	0.744337	-1.7177	0.0859
CKA2	1	-1.263848	0.727543	-1.7371	0.0824
CKA3	1	-1.288299	0.720190	-1.7888	0.0737
CKA4	1	-1.169350	0.735999	-1.5888	0.1122
CKA5	1	-0.107601	0.728926	-0.1476	0.8827
CAA6	1	-0.201951	0.136127	-1.4835	0.1380
CAA8	1	-0.195307	0.083480	-2.3396	0.0194
CAA9	1	-0.332613	0.127445	-2.6099	0.0091
HD_NO_HS	1	-0.079344	0.044411	-1.7866	0.0741
HD_COLL	1	0.121180	0.040039	3.0265	0.0025
SP_NO_HS	1	-0.084856	0.047375	-1.7912	0.0734
SP_COLL	1	0.085634	0.046860	1.8274	0.0677
BLACK	1	-0.117099	0.056302	-2.0798	0.0376
TWOERN	1	0.037942	0.044083	0.8607	0.3895
W_WORK	1	0.046980	0.051880	0.9056	0.3652
FTIME	1	-0.022381	0.038047	-0.5883	0.5564
LEFS	1	1.394349	0.140671	9.9121	0.0001
LEFS2	1	-0.153161	0.042597	-3.5956	0.0003

Two-Adult Families without Children

MODEL:	MODEL01	SSE	881.785860	F RATIO	30.42
		DFE	1493	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	0.590613	R-SQUARE	0.2220

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-3.849502	0.367294	-10.4807	0.0001
LFSIZE	1	0.099922	0.339906	0.2940	0.7688
CAA6	1	0.092121	0.069411	1.3272	0.1846
CAA8	1	0.023953	0.072096	0.3322	0.7398
CAA9	1	-0.015936	0.058524	-0.2723	0.7854
HD_NO_HS	1	-0.069918	0.062148	-1.1250	0.2608
HD_COLL	1	0.051030	0.055353	0.9219	0.3567
SP_NO_HS	1	-0.153937	0.067312	-2.2869	0.0223
SP_COLL	1	0.046048	0.061114	0.7535	0.4513
BLACK	1	-0.039332	0.083280	-0.4723	0.6368
TWOERN	1	-0.00670542	0.071228	-0.0941	0.9250
W_WORK	1	0.109217	0.080265	1.3607	0.1738
FTIME	1	0.009794938	0.058404	0.1677	0.8668
LEFS	1	1.858433	0.269369	6.8992	0.0001
LEFS2	1	-0.267676	0.062901	-4.2555	0.0001

Table C27

Regression on the Log of the Expenditures Spend on Adult Clothing
All Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	3795.292	F RATIO	10.41
		DFE	2202	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	1.723566	R-SQUARE	0.0785

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-3.039285	0.313039	-9.7090	0.0001
LFSIZE	1	-0.614638	0.333251	-1.8444	0.0653
CKA1	1	2.354607	0.959325	2.4544	0.0142
CKA2	1	2.359897	0.924494	2.5526	0.0108
CKA3	1	2.462626	0.923118	2.6677	0.0077
CKA4	1	2.569058	0.939079	2.7357	0.0063
CKA5	1	3.019280	0.937627	3.2201	0.0013
CAA6	1	0.375688	0.221530	1.6959	0.0900
CAA8	1	-0.287168	0.187135	-1.5346	0.1250
CAA9	1	0.007853009	0.318584	0.0246	0.9803
SEP	1	0.045691	0.072909	0.6267	0.5309
NMAR	1	0.057076	0.081388	0.7013	0.4832
HD_NO_HS	1	0.122367	0.069080	1.7714	0.0766
HD_COLL	1	0.090389	0.103810	0.8707	0.3840
BLACK	1	0.060117	0.067626	0.8890	0.3741
H_WORK	1	-0.156035	0.107160	-1.4561	0.1455
HFTIME	1	0.271797	0.092223	2.9472	0.0032
LEFS	1	0.145508	0.147057	0.9895	0.3225
LEFS2	1	0.153752	0.049132	3.1294	0.0018

One-Adult Families without Children

MODEL:	MODEL01	SSE	10466.44	F RATIO	23.51
		DFE	9410	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	1.112268	R-SQUARE	0.0291

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-1.492445	0.061997	-24.0729	0.0001
LFSIZE	1	0.183896	0.157947	1.1643	0.2443
CAA6	1	0.160804	0.028075	5.7277	0.0001
CAA8	1	-0.103105	0.036164	-2.8510	0.0044
CAA9	1	-0.039082	0.040126	-0.9740	0.3301
HD_NO_HS	1	-0.00498052	0.034647	-0.1437	0.8857
HD_COLL	1	0.077848	0.027562	2.8244	0.0047
BLACK	1	0.028914	0.036655	0.7888	0.4302
FEMALE	1	0.157210	0.022826	6.8875	0.0001
H_WORK	1	0.035426	0.037023	0.9568	0.3387
HFTIME	1	0.047847	0.028353	1.6875	0.0915
LEFS	1	-0.162400	0.049907	-3.2541	0.0011
LEFS2	1	0.090745	0.011881	7.6376	0.0001

Table C28

Regression on the Log of the Expenditures Spend on Adult Clothing
Three or More Observations

One-Adult Families with Children

MODEL:	MODEL01	SSE	1519.497	F RATIO	13.90
		DFE	1010	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	1.504452	R-SQUARE	0.1985

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-4.103589	0.396530	-10.3488	0.0001
LFSIZE	1	-0.068517	0.383036	-0.1789	0.8581
CKA1	1	1.789290	1.114948	1.6048	0.1088
CKA2	1	1.459737	1.033450	1.4125	0.1581
CKA3	1	1.625833	1.031339	1.5764	0.1152
CKA4	1	1.763991	1.056723	1.6693	0.0954
CKA5	1	2.200461	1.059798	2.0763	0.0381
CAA6	1	0.091078	0.326007	0.2794	0.7800
CAA8	1	-0.292116	0.252831	-1.1554	0.2482
CAA9	1	-0.044798	0.413309	-0.1084	0.9137
SEP	1	0.014844	0.106859	0.1389	0.8895
NMAR	1	0.152812	0.113821	1.3426	0.1797
HD_NO_HS	1	0.079363	0.096339	0.8238	0.4103
HD_COLL	1	0.184026	0.137882	1.3347	0.1823
BLACK	1	0.211429	0.093822	2.2535	0.0244
H_WORK	1	-0.176672	0.154269	-1.1452	0.2524
HFTIME	1	0.388400	0.134165	2.8949	0.0039
LEFS	1	0.823979	0.251539	3.2757	0.0011
LEFS2	1	0.042392	0.081998	0.5170	0.6053

One-Adult Families without Children

MODEL:	MODEL01	SSE	2854.181	F RATIO	37.77
		DFE	3077	PROB>F	0.0001
DEP VAR:	L_ROTH2	MSE	0.927586	R-SQUARE	0.1284

VARIABLE LABEL	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB>|T|
INTERCEPT	1	-2.467252	0.145455	-16.9623	0.0001
LFSIZE	1	0.635495	0.162177	3.9185	0.0001
CAA6	1	0.200432	0.048588	4.1251	0.0001
CAA8	1	-0.148581	0.049601	-2.9955	0.0028
CAA9	1	-0.019132	0.053558	-0.3572	0.7210
HD_NO_HS	1	0.041592	0.059784	0.6957	0.4867
HD_COLL	1	0.125947	0.041092	3.0650	0.0022
BLACK	1	-0.036256	0.058411	-0.6207	0.5348
FEMALE	1	0.465201	0.036467	12.7566	0.0001
H_WORK	1	0.129612	0.067271	1.9267	0.0541
HFTIME	1	-0.016786	0.052518	-0.3196	0.7493
LEFS	1	0.134187	0.124177	1.0806	0.2800
LEFS2	1	0.084974	0.027430	3.0978	0.0020

Appendix D

Bootstrapping Methods for Computation of Variances

The discussion of the various methodologies has concentrated upon the steps required to produce a point estimate of the cost of children. But , how robust are these estimates? Are these estimates statistically different? To answer these questions, it is necessary to produce estimates of the variance of the cost of children from the various methodologies. The problem in producing confidence bounds is that the cost estimates are a nonlinear function of the parameters of the budget share equations. One possible technique to use to estimate the variance would be the Delta Method which utilizes a first order approximation to the variance. However, the technique that was employed the bootstrapping technique as described by Efron and Tibshirani.[1]

To provide a rationale for the bootstrap method, consider the situation where that instead of one sample of observations, you had 500 equal sized samples. In each of the 500 samples, one could employ any of the above techniques to impute a cost of a child(ren). Using these 500 estimates of child cost, one could compute a variance. Of course, the problem is that we have only one sample. What the bootstrap method does is to provide a method for constructing the additional 499 samples from the original sample. Hence, the bootstrap method is often denoted as a "sample replication" variance estimation method.

The bootstrap method in our context can be describe in terms of the following seven step process where y_i represents the logit of the budget share of the commodity group (

[1] B. Efron and Tibshirnai, "Bootstrap Methods for Standard Errors, Confidence Intervals and other Measures of Statistical Accuracy," *Statistical Science,* Vol.1., No. 1, 1986, pp. 54-77.

Log[Θ / (1-Θ)]) or log of real expenditures and $\underline{z}_i$ represents the vector of explanatory variables.

Step 1 : Estimate the regression model ($y_i = \underline{\beta}'\underline{z}_i + \varepsilon_i$) using the original data to obtain $\underline{b}_1$.

Step 2 : Compute the predicted values of the dependent variable ($\underline{b}_1'\underline{z}_i$)

Step 3 : Compute a residual for each observation in sample ($e_i = y_i - \underline{b}_1'\underline{z}_i$) and store the residuals in an "urn"

Do Steps 4 to 5, S-1 times :

Step 4 : Construct a synthetic sample by computing for each observation in the original data :

a) With replacement, randomly draw a residual from the "urn" (ζ_i)

b) Construct a new dependent variable ($\psi_i = \underline{b}'\underline{z}_i + \zeta_i$)

Step 5 : In the current synthetic sample, regress ψ_i on $\underline{x}_i$ to obtain a new set of coefficients ($\underline{b}_s$)

Step 6 : Use the $\underline{b}_s$'s (s = 1,S) to impute a cost of a child (CC_s)

Step 7 : Use the S CC_k's to compute a mean and variance

For this report, I replicated the original sample 499 times. The source listing of the bootstrap program follows.

