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THE FOOD CHOICES  
OF LOW-INCOME HOUSEHOLDS

FINAL REPORT

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## EXECUTIVE SUMMARY

The primary aim of the analysis presented in this report is to examine in detail the food choices of low-income households in order to understand the factors accounting for differences among low-income households in the nutritional adequacy of their food choices. The data used are from the 1979-80 Survey of Food Consumption in Low-Income Households, a survey of household food use that was conducted from November 1979 through March 1980 for a national probability sample of approximately 2,900 low-income households. The analysis has four components: (1) an examination of the quantities of food used, the money value of food used, the prices paid, the share of the food budget devoted to different food groups, and nutrient densities; (2) a comparison of the food choices of FSP participants and low-income nonparticipants; (3) an analysis of the extent to which the diets of low-income households resemble the 1983 Thrifty Food Plan (TFP); and (4) an analysis of the perceived adequacy of household food supplies.

The analysis of food choices consists primarily of descriptive tables showing mean values of quantities of food used, money value of food used, and prices paid for 31 food groups defined by the 1983 TFP. Descriptive data on the food choices of FSP participants and nonparticipants within these nutrient availability subgroups are presented. When appropriate, statistical tests of significance are conducted for the differences in the food choices of households that vary by their level of nutrient availability and FSP participation status.

Households are divided into three subgroups: (1) households with food use meeting 100 percent of the Recommended Dietary Allowances (RDA) for all 11 nutrients examined (high nutrient availability group); (2) households with food use meeting 80-99 percent of the RDA for all 11 nutrients (moderate nutrient availability group); and (3) households with food use not meeting 80 percent of the RDA for all 11 nutrients (low nutrient availability group). Descriptive data on these household subgroups show that the amount by which the average availability of individual nutrients differs between groups of low-income households is remarkably constant across nutrients; on average, households with moderate nutrient availability have availability levels of 30 percent less for every nutrient than households with high nutrient availability, while households with low nutrient availability have availability levels of approximately 60 percent less for every nutrient than households with high nutrient availability. In addition, households with moderate nutrient availability used food at home worth an average of 25 percent less than households with high nutrient availability, and households with low nutrient availability used food worth only about half as much as food used by households with high nutrient availability.

The major finding of this study is that quantities of food used is the primary factor differentiating households on whether they achieve the RDA. For most of the 31 food groups examined, households in the high nutrient availability group used higher average quantities of food and had

higher average money values of food used than households in the moderate nutrient availability group. These households in turn used higher average quantities of food and had higher average money values of food used than households in the low nutrient availability group. In addition, low-income households with high nutrient availability were more likely than other low-income households to use at least the TFP quantities of each of the 31 food groups, and households with moderate nutrient availability were more likely than households with low nutrient availability to use at least the TFP quantities. In contrast, compositional differences in household food choices are much less important in differentiating households by whether they achieve the RDA. In general, the share of home food dollars allocated to different food groups only differed significantly between the high and low nutrient availability groups, and these differences correspond to statistically significant differences in nutrient densities for many nutrients. Relative to households with high nutrient availability, households with low nutrient availability spent a significantly smaller proportion of their home food dollars on high nutrient vegetables, other fruits, other cereals, and milk and yogurt, which are important sources of vitamin A, thiamin, iron, calcium, and riboflavin. Correspondingly, the densities of these nutrients are significantly lower in the foods used by households with low nutrient availability.

Two principal findings come from the analysis of the food choices of FSP households and other low-income nonparticipating households:

1. Proportionately more FSP households than low-income nonparticipating households achieved 100 percent of the RDA for all 11 nutrients and were in the high nutrient availability group. Consequently, overall, FSP households used higher average quantities and had higher average money values of food used for each food group than low-income nonparticipating households.
2. Within groups of households with similar nutrient availability levels, the food use of FSP households and low-income nonparticipating households were generally similar in both the quantities of food used and the composition of food choices. The major exceptions are red meats and eggs; FSP households with high and moderate levels of nutrient availability used significantly larger quantities of these foods than did other low-income households.