Program Listing for Bootstrapping Program

Note this listing is for the Two Parent Sample to Estimate the Engel Method

```
//F6WXFN1 JOB (AF,E409),BETSON,NOTIFY=F6WXFN,TIME=10,
//   MSGLEVEL=(2,0),MSGCLASS=Q
/*OPENBINS
//STEP1 EXEC VSFORT
//FORT.SYSIN DD *
      CALL SETUP(1)
      CALL BOOT(1)
      CALL CCOST(1)
      STOP
      END
      SUBROUTINE SETUP(DUMMY)
      REAL XIN(62),XOUT(21),COMP(10),ED(4),WORK(5)

      NT=21
      LX=NT-2

      NOUT=0

10    READ(10,END=100) XIN

      ITYPE=XIN(21)

      IF(ITYPE.EQ.1.OR.ITYPE.EQ.3) GO TO 10

      CEXP=XIN(52)
      IF(CEXP.LE..0.) GO TO 10

      XOUT(1)=XIN(21)

      DO 1 K=2,NT
1     XOUT(K)=0.0

      PROP=CEXP/XIN(60)
      IF(PROP.LE.0..OR.PROP.GT..99) GO TO 10

      XOUT(NT)=ALOG(PROP/(1.-PROP))

      XOUT(2)=ALOG(XIN(20))

      AD1=0.
      AD2=0.
      AD3=0.
      AD4=0.

      IAGE=XIN(36)
      DO 2 K=1,2
      IF(K.EQ.2.AND.ITYPE.EQ.1.OR.ITYPE.EQ.3) GO TO 2
      IF(K.EQ.2) IAGE=XIN(44)
      IF(IAGE.LT.25) AD1=AD1+1.
      IF(IAGE.GE.25.AND.IAGE.LT.36) AD2=AD2+1.
      IF(IAGE.GE.36.AND.IAGE.LT.46) AD3=AD3+1.
      IF(IAGE.GE.46) AD4=AD4+1.
2     CONTINUE

      ADULT=AD1+AD2+AD3+AD4

      RFS=ADULT+XIN(19)

      DO 4 K=1,5
      J=13+K
```

```
4      COMP(K)=XIN(J)/RFS

       COMP(6)=AD1/RFS
       COMP(7)=AD2/RFS
       COMP(8)=AD3/RFS
       COMP(9)=AD4/RFS

       DO 5 K=1,4
5      ED(K)=0.0

       IF(XIN(39).LT.3.) ED(1)=1.
       IF(XIN(39).GT.4.) ED(2)=1.

       IF(XIN(47).GT.0..AND.XIN(47).LT.3.)ED(3)=1.
       IF(XIN(47).GT.4.)ED(4)=1.


       DO 6 K=1,5
6      WORK(K)=0.0

       WORK(1)=XIN(42)/52.
       IF(XIN(41).GT.30.) WORK(2)=1.
       IF(XIN(23).GT.1.) WORK(3)=1.
       IF(XIN(50).GT.0.) WORK(4)=XIN(50)/52.
       IF(XIN(49).GT.30.) WORK(5)=1.

       BLACK=0.
       IF(XIN(38).EQ.2.) BLACK=1.

       FEMALE=0.
       IF(XIN(37).EQ.2.) FEMALE=1.

       FSIZE=XIN(20)
       ALNFS=ALOG(XIN(61)/(1000.*FSIZE))
       ALNFS2=ALNFS*ALNFS

       XOUT(NT-2)=ALNFS
       XOUT(NT-1)=ALNFS2

C-----------------------------------------------
C
C     FILL IN THE X'S FROM VAR3 TO VAR NT-3
C
C     VAR E/FS AND (E/FS)2 HAVE BEEN FILLED IN
C
C-----------------------------------------------

       XOUT(3)=COMP(1)
       XOUT(4)=COMP(2)
       XOUT(5)=COMP(3)
       XOUT(6)=COMP(4)
       XOUT(7)=COMP(5)
       XOUT(8)=COMP(6)
       XOUT(9)=COMP(8)
       XOUT(10)=COMP(9)
       XOUT(11)=ED(1)
       XOUT(12)=ED(2)
       XOUT(13)=ED(3)
       XOUT(14)=ED(4)
       XOUT(15)=BLACK
       XOUT(16)=WORK(3)
       XOUT(17)=WORK(4)
       XOUT(18)=WORK(5)
```

```
      WRITE(11) XOUT
      NOUT=NOUT+1

      GO TO 10

100   WRITE(6,101) NOUT
101   FORMAT('NUMBER OF OUTPUT RECORDS',I15)

      ENDFILE(11)
      REWIND(11)
      RETURN
      END
      SUBROUTINE BOOT(DUMMY)
      REAL ERR(2,9000),XIN(50),BETA(30)
      REAL*8 XPX(20,20),XPXIN(20,20),XPY(500,20)
      INTEGER INDX(20)

      NX=20
      NT=NX+1
      NOBS=0
      NTIMES=499
      WKID=4.

      X=RAN1(-1)

      DO 1 J=1,500
      DO 1 K=1,NX
1     XPY(J,K)=0.D0

      DO 2 K=1,NX
      DO 2 J=1,NX
2     XPX(K,J)=0.D0

10    READ(11,END=20) (XIN(JJ),JJ=1,NT)

      NOBS=NOBS+1

      XIN(1)=1.0

      Y=XIN(NT)

      DO 11 J=1,NX
      XPY(1,J)=XPY(1,J)+Y*XIN(J)
      DO 11 K=1,NX
11    XPX(J,K)=XPX(J,K)+XIN(K)*XIN(J)

      GO TO 10

20    CONTINUE

      REWIND(11)

      DO 25 K=1,NX
      DO 23 J=1,NX
23    XPXIN(K,J)=0.0D0
25    XPXIN(K,K)=1.0D0

      CALL LUDCMP(XPX,NX,NX,INDX,D)

      DO 30 J=1,NX
30    CALL LUBKSB(XPX,NX,NX,INDX,XPXIN(1,J))

      DO 40 J=1,NX
40    BETA(J)=0.0
```

```
      DO 50 J=1,NX
      DO 45 K=1,NX
45    BETA(J)=BETA(J)+XPXIN(J,K)*XPY(1,K)
50    CONTINUE

      WRITE(12,500) (BETA(KJ),KJ=1,NX)
500   FORMAT(4E20.10)

      DO 51 K=1,NX
51    XPY(1,K)=0.D0

      NOUT=0
      N1=0
      N2=0

60    READ(11,END=70) (XIN(KJ),KJ=1,NT)

         NOUT=NOUT+1

         ITYPE=1
         IF(XIN(1).EQ.WKID)ITYPE=2

         IF(ITYPE.EQ.1) THEN
            N1=N1+1
            IPL=N1
         ELSE
            N2=N2+1
            IPL=N2
         ENDIF

         XIN(1)=1.0

         PRED=0.0
         DO 61 K=1,NX
61       PRED=PRED+XIN(K)*BETA(K)

      ERR(ITYPE,IPL)=XIN(NT)-PRED

      GO TO 60

70    CONTINUE

      REWIND(11)


      NN=0
110   READ(11,END=130) (XIN(JJ),JJ=1,NT)
      NN=NN+1

      ITYPE=1
      IF(XIN(1).EQ.WKID)ITYPE=2
      XIN(1)=1.0

      PRED=0.0
      DO 111 K=1,NX
111   PRED=PRED+XIN(K)*BETA(K)

      NOBS=N1
      IF(ITYPE.EQ.2) NOBS=N2

      DO 125 NQ=1,NTIMES

      INUM=MIN(NOBS,1+INT(NOBS*RAN1(ISEED)))
```

```
            Y=PRED+ERR(ITYPE,INUM)

            DO 120 K=1,NX
120         XPY(NQ,K)=XPY(NQ,K)+Y*XIN(K)

125   CONTINUE

      GO TO 110

130   CONTINUE

       DO 200 NQ=1,NTIMES

         DO 135 K=1,NX
135      BETA(K)=0.0

         DO 150 K=1,NX
         DO 140 J=1,NX
140      BETA(K)=BETA(K)+XPXIN(K,J)*XPY(NQ,J)
150      CONTINUE

         WRITE(12,500) (BETA(KJ),KJ=1,NX)

200   CONTINUE

      ENDFILE(12)
      REWIND(12)

      RETURN

      END
      FUNCTION RAN1(IDUM)
      DIMENSION R(97)
      SAVE R,IFF,IX1,IX2,IX3
      PARAMETER (M1=259200,IA1=7141,IC1=54773,RM1=3.8580247E-6)
      PARAMETER (M2=134456,IA2=8121,IC2=28411,RM2=7.4373773E-6)
      PARAMETER (M3=243000,IA3=4561,IC3=51349)
      DATA IFF /0/
      IF (IDUM.LT.0.OR.IFF.EQ.0) THEN
        IFF=1
        IX1=MOD(IC1-IDUM,M1)
        IX1=MOD(IA1*IX1+IC1,M1)
        IX2=MOD(IX1,M2)
        IX1=MOD(IA1*IX1+IC1,M1)
        IX3=MOD(IX1,M3)
        DO 11 J=1,97
          IX1=MOD(IA1*IX1+IC1,M1)
          IX2=MOD(IA2*IX2+IC2,M2)
          R(J)=(FLOAT(IX1)+FLOAT(IX2)*RM2)*RM1
11      CONTINUE
        IDUM=1
      ENDIF
      IX1=MOD(IA1*IX1+IC1,M1)
      IX2=MOD(IA2*IX2+IC2,M2)
      IX3=MOD(IA3*IX3+IC3,M3)
      J=1+(97*IX3)/M3
      J=MIN0(97,MAX0(1,J))
      RAN1=R(J)
      R(J)=(FLOAT(IX1)+FLOAT(IX2)*RM2)*RM1
      RETURN
      END
      SUBROUTINE LUDCMP(A,N,NP,INDX,D)
      REAL*8 A(NP,NP),VV(100),TINY,SUM,AAMAX,DUM
```

```
      INTEGER INDX(N)
      PARAMETER (NMAX=100,TINY=1.0D-20)

      D=1.
      DO 12 I=1,N
        AAMAX=0.D0
        DO 11 J=1,N
          IF (DABS(A(I,J)).GT.AAMAX) AAMAX=DABS(A(I,J))
11      CONTINUE
C        IF (AAMAX.EQ.0.D0) PAUSE 'SINGULAR MATRIX'
         IF (AAMAX.EQ.0.D0) PRINT 100
100      FORMAT(' SINGULAR MATRIX')
        VV(I)=1.D0/AAMAX
12    CONTINUE
      DO 19 J=1,N
        IF (J.GT.1) THEN
          DO 14 I=1,J-1
            SUM=A(I,J)
            IF (I.GT.1)THEN
              DO 13 K=1,I-1
                SUM=SUM-A(I,K)*A(K,J)
13            CONTINUE
              A(I,J)=SUM
            ENDIF
14        CONTINUE
        ENDIF
        AAMAX=0.D0
        DO 16 I=J,N
          SUM=A(I,J)
          IF (J.GT.1)THEN
            DO 15 K=1,J-1
              SUM=SUM-A(I,K)*A(K,J)
15          CONTINUE
            A(I,J)=SUM
          ENDIF
          DUM=VV(I)*DABS(SUM)
          IF (DUM.GE.AAMAX) THEN
            IMAX=I
            AAMAX=DUM
          ENDIF
16      CONTINUE
        IF (J.NE.IMAX)THEN
          DO 17 K=1,N
            DUM=A(IMAX,K)
            A(IMAX,K)=A(J,K)
            A(J,K)=DUM
17        CONTINUE
          D=-D
          VV(IMAX)=VV(J)
        ENDIF
        INDX(J)=IMAX
        IF(J.NE.N)THEN
          IF(A(J,J).EQ.0.)A(J,J)=TINY
          DUM=1./A(J,J)
          DO 18 I=J+1,N
            A(I,J)=A(I,J)*DUM
18        CONTINUE
        ENDIF
19    CONTINUE
      IF(A(N,N).EQ.0.D0)A(N,N)=TINY
      RETURN
      END
      SUBROUTINE LUBKSB(A,N,NP,INDX,B)
      REAL*8 A(NP,NP),B(N),SUM
```

```
      INTEGER INDX(N)
      II=0
      DO 12 I=1,N
        LL=INDX(I)
        SUM=B(LL)
        B(LL)=B(I)
        IF (II.NE.0)THEN
          DO 11 J=II,I-1
            SUM=SUM-A(I,J)*B(J)
11        CONTINUE
        ELSE IF (SUM.NE.0.D0) THEN
          II=I
        ENDIF
        B(I)=SUM
12    CONTINUE
      DO 14 I=N,1,-1
        SUM=B(I)
        IF(I.LT.N)THEN
          DO 13 J=I+1,N
            SUM=SUM-A(I,J)*B(J)
13        CONTINUE
        ENDIF
        B(I)=SUM/A(I,I)
14    CONTINUE
      RETURN
      END
      SUBROUTINE CCOST(DUMMY)
      REAL INC(10),BETA(20),KID(3,3,18),DUM(9)
      REAL*8 COST(3,3,3,10),CT

      DATA (KID(1,1,J),J=1,18)/2*0.,0.,1.,0.,0.,0.,11*0./
      DATA (KID(1,2,J),J=1,18)/2*0.,0.,0.,1.,0.,0.,11*0./
      DATA (KID(1,3,J),J=1,18)/2*0.,0.,0.,0.,0.,1.,11*0./

      DATA (KID(2,1,J),J=1,18)/2*0.,0.,1.,1.,0.,0.,11*0./
      DATA (KID(2,2,J),J=1,18)/2*0.,0.,0.,2.,0.,0.,11*0./
      DATA (KID(2,3,J),J=1,18)/2*0.,0.,0.,1.,0.,1.,11*0./

      DATA (KID(3,1,J),J=1,18)/2*0.,0.,1.,2.,0.,0.,11*0./
      DATA (KID(3,2,J),J=1,18)/2*0.,0.,1.,1.,1.,0.,11*0./
      DATA (KID(3,3,J),J=1,18)/2*0.,0.,0.,1.,1.,1.,11*0./

      DATA INC/5.,10.,15.,20.,25.,30.,35.,40.,45.,50./


c*****************
c
c   number of adults   ADULT
C   NUMBER OF VARIBLES NT
c
c*******************

      ADULT=2
      NT=20
      NT1=NT-1

      DO 1 K=1,3
      DO 1 J=1,3
      DO 1 M=1,3
      DO 1 I=1,10
1     COST(K,J,M,I)=0.D0

      ALNFS=ALOG(ADULT)
      IADULT=ADULT
```

```
      N=0
10    READ(12,11,END=200) BETA
11    FORMAT(4E20.10)
      N=N+1

      DO 100 NKID=1,3

      RFSIZE=FLOAT(NKID)+ADULT
      ALFS=ALOG(RFSIZE)

      DO 90 NTYPE=1,3

      RSHR=BETA(1)+ALFS*BETA(2)

      DO 24 J=8,18
24    RSHR=RSHR+KID(NKID,NTYPE,J)*BETA(J)

      DO 25 J=3,7
25    RSHR=RSHR+KID(NKID,NTYPE,J)*BETA(J)/RFSIZE

      CON=BETA(1)


      DO 50 I=1,10

      RY=INC(I)
      IRY=RY

      Z=ALOG(RY/RFSIZE)
      RSHARE=RSHR+Z*BETA(NT1)+BETA(NT)*Z*Z

      A = BETA(NT)
      B = BETA(NT1) - 2.0*BETA(NT)*ALNFS
      C = CON + ALNFS*BETA(2)
     &    - RSHARE - BETA(NT1)*ALNFS + BETA(NT)*ALNFS**2

      SR=B**2 - 4.0*A*C

      IF(SR.GT.0.) THEN

          SR=SQRT(SR)
          Z=1.0
          IF(B.LT.0.0)Z=-1.0

          Q=-(B+Z*SR)/2.

          XFAM1=Q/A
          XFAM2=C/Q

          IF(XFAM1.LT.160.0) THEN
              COST1=1000.*(RY-EXP(XFAM1))
          ELSE
              COST1=-1.
          ENDIF

          IF(XFAM2.LT.160.0) THEN
              COST2=1000.*(RY-EXP(XFAM2))
          ELSE
              COST2=-1.
          ENDIF

      ELSE
```

```
         COST1=-1.
         COST2=-1.

      ENDIF


      Z=COST1*COST2

      IF(Z.GT.0..AND.COST1.LT.0.) THEN
         CKID=-1.

      ELSE IF(Z.GT.0..AND.COST1.GT.0.) THEN
         CKID=AMIN1(COST1,COST2)

      ELSE IF(Z.LT.0..AND.COST1.GT.0.) THEN
         CKID=COST1

      ELSE IF(Z.LT.0..AND.COST2.GT.0.) THEN
           CKID=COST2

      ELSE
          CKID=0.0

      ENDIF

      IF(CKID.GT.0.) THEN
         COST(1,NKID,NTYPE,I)=COST(1,NKID,NTYPE,I)+1.D0
         COST(2,NKID,NTYPE,I)=COST(2,NKID,NTYPE,I)+CKID
         COST(3,NKID,NTYPE,I)=COST(3,NKID,NTYPE,I)+CKID*CKID
      ENDIF

50    CONTINUE
90    CONTINUE
100   CONTINUE

      GO TO 10

200   CONTINUE


      DO 210 J=1,3
      DO 210 K=1,3
      DO 210 I=1,10
      CT=COST(1,J,K,I)
      N=CT

      IF(CT.GT.0.D0) THEN

        COST(2,J,K,I)=COST(2,J,K,I)/CT
        COST(3,J,K,I)=COST(3,J,K,I)/CT - COST(2,J,K,I)**2
        COST(3,J,K,I)=DSQRT(COST(3,J,K,I))

      ENDIF
210   CONTINUE


      DO 300 J=1,3
      DO 250 I=1,10
      IR=INC(I)
      L=0
      DO 240 K=1,3
      DO 240 M=1,3
      L=L+1
240   DUM(L)=COST(M,J,K,I)
```

```
250    WRITE(13,400) IR,DUM
400    FORMAT(I2,3(2X,3F8.0))
       WRITE(13,401)
401    FORMAT(/)
300    CONTINUE

       RETURN
       END
//GO.FT06F001 DD SYSOUT=T
//GO.FT10F001 DD UNIT=DISK,DISP=(OLD,KEEP),DSN=AUDMB0.CEX8086.DATA,
//  DCB=(RECFM=VBS,LRECL=252,BLKSIZE=19069,DSORG=PS),VOL=SER=USER08
//GO.FT11F001 DD UNIT=DISK,DISP=(NEW,DELETE),DSN=AUDMB0.XDATA.DATA,
//  DCB=(RECFM=VBS,LRECL=88,BLKSIZE=19069,DSORG=PS),VOL=SER=USER08,
//  SPACE=(TRK,(50,15),RLSE)
//GO.FT12F001 DD UNIT=DISK,DISP=(NEW,CATLG),DSN=AUDMB0.BTAFHT.DATA,
//  DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120,DSORG=PS),VOL=SER=USER08,
//  SPACE=(TRK,(1,15),RLSE)
//GO.FT13F001 DD UNIT=DISK,DISP=(NEW,CATLG),DSN=F6WXFN.CTAFHT.DATA,
//  DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120,DSORG=PS),VOL=SER=USER08,
//  SPACE=(TRK,(1,15),RLSE)
//
```

Appendix E

Estimates of the Mean and Standard Deviation of the Cost of Children by Level of Total Expenditure and Family Type (Expressed in Dollar Amounts)

Table E1

Cost of Children in Two-Adult Families
Food at Home -- All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1285	91	1656	69	1961	85
10	2661	157	3316	121	3856	152
15	4057	218	4975	170	5736	215
20	5466	277	6635	217	7607	276
25	6882	334	8296	262	9472	335
30	8304	390	9956	307	11333	393
35	9732	444	11616	350	13190	450
40	11163	498	13277	393	15044	506
45	12598	551	14938	435	16895	561
50	14035	603	16599	477	18744	616
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2196	73	2420	70	2607	66
10	4469	124	4860	122	5189	117
15	6758	172	7304	171	7765	164
20	9057	218	9751	217	10338	209
25	11362	262	12200	262	12909	253
30	13672	305	14649	306	15478	296
35	15986	348	17100	349	18045	338
40	18304	389	19552	391	20612	379
45	20624	431	22004	433	23177	420
50	22946	471	24457	474	25742	460
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2708	66	2875	68	3141	58
10	5494	113	5782	117	6248	101
15	8295	156	8696	163	9346	141
20	11105	197	11614	207	12441	179
25	13922	237	14535	249	15532	217
30	16743	276	17458	290	18622	253
35	19568	314	20382	330	21709	289
40	22397	352	23308	370	24795	324
45	25227	389	26235	409	27880	358
50	28061	426	29162	448	30963	393

Table E2

Cost of Children in Two-Adult Families
Food at Home -- Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1278	111	1647	79	1994	93
10	2611	202	3297	146	3946	175
15	3960	288	4948	211	5887	256
20	5317	372	6600	274	7821	335
25	6681	455	8252	335	9750	414
30	8050	535	9905	396	11675	491
35	9423	615	11557	455	13596	568
40	10799	694	13210	514	15516	645
45	12178	772	14863	573	17433	721
50	13559	850	16516	631	19348	797
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2234	85	2448	79	2655	72
10	4508	155	4905	146	5289	135
15	6792	221	7363	210	7918	196
20	9082	285	9822	272	10544	256
25	11376	348	12283	333	13167	314
30	13674	409	14744	393	15788	372
35	15975	470	17206	452	18407	430
40	18278	530	19668	510	21026	486
45	20583	590	22131	568	23643	543
50	22890	649	24593	625	26260	599
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2784	75	2959	71	3219	60
10	5601	137	5925	131	6409	112
15	8426	195	8892	189	9590	161
20	11256	252	11859	246	12766	210
25	14090	308	14828	301	15939	258
30	16927	362	17797	355	19109	305
35	19766	416	20767	409	22277	352
40	22607	470	23737	462	25443	399
45	25450	523	26707	515	28608	445
50	28294	575	29677	567	31771	492

Table E3

Cost of Children in One-Adult Families
Food at Home -- All Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	3075	188	3191	161	3276	168
10	5971	316	6169	271	6316	283
15	8837	435	9112	374	9316	391
20	11685	549	12033	473	12291	495
25	14521	659	14939	569	15251	595
30	17347	766	17834	663	18197	693
35	20166	871	20721	754	21134	790
40	22979	974	23600	845	24062	885
45	25787	1076	26473	933	26984	978
50	28591	1176	29340	1021	29900	1070
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	4037	127	4086	120	4123	120
10	7839	198	7923	185	7986	183
15	11606	267	11722	249	11810	247
20	15351	335	15499	312	15611	310
25	19082	400	19260	373	19395	370
30	22802	464	23010	433	23167	430
35	26513	527	26750	493	26929	489
40	30217	589	30482	551	30682	547
45	33915	650	34207	608	34429	604
50	37607	710	37927	665	38170	660
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	4455	113	4500	109	4544	104
10	8666	168	8753	170	8829	162
15	12840	221	12960	222	13067	210
20	16994	273	17147	275	17283	259
25	21134	325	21318	326	21482	308
30	25263	375	25477	377	25669	355
35	29383	425	29627	427	29846	403
40	33496	474	33770	476	34015	449
45	37603	523	37905	525	38177	496
50	41704	571	42036	573	42334	541

Table E4

Cost of Children in One-Adult Families
Food at Home -- Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	3086	240	3325	205	3431	213
10	5993	394	6404	326	6588	338
15	8869	539	9442	443	9699	460
20	11728	678	12455	558	12783	579
25	14574	812	15452	669	15847	696
30	17411	944	18435	778	18896	810
35	20241	1072	21407	885	21934	923
40	23065	1199	24372	991	24963	1034
45	25883	1323	27329	1095	27983	1144
50	28697	1446	30280	1199	30996	1253
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	4033	177	4129	165	4174	162
10	7839	265	8015	250	8095	247
15	11609	348	11853	325	11966	318
20	15358	429	15668	400	15812	391
25	19093	509	19467	473	19641	462
30	22817	587	23254	546	23456	533
35	26533	664	27031	617	27262	603
40	30241	739	30800	688	31059	672
45	33944	814	34562	758	34849	740
50	37641	887	38318	827	38632	808
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	4416	134	4464	135	4533	126
10	8651	237	8739	237	8871	227
15	12821	300	12947	301	13134	286
20	16972	362	17131	362	17370	340
25	21110	424	21301	423	21590	395
30	25237	486	25460	483	25798	451
35	29356	546	29611	543	29997	506
40	33468	606	33754	602	34187	560
45	37574	665	37890	660	38370	614
50	41675	724	42021	717	42548	668