The comparison of the food choices of low-income households with the TFP-recommended diet shows that low-income households used relatively more vegetables, fruits, cheese, higher-cost red meats, poultry, bacon and

sausage, and fats and oils and relatively less whole-grain products, dry beans/peas/lentils, and soft drinks compared to the TFP. In addition, households with high nutrient availability were more likely than other low-income households to use the TFP quantities of each food group, providing further support for the finding that low-income households with high nutrient availability used the largest average quantities of food in every food group.

The analysis of the perceived adequacy of household food supplies reveals two interesting findings:

1. Household perceptions concerning the adequacy of their diets (including both quantity and quality of foods) were not related to the nutritional adequacy of household food use. Specifically, households that differed in their perceived adequacy of home food supplies generally did not differ in their level of nutrient availability. Moreover, the perceived adequacy of household food supplies is related to the quantities used and expenditure shares of only a few food groups (most notably, other vegetables, other flour/meal/rice/pasta, and poultry), rather than to systematic differences in quantities used and expenditure shares across most food groups.
2. FSP households were more likely than low-income nonparticipants to report that they sometimes did not have enough food, and they were less likely than nonparticipants to consider their food supplies as adequate in terms of quantity and desirability. In conjunction with the previous finding that proportionately more FSP households than nonparticipating households were in the high nutrient availability group and, hence, used higher average quantities of food, this finding suggests that the perceived adequacy of household food supplies is not generally related to the actual quantities of food used or to the expenditure shares of low income-households.

## I. INTRODUCTION

Existing knowledge of the nutritional adequacy of the food choices of U.S. low-income households is based primarily on data from the 1977-78 Low-Income Supplement to the Nationwide Food Consumption Survey and the 1979-80 Survey of Food Consumption in Low-Income Households. A consistent finding of studies analyzing these data is that, although the foods used by low-income households have average nutritive values exceeding the Recommended Daily Allowances (RDA), many households fail to use food that meets the RDA (USDA, 1981, 1982; Peterkin et al., 1982). For example, in 1977-78, only 42 percent of low-income households used food that met the 1974 RDA for all 11 nutrients examined; in 1979-80, that percentage dropped slightly to 39 percent of low-income households.<sup>1,2</sup>

Another important finding of previous analyses of the 1977-78 Low-Income Supplement to the Nationwide Food Consumption Survey is that a larger proportion of Food Stamp Program (FSP) participants than FSP-eligible nonparticipants used food that met the RDA (USDA, 1981, 1982). In 1977-78, 48 percent of FSP households used food that met the 1974 RDA for all 11 nutrients, while only 38 percent of nonparticipating low-income households used food that met the RDA. The comparable figures for 1979-80 are 46 percent of FSP participants and 34 percent of FSP-eligible nonparti-

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<sup>1</sup> The 11 nutrients are protein, calcium, iron, magnesium, phosphorus, vitamin A, thiamin, riboflavin, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, and vitamin C.

<sup>2</sup> It is important to note that the RDA are intakes of nutrients considered adequate for maintaining good nutrition in nearly all healthy persons in the United States and intakes less than the RDA do not necessarily imply dietary deficiencies.

participants. In addition, for food energy and for each individual nutrient, the percentage of FSP households with food use meeting the RDA is either greater than or approximately equal to the percentage of nonparticipating low-income households with food use meeting the RDA.

Although several previous analyses have examined household expenditure patterns for broad aggregate food groupings (Morgan et al., 1985; Morgan and Johnson, 1985), relatively few studies have examined the more detailed food choices of low-income households in order to understand why a substantial proportion of households fail to achieve the RDA. In addition, analyses of the food choices of FSP participants and nonparticipants provide little insight into the reasons for the existence of differences in the proportions meeting the RDA. Indeed, data from the two surveys show that the food choices of FSP participants and nonparticipants are generally similar; although, on average, FSP participants use larger quantities of food per person than do nonparticipants, the differences are small for most of the food groups (Morgan et al., 1985; USDA, 1981, 1982). One possible reason for this is that the data presented on food choices are for fairly aggregate food groups, and variations in quantities used of more detailed food groups may go undetected.