Table E5

Cost of Children in Two-Adult Families
Total Food -- All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	676	111	1436	72	1794	90
10	1413	204	2886	139	3582	176
15	2169	296	4340	204	5368	259
20	2938	388	5797	269	7152	342
25	3715	480	7255	333	8935	424
30	4499	573	8715	397	10718	506
35	5289	666	10177	460	12500	587
40	6083	760	11639	523	14281	668
45	6881	854	13102	586	16062	749
50	7683	949	14566	649	17842	829
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1731	84	2177	72	2394	68
10	3510	153	4372	137	4795	132
15	5305	221	6574	202	7197	195
20	7109	289	8780	265	9600	256
25	8920	358	10988	328	12005	318
30	10737	426	13199	391	14410	378
35	12558	495	15411	454	16816	439
40	14383	564	17625	516	19222	499
45	16211	634	19841	579	21629	559
50	18041	704	22057	641	24036	618
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2338	73	2536	72	2949	56
10	4719	134	5101	134	5901	108
15	7113	193	7675	196	8854	159
20	9515	253	10255	256	11808	209
25	11924	312	12839	317	14762	259
30	14337	372	15426	377	17716	309
35	16754	432	18016	437	20671	358
40	19175	493	20608	497	23626	407
45	21598	554	23202	557	26581	456
50	24023	615	25798	617	29536	505

Table E6

Cost of Children in Two-Adult Families
Total Food -- Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	872	127	1518	82	1889	95
10	1672	254	3025	169	3795	199
15	2439	384	4526	258	5710	307
20	3182	517	6023	349	7630	419
25	3907	655	7518	441	9555	532
30	4616	796	9010	535	11484	648
35	5312	941	10501	629	13415	766
40	5996	1089	11989	724	15350	886
45	6670	1241	13476	820	17286	1007
50	7333	1397	14961	917	19225	1129
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1929	95	2291	82	2508	73
10	3808	188	4566	168	5018	153
15	5663	282	6833	256	7528	234
20	7503	378	9095	346	10038	318
25	9330	477	11352	438	12549	403
30	11146	577	13606	530	15060	490
35	12953	680	15857	624	17571	577
40	14752	784	18106	719	20082	665
45	16543	891	20352	814	22594	755
50	18328	999	22596	910	25106	845
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2533	81	2790	71	3126	56
10	5026	163	5564	146	6261	115
15	7500	245	8330	223	9400	177
20	9961	330	11090	302	12543	240
25	12411	416	13846	382	15688	304
30	14854	504	16598	464	18834	369
35	17288	593	19348	546	21983	435
40	19717	684	22095	630	25132	501
45	22139	777	24839	714	28283	569
50	24557	872	27581	800	31436	637

Table E7

Cost of Children in One-Adult Families
Total Food -- All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	3075	188	3191	161	3276	168
10	5971	316	6169	271	6316	283
15	8837	435	9112	374	9316	391
20	11685	549	12033	473	12291	495
25	14521	659	14939	569	15251	595
30	17347	766	17834	663	18197	693
35	20166	871	20721	754	21134	790
40	22979	974	23600	845	24062	885
45	25787	1076	26473	933	26984	978
50	28591	1176	29340	1021	29900	1070
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	4037	127	4086	120	4123	120
10	7839	198	7923	185	7986	183
15	11606	267	11722	249	11810	247
20	15351	335	15499	312	15611	310
25	19082	400	19260	373	19395	370
30	22802	464	23010	433	23167	430
35	26513	527	26750	493	26929	489
40	30217	589	30482	551	30682	547
45	33915	650	34207	608	34429	604
50	37607	710	37927	665	38170	660
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	4455	113	4500	109	4544	104
10	8666	168	8753	170	8829	162
15	12840	221	12960	222	13067	210
20	16994	273	17147	275	17283	259
25	21134	325	21318	326	21482	308
30	25263	375	25477	377	25669	355
35	29383	425	29627	427	29846	403
40	33496	474	33770	476	34015	449
45	37603	523	37905	525	38177	496
50	41704	571	42036	573	42334	541

Table E8

Cost of Children in One-Adult Families
Total Food -- Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	2026	252	2471	189	2703	180
10	3997	534	4937	397	5425	375
15	5940	833	7401	613	8155	577
20	7864	1144	9864	836	10891	784
25	9773	1465	12325	1065	13632	995
30	11668	1796	14784	1298	16376	1209
35	13551	2135	17243	1535	19124	1426
40	15424	2482	19701	1775	21875	1646
45	17288	2836	22158	2019	24628	1869
50	19143	3196	24614	2265	27384	2093
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	3097	142	3286	125	3391	117
10	6168	299	6566	262	6785	243
15	9225	465	9843	405	10182	374
20	12274	638	13118	553	13580	509
25	15315	816	16391	704	16979	646
30	18351	998	19662	858	20379	785
35	21381	1184	22933	1015	23779	927
40	24406	1374	26202	1174	27181	1070
45	27426	1567	29470	1336	30582	1215
50	30443	1764	32737	1499	33985	1361
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3600	110	3654	106	3809	93
10	7183	233	7296	224	7623	194
15	10758	361	10933	346	11439	297
20	14328	494	14567	473	15255	404
25	17893	631	18197	603	19073	512
30	21454	772	21825	735	22892	622
35	25012	915	25451	870	26711	733
40	28567	1061	29075	1007	30531	846
45	32119	1209	32697	1146	34352	960
50	35669	1359	36318	1287	38173	1075

Table E9

Cost of Children in Two-Adult Families
Expenditures on Food at Home, Shelter, Clothing and Health Care
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	744	124	859	106	980	126
10	1514	233	1739	197	1978	240
15	2292	339	2628	285	2983	352
20	3076	446	3520	373	3992	463
25	3862	552	4416	461	5003	575
30	4652	659	5314	549	6016	686
35	5444	767	6214	637	7031	797
40	6237	875	7116	726	8047	908
45	7033	984	8019	815	9064	1019
50	7830	1093	8924	904	10083	1130
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1429	116	1500	120	1578	113
10	2889	206	3030	217	3184	206
15	4359	294	4570	311	4798	296
20	5836	381	6115	405	6417	386
25	7317	469	7664	498	8040	475
30	8802	558	9217	593	9666	565
35	10289	648	10772	688	11294	656
40	11779	740	12329	783	12924	747
45	13271	832	13889	880	14556	839
50	14764	926	15450	977	16190	932
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	1923	115	2014	113	2115	103
10	3881	203	4059	202	4258	183
15	5848	287	6113	288	6409	260
20	7822	371	8174	373	8565	336
25	9801	456	10238	458	10725	413
30	11784	542	12306	545	12888	489
35	13769	629	14376	632	15053	567
40	15756	718	16449	720	17221	645
45	17746	808	18523	809	19389	723
50	19738	900	20599	899	21560	803

Table E10

Cost of Children in Two-Adult Families
Expenditures on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	926	127	1061	94	1339	114
10	1656	282	1965	206	2597	253
15	2269	458	2776	332	3810	406
20	2788	654	3515	470	4987	572
25	3225	870	4190	621	6133	748
30	3596	1094	4807	784	7251	933
35	3906	1325	5371	962	8344	1128
40	4174	1551	5883	1155	9413	1332
45	4369	1810	6346	1363	10459	1544
50	4555	2045	6762	1587	11484	1765
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1696	100	1775	97	1943	90
10	3177	216	3360	211	3746	195
15	4532	344	4833	338	5468	310
20	5784	487	6217	477	7126	433
25	6947	644	7522	630	8728	566
30	8028	819	8757	797	10280	707
35	9033	1013	9926	980	11786	857
40	9965	1227	11032	1180	13249	1017
45	10826	1463	12077	1398	14670	1188
50	11620	1723	13064	1634	16050	1369
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2222	90	2340	89	2496	75
10	4237	191	4510	192	4868	161
15	6131	302	6581	305	7169	254
20	7926	425	8573	429	9414	354
25	9635	560	10496	564	11611	461
30	11267	709	12357	711	13764	574
35	12825	874	14160	871	15877	694
40	14314	1057	15908	1044	17953	822
45	15736	1259	17604	1231	19993	958
50	17093	1482	19249	1434	21999	1101

Table E11

Cost of Children in One-Adult Families
Expenditures on Food at Home, Shelter, Clothing and Health Care
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	3458	384	3449	363	3468	381
10	6960	695	6905	666	7034	688
15	9835	815	9738	754	9949	830
20	12714	939	12603	871	12846	957
25	15594	1069	15467	992	15745	1090
30	18467	1198	18325	1112	18637	1223
35	21332	1325	21175	1230	21520	1354
40	24190	1450	24017	1346	24396	1483
45	27041	1573	26854	1461	27265	1610
50	29886	1694	29684	1573	30127	1734
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	–	–	–	–	–	–
10	8596	316	8543	312	8552	292
15	12814	546	12784	546	12868	538
20	16676	678	16622	676	16747	678
25	20369	721	20305	717	20444	718
30	24079	781	24009	779	24161	778
35	27794	849	27718	847	27883	845
40	31507	919	31424	918	31603	915
45	35215	989	35126	988	35320	986
50	38919	1060	38823	1059	39031	1056
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	–	–	–	–	–	–
10	–	–	–	–	–	–
15	13661	294	13770	404	13729	276
20	18241	465	18390	386	18404	394
25	22673	612	22960	541	23017	543
30	26904	714	27353	669	27404	655
35	31024	767	31557	744	31615	733
40	35119	799	35700	781	35756	761
45	39224	844	39841	818	39900	796
50	43332	893	43987	863	44050	839

Table E12

Cost of Children in One-Adult Families
Expenditures on Food at Home, Shelter, Clothing and Health Care
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	2585	336	2842	273	2970	299
10	5156	619	5633	502	5872	551
15	7724	890	8412	722	8757	793
20	10289	1152	11183	936	11631	1029
25	12854	1410	13948	1147	14498	1261
30	15417	1664	16710	1355	17359	1490
35	17980	1915	19468	1560	20216	1716
40	20542	2163	22223	1764	23070	1941
45	23104	2409	24977	1966	25920	2164
50	25665	2653	27728	2166	28767	2386
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	3377	217	3499	200	3563	204
10	6745	398	6970	365	7088	372
15	10111	570	10433	522	10603	533
20	13475	738	13893	676	14114	689
25	16839	902	17350	826	17620	841
30	20202	1064	20805	974	21123	992
35	23564	1223	24258	1121	24625	1141
40	26926	1381	27710	1265	28124	1288
45	30288	1538	31161	1409	31621	1434
50	33649	1693	34611	1551	35118	1579
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3785	184	3891	180	3993	171
10	7561	336	7755	326	7943	307
15	11335	481	11613	466	11883	437
20	15108	622	15468	601	15818	563
25	18880	760	19321	733	19749	686
30	22652	896	23171	864	23677	808
35	26423	1030	27020	992	27602	927
40	30194	1162	30868	1119	31526	1046
45	33965	1293	34715	1245	35447	1164
50	37735	1423	38561	1370	39367	1280

Table E13

Cost of Children in Two-Adult Families
Expenditures on Food at Home, Shelter, and Clothing
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	711	126	784	104	882	130
10	1383	246	1532	202	1734	258
15	2039	368	2265	300	2573	388
20	2684	492	2988	401	3402	519
25	3320	619	3703	503	4225	652
30	3949	748	4411	608	5041	787
35	4571	880	5114	714	5853	923
40	5188	1014	5812	823	6661	1061
45	5801	1149	6505	934	7465	1201
50	6409	1287	7194	1046	8265	1342
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1408	112	1453	114	1515	112
10	2770	210	2862	215	2991	213
15	4112	309	4253	318	4448	315
20	5441	410	5630	422	5894	418
25	6759	514	6998	529	7331	524
30	8069	621	8357	639	8759	632
35	9371	731	9709	752	10182	742
40	10666	844	11055	867	11598	855
45	11956	960	12396	985	13010	971
50	13241	1079	13732	1106	14417	1088
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	1934	105	2023	108	2095	99
10	3822	195	4006	203	4153	186
15	5691	284	5971	297	6195	272
20	7546	375	7924	393	8225	359
25	9391	469	9867	491	10247	448
30	11227	566	11803	592	12262	539
35	13056	666	13731	695	14271	632
40	14878	769	15655	801	16274	727
45	16694	875	17572	909	18273	825
50	18505	985	19486	1019	20268	925

Table E14

Cost of Children in Two-Adult Families
Expenditures on Food at Home, Shelter, and Clothing
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	928	120	1039	92	1286	114
10	1594	279	1861	211	2447	262
15	2086	470	2541	349	3529	434
20	2426	694	3098	509	4543	627
25	2641	928	3541	691	5496	839
30	2738	1182	3874	898	6390	1071
35	2804	1387	4098	1135	7229	1323
40	2888	1532	4241	1363	8011	1596
45	2908	1695	4283	1621	8738	1890
50	2970	1822	4276	1858	9410	2209
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1724	93	1788	93	1935	87
10	3177	211	3332	212	3682	197
15	4450	348	4714	349	5309	323
20	5567	508	5958	507	6834	464
25	6539	693	7073	688	8264	620
30	7370	910	8064	895	9605	794
35	8061	1164	8933	1131	10859	987
40	8610	1461	9679	1402	12027	1200
45	9016	1810	10300	1712	13109	1438
50	9272	2219	10794	2069	14103	1702
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2277	82	2394	80	2524	70
10	4306	184	4588	181	4897	156
15	6173	301	6652	297	7175	253
20	7901	436	8607	429	9372	361
25	9498	590	10460	578	11497	479
30	10971	769	12217	746	13553	609
35	12320	975	13881	934	15544	751
40	13547	1214	15451	1147	17471	907
45	14649	1490	16929	1387	19333	1077
50	15623	1811	18312	1659	21133	1264

Table E15

Cost of Children in One-Adult Families
Expenditures on Food at Home, Shelter, and Clothing
All Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	3528	387	3430	377	3464	392
10	6970	699	6658	649	6881	718
15	9849	803	9468	744	9732	818
20	12748	934	12303	867	12611	953
25	15644	1067	15134	991	15487	1090
30	18532	1200	17958	1113	18355	1226
35	21411	1330	20774	1233	21215	1359
40	24282	1458	23584	1351	24068	1489
45	27146	1583	26387	1467	26913	1618
50	30004	1707	29186	1581	29753	1744
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	0	0	0	0	0	0
10	8569	344	8496	362	8549	357
15	12725	581	12549	571	12671	586
20	16493	675	16265	662	16424	678
25	20185	720	19936	713	20109	726
30	23894	786	23619	781	23810	794
35	27603	858	27302	853	27511	867
40	31308	930	30981	926	31209	941
45	35009	1003	34655	998	34901	1015
50	38705	1075	38324	1070	38589	1088
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	–	–	–	–	–	–
10	9061	–	–	–	8893	–
15	13646	314	13767	357	13791	348
20	18107	455	18344	423	18305	418
25	22505	641	22763	563	22758	573
30	26660	719	27061	693	27013	688
35	30759	762	31223	763	31170	757
40	34855	804	35348	793	35293	789
45	38956	854	39483	838	39424	834
50	43057	906	43619	888	43555	884

Table E16

Cost of Children in One-Adult Families
Expenditures on Food at Home, Shelter, and Clothing
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	2564	313	2753	251	2833	273
10	5121	603	5487	484	5643	524
15	7676	888	8217	712	8447	770
20	10231	1170	10943	937	11246	1013
25	12784	1450	13668	1161	14044	1255
30	15337	1728	16390	1383	16839	1494
35	17889	2005	19112	1604	19632	1733
40	20441	2281	21832	1825	22424	1970
45	22992	2556	24551	2045	25215	2207
50	25543	2830	27269	2264	28004	2444
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	3310	203	3399	184	3439	185
10	6619	391	6791	354	6868	355
15	9927	575	10181	520	10295	520
20	13236	757	13570	684	13720	684
25	16544	937	16958	847	17145	846
30	19853	1116	20346	1009	20568	1006
35	23161	1295	23733	1169	23990	1166
40	26469	1473	27119	1330	27412	1325
45	29777	1650	30506	1489	30834	1483
50	33085	1827	33891	1648	34255	1641
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3709	171	3768	167	3841	154
10	7419	328	7533	319	7673	294
15	11130	482	11296	469	11503	430
20	14840	634	15059	616	15332	565
25	18550	784	18822	762	19159	698
30	22261	934	22584	906	22986	830
35	25971	1083	26346	1051	26813	961
40	29681	1232	30108	1194	30638	1091
45	33392	1380	33870	1337	34464	1221
50	37102	1528	37631	1479	38288	1351

Table E17

Cost of Children in Two-Adult Families
Expenditures on Food at Home and Shelter
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	763	128	646	114	611	143
10	1513	247	1278	215	1208	276
15	2258	366	1903	316	1797	409
20	2999	484	2524	418	2382	544
25	3736	604	3141	522	2962	680
30	4471	725	3755	627	3540	818
35	5204	846	4366	734	4115	958
40	5935	969	4975	843	4687	1099
45	6664	1092	5582	953	5258	1242
50	7392	1216	6188	1065	5827	1386
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1308	121	1232	128	1210	129
10	2600	222	2446	235	2401	236
15	3882	321	3650	342	3583	343
20	5160	421	4849	449	4759	451
25	6433	522	6042	559	5929	561
30	7702	626	7232	672	7096	674
35	8968	732	8418	787	8259	790
40	10231	839	9601	905	9419	908
45	11492	949	10782	1025	10577	1029
50	12751	1061	11961	1147	11732	1153
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	1750	116	1734	118	1665	118
10	3482	206	3449	209	3310	206
15	5205	294	5155	298	4945	292
20	6922	383	6855	387	6573	378
25	8633	474	8550	478	8196	467
30	10341	567	10241	571	9814	560
35	12046	664	11928	668	11429	656
40	13747	763	13613	768	13041	756
45	15446	865	15294	870	14650	859
50	17142	970	16974	975	16256	965

Table E18

Cost of Children in Two-Adult Families
Expenditures on Food at Home and Shelter
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	913	122	844	102	994	128
10	1623	271	1463	220	1809	283
15	2212	442	1947	353	2518	457
20	2702	634	2323	503	3143	649
25	3107	848	2604	670	3694	857
30	3440	1073	2796	858	4177	1082
35	3709	1307	2932	1034	4596	1325
40	3904	1573	3021	1202	4977	1553
45	4114	1781	3027	1406	5304	1799
50	4292	1988	3089	1536	5594	2037
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1562	104	1519	111	1612	105
10	2864	223	2763	236	2980	224
15	4008	355	3840	376	4201	353
20	5025	505	4782	534	5304	496
25	5928	676	5604	711	6303	655
30	6728	870	6315	913	7206	832
35	7429	1092	6921	1141	8019	1029
40	8035	1343	7426	1400	8745	1249
45	8550	1627	7834	1692	9387	1495
50	8975	1948	8144	2021	9948	1769
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2053	99	2112	99	2144	92
10	3840	208	3977	210	4054	192
15	5467	328	5695	333	5823	298
20	6963	462	7293	470	7480	414
25	8343	615	8786	624	9036	542
30	9617	789	10181	797	10500	684
35	10789	988	11485	992	11879	845
40	11865	1216	12701	1213	13175	1025
45	12847	1474	13832	1461	14392	1228
50	13736	1766	14879	1739	15531	1456

Table E19

Cost of Children in One-Adult Families
Expenditures on Food at Home and Shelter
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	3556	286	3132	241	3089	410
10	7419	603	7116	663	7055	711
15	10720	878	10064	811	10069	891
20	13589	942	12863	877	12867	969
25	16502	1038	15697	973	15701	1077
30	19424	1144	18535	1074	18539	1190
35	22344	1252	21370	1176	21375	1304
40	25260	1360	24201	1277	24207	1417
45	28169	1468	27026	1377	27033	1528
50	31073	1574	29847	1475	29854	1638
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	–	–	–	–	–	–
10	8549	–	8219	–	8044	–
15	12887	426	12870	490	12824	501
20	17442	595	17211	615	17243	664
25	21498	763	21117	771	21136	803
30	25257	853	24808	837	24812	842
35	28964	880	28490	867	28495	877
40	32696	926	32192	917	32197	929
45	36436	981	35899	974	35905	987
50	40178	1039	39607	1033	39613	1048
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	–	–	–	–	–	–
10	–	–	–	–	–	–
15	13990	–	–	–	13826	–
20	18297	413	18013	–	18015	259
25	22800	463	22952	465	22805	524
30	27634	598	27756	560	27623	566
35	32127	716	32264	670	32152	711
40	36415	819	36704	797	36495	839
45	40565	886	40927	887	40652	908
50	44697	946	45107	967	44773	947

Table E20

Cost of Children in One-Adult Families
Expenditures on Food at Home and Shelter
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	3201	487	3382	416	3316	460
10	6131	768	6399	647	6304	719
15	8977	997	9320	824	9198	928
20	11804	1217	12226	1004	12077	1135
25	14620	1430	15117	1179	14943	1335
30	17427	1638	17997	1350	17797	1531
35	20225	1842	20867	1518	20643	1722
40	23018	2041	23728	1683	23481	1910
45	25804	2237	26584	1845	26313	2095
50	28586	2429	29433	2004	29139	2276
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	3871	333	3951	307	3924	321
10	7627	572	7746	527	7706	547
15	11219	703	11395	672	11340	691
20	14808	851	15013	798	14942	816
25	18381	983	18620	920	18538	943
30	21948	1114	22221	1042	22127	1069
35	25509	1243	25815	1161	25710	1194
40	29065	1369	29403	1279	29288	1315
45	32617	1494	32987	1395	32861	1435
50	36165	1616	36566	1509	36430	1554
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	4160	276	4172	283	4196	267
10	8308	469	8321	477	8376	461
15	12371	656	12378	655	12441	630
20	16336	767	16363	785	16447	767
25	20293	879	20331	914	20425	881
30	24247	997	24282	1019	24390	985
35	28192	1103	28231	1127	28351	1090
40	32133	1209	32176	1235	32309	1194
45	36071	1313	36118	1341	36263	1297
50	40006	1416	40056	1446	40213	1399

Table E21

Cost of Children in Two-Adult Families
Expenditures on Adult Clothing, Alcohol and Tobacco
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1287	94	1282	73	196	353
10	2544	193	2534	148	313	774
15	3788	295	3772	225	437	1293
20	5022	399	5001	303	581	1919
25	6248	504	6222	383	773	2673
30	7469	612	7437	464	991	3510
35	8684	721	8646	546	1215	4393
40	9895	831	9851	629	1435	5305
45	11102	943	11052	713	1678	6288
50	12305	1055	12249	798	1992	7399
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1895	76	1891	80	1197	108
10	3738	151	3731	159	2272	201
15	5559	228	5548	240	3290	296
20	7365	306	7349	323	4270	396
25	9157	386	9138	407	5218	501
30	10940	468	10916	494	6141	612
35	12714	552	12686	582	7041	731
40	14480	637	14448	671	7922	856
45	16239	724	16203	763	8785	987
50	17992	812	17951	856	9632	1125
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2263	75	2178	87	1684	109
10	4461	147	4282	168	3241	200
15	6630	219	6354	250	4740	289
20	8779	293	8403	333	6198	380
25	10913	369	10434	419	7623	476
30	13032	447	12449	506	9021	578
35	15141	528	14452	596	10396	686
40	17240	611	16444	689	11750	800
45	19330	697	18425	784	13085	921
50	21411	784	20397	882	14404	1049