The overall objective of the analysis presented in this report is to investigate in detail the food choices of low-income households. More specifically, the analysis has four components:

1. An analysis of the quantities of food used and the composition of food choices to determine if differences between households that achieve the RDA and those that do not can be attributed to differences in quantities of food used or to qualitative differences in food choices

2. A comparison of the food choices of FSP participants and other nonparticipant low-income households
3. An examination of the extent to which the food choices of low-income households resemble the Thrifty Food Plan
4. An analysis of household perceptions concerning the quantity and quality of their food supplies

This report is organized as follows. The remainder of this chapter discusses the data used in this study, describes the analytic approach, and presents some descriptive data on the socioeconomic characteristics of low-income households. Chapter II presents our analysis of the food choices of low-income households. Chapter III discusses the food choices of FSP participants and low-income nonparticipants. Chapter IV compares the food choices of low-income households to the 1983 Thrifty Food Plan. Chapter V analyzes the perceived adequacy of household food supplies, and a summary concludes the report.

#### A. DATA

The data used in this report are from the 1979-80 Survey of Food Consumption in Low-Income Households (SFC-LI). This survey was conducted from November 1979 through March 1980 for a national probability sample of approximately 2,900 low-income housekeeping households eligible to receive benefits under the FSP.<sup>1</sup> It was comparable to the 1977-78 Low-Income Supplement to the Nationwide Food Consumption Survey (NFCS-LI), which was conducted from November 1977 through March 1978 for a national probability sample of approximately 4,400 low-income housekeeping

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<sup>1</sup> Housekeeping households are households with at least one person having 10 or more meals from household food supplies during the 7 days preceding the interview.

households. The objective of the 1979-80 SFC-LI was to provide information on changes in food use and dietary adequacy that were associated with increasing food prices and the elimination of the purchase requirement (EPR) in January 1979.

The sample design for the 1979-80 SFC-LI is a national probability sample of households in the 48 conterminous states that were eligible to participate in the FSP. Within each of the Primary Sampling Units selected, reporting districts were stratified by three income levels--less than 20 percent of households with incomes below poverty, 20-29 percent, and 30 percent or more. A total of 1,134 area segments was selected for interviewing. Onsite listings of current residences were made for each area segment and a random sample of these residences was selected. Sample weights were assigned to each of the sample cases such that the weighted sample is representative of the population of low-income households in the U.S.<sup>1</sup>

The 1979-80 SFC-LI provides detailed information on household food use. Household food use refers to food and beverages used from household food supplies during the seven days preceding the interview. Food purchased with cash, credit, or food stamps and food that was home-produced, received as a gift or payment for work, or received through other programs (e.g. WIC) are all included in the measure of household food use.

It is important to note that household food use is not equivalent to food intake by individuals in the household or to household diets. Food

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<sup>1</sup>The weighting factors used in the analysis have a mean of 1.01 and a standard deviation of 2.32. They range from a low of .051 to a maximum of 39.7.

intake refers to food actually eaten and is generally less than food used. The difference between the amount of food used and actual food intake can be attributed to food waste or loss and food provided to pets. Differences in survey methodologies for obtaining data on food used and food intake and reporting errors also may contribute to observed differences between food used and food intake.<sup>1</sup>

The survey methodology was based on a seven-day recall of food used from household food supplies. Respondent households had been contacted at least seven days prior to the actual interview and asked to maintain records of shopping lists, menus, grocery receipts, prices of food, and labels that would help them provide information on food use. For each food item used from household food supplies during the previous seven days, the interviewer recorded the type of food, form (fresh, canned, or frozen), quantity used, price paid (if appropriate), and source (purchased, home-produced, or gift or pay). Data were also collected on the number and type of meals (morning, noon, or evening) eaten from household food supplies by household members and others, on the snacks and refreshments eaten by guests, and on meals (but not foods) eaten away from home by household members. In addition to the data on food use, information was obtained on household characteristics presumed to be related to food use, such as participation in the FSP, participation in other food assistance programs (School Lunch, School Breakfast, and WIC), household composition, income, education and employment of the household heads, urbanization, and tenancy.