Table E22

Cost of Children in Two-Adult Families
Expenditures on Adult Clothing, Alcohol and Tobacco
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1337	103	1295	86	291	625
10	2644	214	2556	175	497	1354
15	3937	329	3801	267	735	2244
20	5220	447	5036	360	1064	3353
25	6495	568	6261	455	1339	4306
30	7764	691	7480	553	1770	5650
35	9028	816	8692	651	2235	7062
40	10286	943	9899	752	2752	8570
45	11540	1072	11101	854	3370	10223
50	12790	1202	12299	957	4191	12125
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1882	90	1854	99	1167	135
10	3704	178	3647	195	2190	243
15	5499	268	5410	292	3146	347
20	7274	362	7154	392	4053	455
25	9034	458	8881	495	4921	570
30	10781	558	10595	601	5757	693
35	12517	660	12297	709	6565	827
40	14243	766	13989	821	7347	971
45	15961	875	15672	935	8106	1126
50	17670	986	17346	1052	8844	1291
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2195	94	2095	97	1576	131
10	4310	178	4096	185	2992	226
15	6387	263	6054	275	4332	316
20	8436	351	7980	370	5617	410
25	10465	442	9882	471	6858	515
30	12476	538	11762	577	8062	632
35	14471	639	13625	690	9234	762
40	16452	744	15472	809	10376	907
45	18421	854	17304	934	11493	1066
50	20378	968	19122	1065	12585	1239

Table E23

Cost of Children in One-Adult Families
Expenditures on Adult Clothing, Alcohol and Tobacco
All Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	1819	270	1780	242	899	564
10	3633	542	3557	484	1767	1068
15	5445	815	5331	727	2644	1602
20	7256	1090	7104	971	3514	2141
25	9065	1366	8875	1217	4330	2524
30	10874	1643	10646	1463	5124	2833
35	12681	1922	12415	1710	5966	3313
40	14488	2201	14184	1958	6805	3795
45	16294	2481	15952	2207	7643	4280
50	18099	2761	17719	2457	8514	4744
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2670	171	2650	169	2209	208
10	5336	342	5297	337	4412	410
15	8000	514	7941	506	6611	615
20	10662	687	10584	677	8807	822
25	13323	862	13226	848	11002	1032
30	15984	1038	15866	1021	13194	1244
35	18643	1214	18506	1194	15385	1458
40	21302	1392	21146	1369	17575	1673
45	23960	1570	23784	1544	19763	1890
50	26617	1750	26422	1720	21950	2109
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3093	149	3162	145	2896	166
10	6183	298	6322	290	5788	329
15	9271	447	9479	435	8678	493
20	12357	598	12635	583	11565	659
25	15442	750	15790	731	14451	827
30	18527	903	18944	880	17335	996
35	21610	1056	22098	1030	20218	1167
40	24692	1211	25251	1181	23101	1339
45	27774	1367	28403	1333	25982	1512
50	30856	1523	31554	1485	28862	1686

Table E24

Cost of Children in One-Adult Families
Expenditures on Adult Clothing, Alcohol and Tobacco
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	1743	300	1971	246	1255	341
10	3398	636	3883	521	2360	721
15	5012	992	5767	812	3387	1133
20	6595	1364	7631	1114	4358	1569
25	8154	1748	9479	1425	5296	2012
30	9693	2144	11313	1745	6213	2455
35	11213	2551	13135	2073	7077	2935
40	12718	2967	14946	2408	7977	3367
45	14208	3392	16748	2749	8813	3850
50	15684	3825	18541	3096	9691	4284
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2655	187	2763	174	2432	203
10	5231	397	5460	368	4754	432
15	7770	619	8128	575	7023	677
20	10282	853	10773	791	9254	938
25	12772	1096	13400	1016	11453	1211
30	15244	1347	16012	1247	13626	1496
35	17699	1606	18612	1486	15776	1792
40	20141	1872	21199	1730	17905	2098
45	22569	2145	23776	1981	20015	2414
50	24986	2425	26344	2236	22108	2740
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3118	157	3128	157	2998	164
10	6163	332	6183	333	5906	347
15	9172	518	9203	520	8769	544
20	12156	714	12199	717	11600	752
25	15119	919	15174	922	14406	971
30	18065	1130	18132	1134	17190	1198
35	20996	1349	21076	1354	19956	1435
40	23913	1574	24006	1579	22704	1679
45	26818	1806	26924	1811	25436	1932
50	29711	2043	29831	2049	28155	2192

Table E25

Cost of Children in Two-Adult Families
Expenditures on Adult Clothing
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1304	78	1300	66	80	69
10	2519	174	2510	145	133	43
15	3684	279	3669	232	0	0
20	4809	393	4789	325	0	0
25	5902	514	5875	424	0	0
30	6964	642	6930	529	0	0
35	7999	777	7958	639	0	0
40	9008	917	8960	753	0	0
45	9994	1063	9938	873	0	0
50	10956	1216	10893	998	0	0
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1926	67	1924	70	1128	98
10	3709	145	3703	154	1850	201
15	5409	231	5399	246	2325	310
20	7045	322	7030	344	2597	430
25	8625	420	8606	450	2687	567
30	10155	524	10131	562	2611	725
35	11640	635	11610	681	2392	891
40	13081	751	13045	807	2108	1001
45	14482	874	14440	940	1805	1069
50	15843	1004	15795	1080	1608	1079
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2310	66	2270	70	1728	91
10	4442	141	4350	150	3082	187
15	6471	222	6320	238	4206	288
20	8419	310	8202	332	5143	400
25	10297	404	10009	435	5912	526
30	12112	505	11747	545	6528	670
35	13868	612	13422	664	6998	839
40	15569	728	15037	792	7327	1034
45	17218	851	16596	930	7519	1261
50	18817	983	18099	1078	7578	1522

Table E26

Cost of Children in Two-Adult Families
Expenditures on Adult Clothing
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	1314	82	1309	68	127	90
10	2542	183	2529	149	146	114
15	3719	296	3699	238	93	29
20	4858	419	4830	333	0	0
25	5963	550	5927	434	0	0
30	7038	689	6994	541	0	0
35	8086	836	8033	653	0	0
40	9108	991	9047	771	0	0
45	10106	1153	10036	894	0	0
50	11080	1322	11001	1023	0	0
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	1895	70	1891	75	1143	110
10	3634	152	3626	162	1882	226
15	5285	242	5271	256	2372	351
20	6865	340	6845	359	2657	491
25	8384	447	8358	469	2758	653
30	9847	562	9815	586	2696	835
35	11260	686	11221	712	2498	1015
40	12625	819	12579	847	2265	1143
45	13944	963	13891	991	2088	1182
50	15219	1116	15159	1145	1889	1211
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	2239	70	2207	76	1689	99
10	4276	149	4201	165	2983	200
15	6195	236	6071	262	4034	306
20	8019	331	7840	370	4883	424
25	9761	435	9523	489	5553	562
30	11428	550	11126	620	6055	727
35	13026	676	12656	764	6397	925
40	14558	815	14115	922	6585	1163
45	16027	968	15508	1095	6621	1445
50	17436	1136	16835	1285	6520	1752

Table E27

Cost of Children in One-Adult Families
Expenditures on Adult Clothing
All Observations

	Cost	SD	Cost	SD	Cost	SD
			One Child :			
Total Expenditures	(4)		(8)		(16)	
5	2091	289	2284	259	1116	1392
10	4249	530	4601	475	1775	1608
15	6424	760	6928	681	2685	1797
20	8609	982	9261	880	3731	2119
25	10802	1199	11597	1075	4824	2452
30	13000	1412	13936	1266	5867	2497
35	15202	1623	16278	1455	6964	2605
40	17409	1830	18622	1641	8139	2941
45	19618	2036	20967	1826	9331	3273
50	21830	2240	23313	2008	10438	3174
			Two Children :			
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2991	191	3084	187	2294	249
10	6041	348	6210	341	4784	442
15	9106	498	9346	488	7323	624
20	12179	643	12489	630	9890	802
25	15259	784	15637	768	12478	975
30	18344	923	18788	904	15081	1146
35	21433	1060	21942	1038	17697	1314
40	24524	1195	25098	1170	20322	1480
45	27619	1329	28257	1301	22957	1645
50	30716	1461	31416	1431	25598	1808
			Three Children :			
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3419	169	3407	172	2993	207
10	6897	307	6876	311	6135	365
15	10391	437	10361	443	9312	515
20	13893	563	13855	570	12511	659
25	17402	686	17356	693	15724	800
30	20915	806	20861	815	18949	939
35	24432	925	24370	935	22182	1076
40	27952	1043	27883	1053	25423	1211
45	31475	1159	31398	1170	28671	1344
50	35000	1274	34916	1286	31924	1476

Table E28

Cost of Children in One-Adult Families
Expenditures on Adult Clothing
Three or More Observations

	Cost	SD	Cost	SD	Cost	SD
One Child :						
Total Expenditures	(4)		(8)		(16)	
5	1839	271	1786	243	827	335
10	3755	536	3650	479	1741	669
15	5692	800	5535	714	2675	1015
20	7640	1062	7433	948	3639	1348
25	9597	1324	9339	1181	4616	1682
30	11559	1585	11251	1413	5604	2017
35	13527	1846	13169	1646	6599	2353
40	15499	2106	15090	1877	7587	2707
45	17474	2366	17016	2109	8593	3046
50	19452	2626	18944	2340	9605	3385
Two Children :						
Total Expenditures	(4,8)		(8,10)		(10,16)	
5	2680	174	2653	172	2189	212
10	5450	341	5396	337	4485	410
15	8243	508	8163	500	6811	607
20	11048	674	10943	663	9154	804
25	13863	839	13732	826	11509	1001
30	16684	1004	16528	988	13874	1199
35	19510	1169	19329	1149	16246	1397
40	22341	1333	22136	1311	18625	1595
45	25176	1497	24945	1472	21008	1794
50	28014	1662	27759	1634	23397	1993
Three Children :						
Total Expenditures	(4,8,10)		(4,8,13)		(10,13,16)	
5	3100	154	3170	150	2882	173
10	6292	299	6429	292	5866	332
15	9506	443	9709	433	8878	491
20	12734	587	13002	573	11904	649
25	15971	730	16303	713	14942	807
30	19215	873	19611	853	17987	965
35	22464	1015	22924	992	21039	1123
40	25717	1158	26240	1131	24096	1281
45	28974	1300	29561	1270	27157	1440
50	32235	1442	32884	1409	30223	1598

Table E29

Cost of Children in Two-Adult Families
Barten-Gorman Model

One Child :

Total Expenditures	(4)	(8)	(16)
5	100	233	726
10	314	869	1480
15	684	1506	2233
20	1054	2143	2986
25	1424	2780	3740
30	1794	3417	4493
35	2164	4054	5246
40	2534	4690	6000
45	2904	5327	6753
50	3274	5964	7507

Two Children :

Total Expenditures	(4,8)	(8,10)	(10,16)
5	302	506	783
10	1032	1402	1785
15	1762	2300	2786
20	2492	3197	3787
25	3222	4095	4788
30	3952	4995	5790
35	4682	5889	5791
40	5412	6786	7792
45	6142	7683	8793
50	6872	8580	9794

Three Children :

Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)
5	583	823	1149
10	1519	1957	2466
15	2455	3091	3782
20	3392	4224	5098
25	4328	5358	6414
30	5264	6492	7730
35	6201	7625	9047
40	7137	8759	10363
45	8073	9893	11679
50	9010	11027	12995

Table E30

Cost of Children in One-Adult Families
Barten-Gorman Model

One Child :

Total Expenditures	(4)	(8)	(16)
5	1317	1352	1977
10	3748	3527	4848
15	6180	5703	7719
20	8612	7878	10591
25	11044	10053	13462
30	13475	12229	16333
35	15907	14404	19204
40	18339	16579	22076
45	20771	18755	24947
50	23202	20930	27818

Two Children :