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<sup>1</sup> Food intake surveys usually cover 1 to 3 days (compared to 7 days for food use surveys) and are less likely to include weekend days when consumption is relatively high.

Data on household food energy and nutrient availability are calculated from the quantity of each food item used from household food supplies. Caloric and nutrient contents of each food item are obtained from tables of the nutritive value of foods.<sup>1</sup> Total household availability of food energy is derived by summing the food energy of the individual food items used. The household availability of nutrients is obtained in similar fashion by summing the nutritive values of the individual food items. Nutritive values pertain to the edible portion of the food used from household food supplies, with some adjustments for vitamin losses during preparation.

The measure of food expenditures used in this analysis is the money value of food used at home. It is obtained by multiplying the quantity (in pounds) of each food item used by its respondent-reported price per pound. Food not purchased directly by the household (i.e., home-produced food or food received as a gift or as pay) is valued at the average price per pound for that food item paid by survey households reporting its purchase and use. The money value of food used at home includes the money value of food used from household food supplies by household members, boarders, employees, and guests.

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<sup>1</sup>The sources for the nutritive values are B. Watt and A. Merrill, "Composition of Foods...Raw, Processed, Prepared." U.S. Department of Agriculture, Agricultural Handbook 8 (revised), 1963; the supplements to the Agricultural Handbook (8-2, 1976; 8-2, 1977; and 8-3, 1978); and M.L. Orr, "Pantothenic Acid, Vitamin B<sub>6</sub> and Vitamin B<sub>12</sub> in Foods," U.S. Department of Agriculture, Home Economic Research Report No. 36, 1969. Some values in these reports were revised by the Nutrient Data Research Branch of HNIS to reflect the current state of knowledge of nutritive values.

Two crucial features of the data from the 1979-80 SFC-LI are important to note. First, household nutrient availability data are based on food used from household food supplies. This point has two important implications. First, just as food used exceeds food intake, nutrient availability overstates nutrient intake.<sup>1</sup> Second, nutritive values are not available for food eaten away from home. If the number of meals away from home differs among groups of households, differences in nutrient availability will be observed regardless of whether or not any differences exist in the nutritive value of food used at home. Therefore, it is important to make an adjustment for the proportion of meals eaten at home when comparing nutrient availability from food used at home by subgroups of low-income households or when determining whether households used foods that satisfy the RDA.

A second feature of the 1979-80 SFC-LI is that the data are household-level data. While information is collected on each individual food item used, no information is available on which household member or other person eating from household food supplies used which food item. As a result, data on whether or not a household meets the RDA are based on the comparison of aggregate household food use to a household-level RDA, which is the sum of the RDA for individual household members and other persons eating from the household food supplies, appropriately adjusted for the proportion of meals eaten from household food supplies. An implicit assumption here is that a household with food use meeting the household-

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<sup>1</sup> In addition, neither nutrient availability nor nutrient intake are synonymous with nutritional status, since nutritional status depends not only on what is eaten but also on how the food is digested, metabolized, stored in the body, and excreted (Kennedy, 1983).

level RDA has an optimal distribution of food within the household, so that each individual household member or other person eating from household food supplies also meets the individual-level RDA.

Data on the nutritional adequacy of household food use in 1979-80, based on data from the SFC-LI, are presented in Table 1. This table shows the percentages of households with food use meeting 100 percent and 80 percent of the 1980 RDA, respectively, for food energy, for 11 specific nutrients, and for all 11 nutrients, where the RDA are based on the age and sex of the household members and on the proportion of meals eaten at home in a week. These data confirm the findings of previous analyses using the 1974 RDA: (1) a substantial proportion of households use food that does not meet the RDA for all 11 nutrients, and (2) the percentage of FSP participants with food choices meeting the RDA is consistently larger than the comparable percentage for other low-income households. Table 1 also shows that substantially higher percentages of low-income households make food choices that meet 80 percent of the RDA than 100 percent of the RDA.

## B. ANALYTIC APPROACH

As shown in Table 1, data from the 1979-80 SFC-LI show that a substantial proportion of households (43 percent) make food choices that fail to achieve even 80 percent of the RDA for all 11 nutrients. The primary aim of the analysis presented in this report is to examine in detail the food choices of low-income households in order to understand the factors accounting for differences among low-income households in the nutritional adequacy of their food choices.

Our basic analysis of the food choices of low-income households consists of a comprehensive descriptive analysis examining differences between subgroups of low-income households in the use of 31 food groups

TABLE 1

PERCENTAGES OF U.S. LOW-INCOME HOUSEHOLDS WITH FOOD  
USE MEETING 100 PERCENT AND 80 PERCENT OF THE 1980  
RDA FOR FOOD ENERGY AND FOR 11 NUTRIENTS, 1979-80

Nutrient	All Low-Income (N=2,925)		FSP Participants (N=1,616)		FSP Nonparticipants (N=1,309)	
	Meet 100%	Meet 80%	Meet 100%	Meet 80%	Meet 100%	Meet 80%
Food Energy	74.1	88.5	78.0	89.8	71.4	87.6
Protein	96.8	98.4	96.9	99.2	96.8	97.9
Vitamin A	77.6	88.9	82.0	89.5	74.4	88.5
Vitamin C	83.4	88.6	85.0	89.5	82.2	87.9
Thiamin	88.5	95.2	88.6	95.3	88.4	95.1
Riboflavin	90.8	96.0	92.3	96.6	89.7	95.5
Vitamin B <sub>6</sub>	56.5	76.1	64.0	80.4	51.1	73.1
Vitamin B <sub>12</sub>	75.0	87.0	78.3	88.5	72.7	86.0
Calcium	58.3	74.7	61.4	77.1	56.1	73.1
Phosphorus	92.8	97.5	93.1	96.1	92.5	98.5
Magnesium	68.9	83.7	73.6	85.8	65.5	82.2
Iron	78.1	88.5	77.7	85.9	78.3	90.4
All 11 Nutrients	35.9	57.0	42.4	60.9	31.2	54.3

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are calculated using weighted data.



1979-80 SFC-LI, approximately 35 percent of low-income households have high levels of nutrient availability, 20 percent of these households have moderate levels of nutrient availability, and 45 percent have low levels of nutrient availability.

For the analysis of the food choices of households that differ by their level of nutrient availability, we investigate the average quantities of food used per person, the average money values of food used per person, and the average prices paid for food used for the 31 food groups corresponding to the TFP. We also examine the composition and quality of household food choices by comparing the average food expenditure shares of the 31 food groups and by comparing the average availability of individual nutrients per 1,000 kilocalories of food energy (nutrient densities) by these subgroups of low-income households. Statistical tests of significance (t-tests) are conducted for the differences between subgroups in the quantities, prices, money values, and expenditure shares of the 31 food groups, as well as in the nutrient densities for individual nutrients.

Per person in this analysis always refers to per "equivalent nutrition unit", which is one measure of household size and is defined as the number of adult equivalent males eating meals from the household food supplies. It adjusts actual household size for both the age-sex composition of the household members and the proportion of meals eaten at home. The adjustment weights each household member or other person eating from household food supplies by the RDA for that member relative to the RDA for an adult aged 23-50 and by the proportion of meals eaten at home. For example, consider the following household with a male and female head aged

35, a boy aged 15, a girl aged 12, and no other persons eating from the household supplies:

Household Member	RDA for Food Energy (Kcal)	Relative Needs		Proportion of Meals Eaten At Home	=	Equivalent Nutrition Units
Male, aged 35	2,700	1.00	x	.67	=	.67
Female, aged 35	2,000	.74	x	1.00	=	.74
Male, aged 15	2,800	1.04	x	.71	=	.74
Female, aged 12	2,200	.81	x	.71	=	<u>.58</u>
Equivalent Nutrition Units						2.73

The number of equivalent nutrition units in this hypothetical household, based on the RDA for food energy, is 2.73 persons.<sup>1</sup>

A second question addressed by our analysis is how the food choices of FSP participants differ from those of other low-income households. To examine this question, we first stratify households within each of the three levels of nutrient availability by FSP participation status and then present tables showing (1) average quantities per person, money values per person, prices paid, and expenditure shares for the 31 food groups and (2) average nutrient densities for individual nutrients. Statistical tests of significance (t-tests) are conducted for the differences in these variables between FSP participants and low-income nonparticipants.