Total Expenditures	(4,8)	(8,10)	(10,16)
5	1808	1859	2146
10	4613	4538	5196
15	7414	7217	8246
20	10221	9897	11296
25	13025	12576	14346
30	15829	15255	17396
35	18633	17934	20446
40	21438	20613	23496
45	24242	23292	26546
50	27046	25971	29596

Three Children :

Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)
5	2046	2076	2268
10	4965	4868	5290
15	7884	7668	8313
20	10802	10469	11335
25	13721	13269	14357
30	16640	16070	17380
35	19558	18870	20402
40	22477	21671	23425
45	25396	24471	26447
50	28314	27272	29469

Appendix F

Estimates of the Mean and Standard Deviation of the Cost of Children by Level of Total Expenditure and Family Type (Expressed as a Percentage of Total Expenditures)

Table F1

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Food at Home

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	26	33	39	26	33	40
10	27	33	39	26	33	39
15	27	33	38	26	33	39
20	27	33	38	27	33	39
25	28	33	38	27	33	39
30	28	33	38	27	33	39
35	28	33	38	27	33	39
40	28	33	38	27	33	39
45	28	33	38	27	33	39
50	28	33	37	27	33	39
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	44	48	52	45	49	53
10	45	49	52	45	49	53
15	45	49	52	45	49	53
20	45	49	52	45	49	53
25	45	49	52	46	49	53
30	46	49	52	46	49	53
35	46	49	52	46	49	53
40	46	49	52	46	49	53
45	46	49	52	46	49	53
50	46	49	51	46	49	53
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	54	58	63	56	59	64
10	55	58	62	56	59	64
15	55	58	62	56	59	64
20	56	58	62	56	59	64
25	56	58	62	56	59	64
30	56	58	62	56	59	64
35	56	58	62	56	59	64
40	56	58	62	57	59	64
45	56	58	62	57	59	64
50	56	58	62	57	59	64

Table F2

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Food at Home

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	62	64	66	62	67	69
10	60	62	63	60	64	66
15	59	61	62	59	63	65
20	58	60	61	59	62	64
25	58	60	61	58	62	63
30	58	59	61	58	61	63
35	58	59	60	58	61	63
40	57	59	60	58	61	62
45	57	59	60	58	61	62
50	57	59	60	57	61	62
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	81	82	82	81	83	83
10	78	79	80	78	80	81
15	77	78	79	77	79	80
20	77	77	78	77	78	79
25	76	77	78	76	78	79
30	76	77	77	76	78	78
35	76	76	77	76	77	78
40	76	76	77	76	77	78
45	75	76	77	75	77	77
50	75	76	76	75	77	77
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	89	90	91	88	89	91
10	87	88	88	87	87	89
15	86	86	87	85	86	88
20	85	86	86	85	86	87
25	85	85	86	84	85	86
30	84	85	86	84	85	86
35	84	85	85	84	85	86
40	84	84	85	84	84	85
45	84	84	85	83	84	85
50	83	84	85	83	84	85

Table F3

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Total Food

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	14	29	36	17	30	38
10	14	29	36	17	30	38
15	14	29	36	16	30	38
20	15	29	36	16	30	38
25	15	29	36	16	30	38
30	15	29	36	15	30	38
35	15	29	36	15	30	38
40	15	29	36	15	30	38
45	15	29	36	15	30	38
50	15	29	36	15	30	38
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	35	44	48	39	46	50
10	35	44	48	38	46	50
15	35	44	48	38	46	50
20	36	44	48	38	45	50
25	36	44	48	37	45	50
30	36	44	48	37	45	50
35	36	44	48	37	45	50
40	36	44	48	37	45	50
45	36	44	48	37	45	50
50	36	44	48	37	45	50
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	47	51	59	51	56	63
10	47	51	59	50	56	63
15	47	51	59	50	56	63
20	48	51	59	50	55	63
25	48	51	59	50	55	63
30	48	51	59	50	55	63
35	48	51	59	49	55	63
40	48	52	59	49	55	63
45	48	52	59	49	55	63
50	48	52	59	49	55	63

Table F4

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Total Food

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	44	52	57	41	49	54
10	44	52	56	40	49	54
15	45	52	56	40	49	54
20	45	52	56	39	49	54
25	45	51	55	39	49	55
30	45	51	55	39	49	55
35	45	51	55	39	49	55
40	45	51	55	39	49	55
45	45	51	55	38	49	55
50	45	51	55	38	49	55
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	65	69	71	62	66	68
10	65	69	71	62	66	68
15	66	69	70	62	66	68
20	66	69	70	61	66	68
25	66	68	70	61	66	68
30	66	68	70	61	66	68
35	66	68	70	61	66	68
40	66	68	70	61	66	68
45	66	68	70	61	65	68
50	66	68	70	61	65	68
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	76	77	80	72	73	76
10	75	77	79	72	73	76
15	75	77	79	72	73	76
20	75	76	79	72	73	76
25	75	76	79	72	73	76
30	75	76	79	72	73	76
35	75	76	79	71	73	76
40	75	76	79	71	73	76
45	75	76	79	71	73	76
50	75	76	79	71	73	76

Table F5

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Food at Home, Shelter, Clothing and Health Care

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	15	17	20	19	21	27
10	15	17	20	17	20	26
15	15	18	20	15	19	25
20	15	18	20	14	18	25
25	15	18	20	13	17	25
30	16	18	20	12	16	24
35	16	18	20	11	15	24
40	16	18	20	10	15	24
45	16	18	20	10	14	23
50	16	18	20	9	14	23
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	29	30	32	34	36	39
10	29	30	32	32	34	37
15	29	30	32	30	32	36
20	29	31	32	29	31	36
25	29	31	32	28	30	35
30	29	31	32	27	29	34
35	29	31	32	26	28	34
40	29	31	32	25	28	33
45	29	31	32	24	27	33
50	30	31	32	23	26	32
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	38	40	42	44	47	50
10	39	41	43	42	45	49
15	39	41	43	41	44	48
20	39	41	43	40	43	47
25	39	41	43	39	42	46
30	39	41	43	38	41	46
35	39	41	43	37	40	45
40	39	41	43	36	40	45
45	39	41	43	35	39	44
50	39	41	43	34	38	44

Table F6

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Food at Home, Shelter, Clothing and Health Care

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	69	69	69	52	57	59
10	70	69	70	52	56	59
15	66	65	66	51	56	58
20	64	63	64	51	56	58
25	62	62	63	51	56	58
30	62	61	62	51	56	58
35	61	61	61	51	56	58
40	60	60	61	51	56	58
45	60	60	61	51	56	58
50	60	59	60	51	55	58
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	–	–	–	68	70	71
10	86	85	86	67	70	71
15	85	85	86	67	70	71
20	83	83	84	67	69	71
25	81	81	82	67	69	70
30	80	80	81	67	69	70
35	79	79	80	67	69	70
40	79	79	79	67	69	70
45	78	78	78	67	69	70
50	78	78	78	67	69	70
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	–	–	–	76	78	80
10	–	–	–	76	78	79
15	91	92	92	76	77	79
20	91	92	92	76	77	79
25	91	92	92	76	77	79
30	90	91	91	76	77	79
35	89	90	90	75	77	79
40	88	89	89	75	77	79
45	87	89	89	75	77	79
50	87	88	88	75	77	79

Table F7

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Food at Home, Shelter, and Clothing

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	14	16	18	19	21	26
10	14	15	17	16	19	24
15	14	15	17	14	17	24
20	13	15	17	12	15	23
25	13	15	17	11	14	22
30	13	15	17	9	13	21
35	13	15	17	8	12	21
40	13	15	17	7	11	20
45	13	14	17	6	10	19
50	13	14	17	6	9	19
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	28	29	30	34	36	39
10	28	29	30	32	33	37
15	27	28	30	30	31	35
20	27	28	29	28	30	34
25	27	28	29	26	28	33
30	27	28	29	25	27	32
35	27	28	29	23	26	31
40	27	28	29	22	24	30
45	27	28	29	20	23	29
50	26	27	29	19	22	28
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	39	40	42	46	48	50
10	38	40	42	43	46	49
15	38	40	41	41	44	48
20	38	40	41	40	43	47
25	38	39	41	38	42	46
30	37	39	41	37	41	45
35	37	39	41	35	40	44
40	37	39	41	34	39	44
45	37	39	41	33	38	43
50	37	39	41	31	37	42

Table F8

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Food at Home, Shelter, and Clothing

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	71	69	69	51	55	57
10	70	67	69	51	55	56
15	66	63	65	51	55	56
20	64	62	63	51	55	56
25	63	61	62	51	55	56
30	62	60	61	51	55	56
35	61	59	61	51	55	56
40	61	59	60	51	55	56
45	60	59	60	51	55	56
50	60	58	60	51	55	56
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	–	–	–	66	68	69
10	86	85	85	66	68	69
15	85	84	84	66	68	69
20	82	81	82	66	68	69
25	81	80	80	66	68	69
30	80	79	79	66	68	69
35	79	78	79	66	68	69
40	78	77	78	66	68	69
45	78	77	78	66	68	69
50	77	77	77	66	68	69
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	–	–	–	74	75	77
10	91	–	89	74	75	77
15	91	92	92	74	75	77
20	91	92	92	74	75	77
25	90	91	91	74	75	77
30	89	90	90	74	75	77
35	88	89	89	74	75	77
40	87	88	88	74	75	77
45	87	88	88	74	75	77
50	86	87	87	74	75	77

Table F9

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Food at Home and Shelter

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	15	13	12	18	17	20
10	15	13	12	16	15	18
15	15	13	12	15	13	17
20	15	13	12	14	12	16
25	15	13	12	12	10	15
30	15	13	12	11	9	14
35	15	12	12	11	8	13
40	15	12	12	10	8	12
45	15	12	12	9	7	12
50	15	12	12	9	6	11
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	26	25	24	31	30	32
10	26	24	24	29	28	30
15	26	24	24	27	26	28
20	26	24	24	25	24	27
25	26	24	24	24	22	25
30	26	24	24	22	21	24
35	26	24	24	21	20	23
40	26	24	24	20	19	22
45	26	24	24	19	17	21
50	26	24	23	18	16	20
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	35	35	33	41	42	43
10	35	34	33	38	40	41
15	35	34	33	36	38	39
20	35	34	33	35	36	37
25	35	34	33	33	35	36
30	34	34	33	32	34	35
35	34	34	33	31	33	34
40	34	34	33	30	32	33
45	34	34	33	29	31	32
50	34	34	33	27	30	31

Table F10

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Food at Home and Shelter

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	71	63	62	64	68	66
10	74	71	71	61	64	63
15	71	67	67	60	62	61
20	68	64	64	59	61	60
25	66	63	63	58	60	60
30	65	62	62	58	60	59
35	64	61	61	58	60	59
40	63	61	61	58	59	59
45	63	60	60	57	59	58
50	62	60	60	57	59	58
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	–	–	–	77	79	78
10	85	82	80	76	77	77
15	86	86	85	75	76	76
20	87	86	86	74	75	75
25	86	84	85	74	74	74
30	84	83	83	73	74	74
35	83	81	81	73	74	73
40	82	80	80	73	74	73
45	81	80	80	72	73	73
50	80	79	79	72	73	73
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	–	–	–	83	83	84
10	–	–	–	83	83	84
15	93	0	92	82	83	83
20	91	90	90	82	82	82
25	91	92	91	81	81	82
30	92	93	92	81	81	81
35	92	92	92	81	81	81
40	91	92	91	80	80	81
45	90	91	90	80	80	81
50	89	90	90	80	80	80

Table F11

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Adult Clothing, Alcohol and Tobacco