A third component of our analysis compares the quantities of food used by households to the quantities of food recommended by the TFP in

<sup>1</sup> For each household, the number of equivalent nutrition units is different for each nutrient, since the RDA and "relative need" of individual household members differ by nutrient.

order to examine the extent to which the food choices of low-income households resemble the TFP. Two measures are used to compare the quantities of food used to the TFP in each of the 31 food groups: (1) the median ratio of quantity used to the TFP quantity, and (2) the percentage of households using at least the TFP quantities.

A final component of our analysis is an investigation of household perceptions concerning the quantity and quality of their food choices. The 1979-80 SFC-LI included a question on the quantity and quality of foods eaten from the household food supplies. Responses to this question have been divided into three groups: (1) enough and desirable, (2) enough but not always desirable, and (3) sometimes not enough. Our analysis of the perceptions of household food supplies entails both a descriptive analysis of how the responses to this question vary by level of nutrient availability and FSP participation status and an analysis of the quantities of food used and expenditure shares of the 31 food groups for households that differ with respect to their perceptions of their food supplies.

### C. HOUSEHOLD CHARACTERISTICS

Before considering differences in the quantity and composition of the food choices of low-income households, it is useful to examine descriptive data on household demographic and socioeconomic characteristics. The descriptive profile of low-income households presented in this section includes information on household nutrient availability, household size, income, and food expenditures.

#### 1. Household Nutrient Availability

Table 2 presents descriptive data on nutrient availability per person for the three subgroups of low-income households. This table shows

TABLE 2

DESCRIPTIVE DATA OF NUTRIENT AVAILABILITY PER PERSON  
FOR FOOD ENERGY AND 11 NUTRIENTS, BY LEVEL OF NUTRIENT  
AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

Nutrient	1980 Adult Male RDA	All Low- Income Households	Household Food Use Meeting 100% of the RDA For All 11 Nutrients	Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients	Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients
Food Energy (Kcal)	2,700	3,741.62	4,922.98	3,728.48	2,762.45
Protein (g)	56	125.06	167.38	122.25	91.14
Vitamin A (IU)	5,000	10,425.40	15,004.50	9,764.56	6,930.46
Vitamin C (mg)	60	140.87	193.32	139.03	98.03
Thiamin (mg)	1.4	2.55	3.46	2.47	1.83
Riboflavin (mg)	1.6	3.12	4.27	3.04	2.19
Vitamin B <sub>6</sub> (mg)	2.2	2.50	3.44	2.39	1.77
Vitamin B <sub>12</sub> (µg)	3.0	5.89	7.97	5.87	4.17
Calcium (mg)	800	967.58	1,334.19	948.79	670.96
Phosphorus (mg)	800	1,623.41	2,176.38	1,586.86	1,180.04
Magnesium (mg)	350	458.95	616.64	461.56	326.10
Iron (mg)	10	15.92	21.68	15.42	11.35
Sample Size		2,925	1,025	582	1,318

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

that, on average, households with high nutrient availability overall have higher levels of food energy and greater availability of each of the individual nutrients than do households with moderate levels of nutrient availability, which in turn have higher levels of food energy and nutrients available than do households with low levels of nutrient availability. The amount by which the average availability of individual nutrients differs between groups of low-income households is remarkably constant across nutrients; on average, households with moderate nutrient availability have availability levels of 30 percent less for every nutrient than households with high nutrient availability, while households with low nutrient availability have availability levels of approximately 60 percent less for every nutrient than households with high nutrient availability.

## 2. Household Size and Composition

As shown in Table 3, in 1979-80 the average size of low-income households in the U.S. was 3.37 persons. Households with high nutrient availability and with low nutrient availability both had slightly fewer persons, on average (3.28 and 3.25, respectively), than households with moderate nutrient availability, which had an average of 3.76 persons. In general, FSP households were smaller than other low-income households, with the exception that among households with low nutrient availability, FSP participants had slightly larger households than nonparticipants (3.43 versus 3.15 persons). In addition, the average size of FSP households increased as the level of nutrient availability decreased. These differences among subgroups of low-income households persist when household size is measured in equivalent nutrition units, the measure of household size that is adjusted for the age/sex composition of the household and for the proportion of meals eaten at home.

TABLE 3

SELECTED CHARACTERISTICS OF U.S. LOW-INCOME HOUSEHOLDS IN 1979-80:  
HOUSEHOLD SIZE, INCOME, FOOD EXPENDITURES  
(Means, except as noted)

Household Characteristic	All Low-Income Households			Household Food Use Meeting 100% of the RDA For All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients		
	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants
Household Size (persons)	3.37	3.19	3.50	3.28	2.91	3.62	3.76	3.32	4.02	3.25	3.43	3.15
Household Size in Equivalent Nutrition Units	2.39	2.20	2.52	2.29	1.96	2.61	2.65	2.28	2.87	2.34	2.42	2.29
Percent of Households With Members Age: 6 years or less	38.20	43.56	34.39	42.67	41.35	43.95	39.73	42.53	38.13	33.72	46.44	25.97
60 years or more	31.97	28.54	34.40	28.12	24.89	31.25	28.20	33.14	25.39	37.03	30.33	41.11
Household Weekly Cash Income (\$)	117.35	92.81	134.82	115.88	84.19	146.50	133.47	99.79	152.65	110.65	98.85	117.84
Food Stamp Weekly Bonus Value (\$)	9.24	22.28	0	10.89	22.16	0	7.79	21.47	0	8.62	22.78	0
Household Cash Income Plus Value of Food Stamp Bonus (\$/week)	126.62	115.09	134.82	126.77	106.35	146.50	141.26	121.27	152.65	119.28	121.63	117.84
Household Income Plus Food Stamp Bonus Per Adult Male Equivalent (\$/week)	56.01	55.48	56.39	57.92	59.12	56.75	54.70	53.45	55.41	55.07	52.48	56.64
Money Value of Food Used at Home Per Equivalent Nutrition Unit (\$/week)	23.14	24.59	22.10	30.40	32.26	28.59	23.50	24.05	23.18	16.90	17.12	16.53
Money Value of Food Used at Home Relative to the Cost of the Thrifty Food Plan	1.35	1.42	1.29	1.78	1.85	1.71	1.38	1.39	1.37	.97	.97	.97
Household Sample Size	2,925	1,616	1,309	1,025	615	410	582	321	261	1,318	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means and proportions are weighted; sample sizes are unweighted. Figures are computed using data from households with valid responses (i.e., non-missing) for that question.

Approximately 38 percent of all low-income households included children who were six years old or younger. A higher percentage of households with high nutrient availability included children age six or less (42.7 percent), while a lower proportion of households with low nutrient availability included young children (33.7 percent). In general, FSP households were more likely to contain young children than were nonparticipants; however, among households with high nutrient availability, FSP participants were slightly less likely than other low-income households to include young children (41.4 versus 44.0 percent). Further, as nutrient availability levels decrease, the percentage of FSP households that have young children increases. The reverse is true for nonparticipating low-income households.

Although households with low nutrient availability were less likely to have a young child, they were substantially more likely to include an older person than were households with high or moderate nutrient availability (37.0 versus 28.1 and 28.2 percent, respectively). FSP participants were less likely than nonparticipants to include a person age 60 or over, except for households with moderate nutrient availability, among whom FSP participants were more likely than nonparticipants to include an older person.

### 3. Household Income

Descriptive data on household income presented in Table 3 show the average weekly cash income of all U.S. low-income households in 1979-80 was 117 dollars. Households with moderate nutrient availability earned the highest average cash income (\$133), followed by households with high nutrient availability (\$116) and households with low nutrient availability (\$111). However, since households with moderate nutrient availability were

also relatively larger in size, the average weekly cash income adjusted for household size and composition (adult male equivalent) for this group of households was quite similar to that for the other low-income households.