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	26	26	4	27	26	6
10	25	25	3	26	26	5
15	25	25	3	26	25	5
20	25	25	3	26	25	5
25	25	25	3	26	25	5
30	25	25	3	26	25	6
35	25	25	3	26	25	6
40	25	25	4	26	25	7
45	25	25	4	26	25	7
50	25	24	4	26	25	8
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	38	38	24	38	37	23
10	37	37	23	37	36	22
15	37	37	22	37	36	21
20	37	37	21	36	36	20
25	37	37	21	36	36	20
30	36	36	20	36	35	19
35	36	36	20	36	35	19
40	36	36	20	36	35	18
45	36	36	20	35	35	18
50	36	36	19	35	35	18
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	45	44	34	44	42	32
10	45	43	32	43	41	30
15	44	42	32	43	40	29
20	44	42	31	42	40	28
25	44	42	30	42	40	27
30	43	41	30	42	39	27
35	43	41	30	41	39	26
40	43	41	29	41	39	26
45	43	41	29	41	38	26
50	43	41	29	41	38	25

Table F12

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Adult Clothing, Alcohol and Tobacco

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	36	36	18	35	39	25
10	36	36	18	34	39	24
15	36	36	18	33	38	23
20	36	36	18	33	38	22
25	36	36	17	33	38	21
30	36	35	17	32	38	21
35	36	35	17	32	38	20
40	36	35	17	32	37	20
45	36	35	17	32	37	20
50	36	35	17	31	37	19
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	53	53	44	53	55	49
10	53	53	44	52	55	48
15	53	53	44	52	54	47
20	53	53	44	51	54	46
25	53	53	44	51	54	46
30	53	53	44	51	53	45
35	53	53	44	51	53	45
40	53	53	44	50	53	45
45	53	53	44	50	53	44
50	53	53	44	50	53	44
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	62	63	58	62	63	60
10	62	63	58	62	62	59
15	62	63	58	61	61	58
20	62	63	58	61	61	58
25	62	63	58	60	61	58
30	62	63	58	60	60	57
35	62	63	58	60	60	57
40	62	63	58	60	60	57
45	62	63	58	60	60	57
50	62	63	58	59	60	56

Table F13

Cost of Children as a Percentage of Total Expenditures in Two-Adult Families : Expenditures on Adult Clothing

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	26	26	2	26	26	3
10	25	25	1	25	25	1
15	25	24	0	25	25	1
20	24	24	0	24	24	0
25	24	24	0	24	24	0
30	23	23	0	23	23	0
35	23	23	0	23	23	0
40	23	22	0	23	23	0
45	22	22	0	22	22	0
50	22	22	0	22	22	0
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	39	38	23	38	38	23
10	37	37	19	36	36	19
15	36	36	16	35	35	16
20	35	35	13	34	34	13
25	35	34	11	34	33	11
30	34	34	9	33	33	9
35	33	33	7	32	32	7
40	33	33	5	32	31	6
45	32	32	4	31	31	5
50	32	32	3	30	30	4
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	46	45	35	45	44	34
10	44	44	31	43	42	30
15	43	42	28	41	40	27
20	42	41	26	40	39	24
25	41	40	24	39	38	22
30	40	39	22	38	37	20
35	40	38	20	37	36	18
40	39	38	18	36	35	16
45	38	37	17	36	34	15
50	38	36	15	35	34	13

Table F14

Cost of Children as a Percentage of Total Expenditures in One-Adult Families : Expenditures on Adult Clothing

	All Observations :			Three or More Observations :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	42	46	22	37	36	17
10	42	46	18	38	37	17
15	43	46	18	38	37	18
20	43	46	19	38	37	18
25	43	46	19	38	37	18
30	43	46	20	39	38	19
35	43	47	20	39	38	19
40	44	47	20	39	38	19
45	44	47	21	39	38	19
50	44	47	21	39	38	19
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	60	62	46	54	53	44
10	60	62	48	55	54	45
15	61	62	49	55	54	45
20	61	62	49	55	55	46
25	61	63	50	55	55	46
30	61	63	50	56	55	46
35	61	63	51	56	55	46
40	61	63	51	56	55	47
45	61	63	51	56	55	47
50	61	63	51	56	56	47
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	68	68	60	62	63	58
10	69	69	61	63	64	59
15	69	69	62	63	65	59
20	69	69	63	64	65	60
25	70	69	63	64	65	60
30	70	70	63	64	65	60
35	70	70	63	64	65	60
40	70	70	64	64	66	60
45	70	70	64	64	66	60
50	70	70	64	64	66	60

Table F15

Cost of Children as a Percentage of Total Expenditures
in One and Two-Adult Families :
Barten-Gorman Model

	Two-Adult Families :			One-Adult Families :		
One Child :						
Total Expenditures	(4)	(8)	(16)	(4)	(8)	(16)
5	1	4	14	26	27	39
10	3	8	14	37	35	48
15	4	10	14	41	38	51
20	5	10	14	43	39	52
25	5	11	14	44	40	53
30	5	11	14	44	40	54
35	6	11	14	45	41	54
40	6	11	15	45	41	55
45	6	11	15	46	41	55
50	6	11	15	46	41	55
Two Children :						
Total Expenditures	(4,8)	(8,10)	(10,16)	(4,8)	(8,10)	(10,16)
5	6	10	15	36	37	42
10	10	14	17	46	45	51
15	11	15	18	49	48	54
20	12	15	18	51	49	56
25	12	16	19	52	50	57
30	13	16	19	52	50	57
35	13	16	19	53	51	58
40	13	16	19	53	51	58
45	13	17	19	53	51	58
50	13	17	19	54	51	58
Three Children :						
Total Expenditures	(4,8,10)	(4,8,13)	(10,13,16)	(4,8,10)	(4,8,13)	(10,13,16)
5	11	16	22	40	41	45
10	15	19	24	49	48	52
15	16	20	25	52	51	55
20	16	21	25	54	52	56
25	17	21	25	54	53	57
30	17	21	25	55	53	57
35	17	21	25	55	54	58
40	17	21	25	56	54	58
45	17	21	25	56	54	58
50	18	22	25	56	54	58

Appendix G

A Comparison of the Present Study with Lazear and Michael

The purpose of this appendix is to compare the estimates of the cost of children presented in this study with the work of Lazear and Michael (L/M) reported in their book, *Allocation of Income within the Household* (1988). The method of imputation chosen by L/M is a modified Rothbarth method.

The first question concerns the dimension on which the estimates are to be compared. I chose to use the figures in Appendix F, expenditures on children as a percentage of total household expenditures as the basis for comparison. To compute an equivalent number for L/M, it should be noted that the focus of the L/M analysis is to use expenditures on alcohol, tobacco, and adult clothing to compute an adult equivalence scale for children. In their notation, this scale is $\phi(\underline{x})$, where $\underline{x}$ is a vector of demographic characteristics. This vector includes, the number of children, the number of adults, the education, age, sex of the head, and the before-tax income of the unit. Once $\phi(x)$ is given, the percentage of total expenditures made on the children in the household would be computed as :

$$P = K\,\phi(\underline{x}) / (A + K\,\phi(\underline{x}))$$

where K is the number of children and A is the number of adults. (This expression is a reworking of their equation 5.7.) Using their results on page 86, in the first column of Table 5.4, I computed P for several types of households at various levels of pre-tax incomes. Since different levels of income had only a slight negative effect on P, I will report values of P for just pre-tax incomes of $15,000 (recall the L/M study utilized 1972-73 data). In computing P, I also held the following characteristics constant: age of head (35); education (12 years); nonblack; and non-Southern resident living in an urban area. I

further assumed that only the head of the household worked. Using these assumptions, estimates of the proportion of total expenditures spent on children from the L/M study and the corresponding numbers from my study are:

	L/M	Betson	
	Point	Point	Range
Two-Adult Household			
One Child	19	25	21-29
Two Children	31	36	32-39
Three Children	39	40	36-43
One-Adult			
One Child	41	38	27-49
Two Children	57	54	46-62
Three Children	66	61	53-68

The range of the estimates from my study reflect two standard deviations around the point estimates Tables F11 and F12.

I find my estimates remarkably similar to L/M given the differences in methodologies. My estimates for two-adult families are higher but I would argue they are not significantly different. From my study, the standard deviation of P for one child is roughly 2 percentage points. While L/M do not compute standard errors for P, we could assume that the error is about the same as in my study. If you make this assumption, then the test statistic of the difference between the two estimates is 2.12. However if you make the alternative assumption that the standard error of L/M is 3 points, owing to the more complicated procedure of estimation, the possible compounding of errors in the stepwise regression, and the smaller sample size, then the test statistic is 1.66. Hence, I am not convinced that they are significantly different.

For the one-adult households, L/M obtain even higher point estimates, but, I think we would agree that the estimates are not significantly different.

We should nevertheless note possible reasons for the differences that exist. I used the sample of households which had only adult expenditures: L/M used all households whether or not they reported adult expenditures. This difference in sample selection could lead to different estimates but the direction of bias is unknown. The following story could explain L/M's estimates differ from the current estimates.

Let us assume that we estimate Engel curves for adult goods for each of the demographic groups separately. For the time being, assume that we have only families with children and families without children. Further assume that the true Engel curve is linear in total expenditures for all groups, i.e.;

For families with children $A_k = \alpha_k + \beta_k X_k$

For families without children $A_o = \alpha_o + \beta_o X_o$

Now assume that in our sample of households, λ percent of the households report non zero expenditures on adult goods. If there no correlation between X and reporting expenditures on adult goods, then the estimated relationship between A and X would be :

For families with children $A_k = \lambda_k(\alpha_k + \beta_k X_k)$

For families without children $A_o = \lambda_o(\alpha_o + \beta_o X_o)$

Given these relationships, the Rothbarth methodology would compute the expenditures on children as a percentage of the total household expenditures, X, as

$$C = \frac{(\alpha_o - \alpha_k) + (\beta_o - \beta_k) X}{\beta_o X}$$

In the case of the sample which contain households reporting zero expenditures, the corresponding percentage, C_Z, is

$$C_Z = \frac{(\lambda_o\alpha_o - \lambda_k\alpha_k) + (\lambda_o\beta_o - \lambda_k\beta_k)\ X}{\lambda_o\beta_o\ X}$$

Hence

C is greater or less than C_Z if and only if

λ_k is greater or less than λ_o.

That is, if families with children report expenditures on adult goods at higher rate than compared to households without children, then using the sample with observation reporting zero expenditures will underestimate the true amount of expenditures made on children.

In the table below, I have computed the various reporting rates for different family types (λ's) in both the total sample and the sample with 3 or more observations.

	Total		With Adult Expenditures		λ	
	All Obs	3+Obs	All Obs	3+ Obs	All Obs	3+ Obs
Single individuals	11218	3699	6713	2038	.60	.55
Single-parent families	2428	1125	1936	882	.78	.78
Childless couples	4656	2252	1888	812	.41	.36
Two-parent families	8696	4575	4563	2244	.52	.49

As the numbers indicate, families with children have a higher rate of reporting some expenditures on adult goods as compared to households that have no children. Hence, if nonreporting these expenditures is uncorrelated to total expenditures, then we could conclude that the use of all observations would tend to underestimate child expenditures in the Rothbarth method.

This story could be used to explain why L/M 's estimates for two-adults are lower than mine but then it does not explain why their estimates for one-adult households are higher? This story is based upon the assumption that nonreporting of expenditures is uncorrelated with total expenditures. If this does not hold, then estimates from both samples will be biased and the story becomes much more complicated.

Another major difference between the Rothbarth methodology and the L/M methodology lies in a difference in perspectives. To use a misunderstood term, the Rothbarth approach is a compensation approach, while the L/M is a pure allocation approach, to the estimation of expenditures on the child. Let us assume that L/M do indeed correctly identify the expenditures made on a child. These expenditures would undercompensate the adults for the presence of the child because they ignore the income effect. If Rothbarth is attempting to measure the cost of children in such a way as to include the income effect, this would explain why the two estimates differ for the two-adult households. To reconcile the difference in one-adult households, I would have to argue that the income effect is small (or zero).