The average weekly cash income of FSP participants was substantially less than that of nonparticipants for all low-income households (\$93 versus \$135), as well as for all subgroups of households by level of nutrient availability. These differences persist when average weekly cash income is adjusted for household size and composition.

Including the amount of the food stamp bonus in the income of FSP participants brings their average weekly income closer to the average income of nonparticipants but does not eliminate the disparity in average income. However, because of differences between FSP participants and nonparticipants in household size and composition, including food stamp bonuses in weekly income makes the average adjusted weekly income of FSP participants comparable to that of nonparticipants.

#### 4. Money Value of Food Used

The data in Table 3 also indicate that the average money value of food used at home per person per week was \$23.14. Examining average money values of food used at home in more detail reveals that households with high nutrient availability used food of the highest money value per person per week (\$30.40), households with moderate nutrient availability used food of the next highest money value per person per week (\$23.50), and households with low nutrient availability used food with the lowest money value per person per week (\$16.90). Put another way, households with moderate nutrient availability used food at home worth an average of 25 percent less than households with high nutrient availability, and

households with low nutrient availability used food worth only about half as much as food used at home by households with high nutrient availability.

Within groups of households by level of nutrient availability, the differences between FSP participants and nonparticipants in the average money value of food used at home per person per week are relatively small. In every case, the average money value of food used at home was slightly larger for FSP participants than for nonparticipants.

#### 5. Social and Demographic Characteristics

Table 4 presents data on social and demographic characteristics of low-income households in 1979-80. In general, these data show relatively few differences in the socioeconomic status of households according to their level of nutrient availability. The exception is that among all FSP households, those with the lowest level of nutrient availability were more likely than other FSP households to have a male head present, a male head employed, and a male head less than 35 years of age.

Differences in socioeconomic status between FSP participants and other low-income households are much more striking than differences among households of different levels of nutrient availability. FSP participants were far less likely than other low-income households to have a male household head present, and twice as many FSP participants had only a female household head. Relative to low-income nonparticipating households, male heads of FSP households tended to be older (especially in households with moderate and high levels of nutrient availability) and were much less likely to have graduated from high school or to be employed. Female heads of FSP households tended to be more middle-aged than the female heads of

TABLE 4

SELECTED CHARACTERISTICS OF U.S. LOW-INCOME HOUSEHOLDS IN 1979-80:  
SOCIAL AND DEMOGRAPHIC CHARACTERISTICS  
(percent of households)

Household Characteristic	All Low-Income Households			Household Food Use Meeting 100% of the RDA For All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients		
	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants	All	FSP Participants	FSP Nonparticipants
Male Head Present in Household	55.3	37.8	67.8	52.8	33.8	71.1	59.3	37.8	71.6	55.4	42.1	63.6
Age of Male Head:												
Less than 35 years	44.5	35.0	48.3	42.3	30.7	47.6	45.1	26.3	50.7	46.0	42.5	47.4
35 to 59 years	34.4	34.9	34.3	35.2	42.3	32.0	36.9	33.4	37.9	32.6	29.1	34.0
60 years and over	21.0	30.1	17.5	22.5	27.1	20.5	18.1	40.4	11.4	21.4	28.4	18.6
Education of Male Head:												
Less than high school	63.4	72.2	59.9	66.4	71.2	64.2	67.0	77.9	63.7	59.0	70.6	54.3
Completed high school	32.8	25.2	35.9	31.4	28.3	32.8	29.9	21.3	32.4	35.6	24.0	40.2
Completed college	3.8	2.7	4.3	2.2	0.5	3.0	3.1	0.8	3.8	5.4	5.4	5.5
Male Head Employed	26.3	11.9	36.5	28.9	11.2	46.0	22.6	8.3	30.8	25.8	14.4	32.8
Female Head Present in Household	92.9	94.4	91.9	93.5	94.2	92.9	91.2	96.4	88.2	93.3	93.7	93.1
Age of Female Head:												
Less than 35 years	37.6	35.3	39.3	40.2	36.4	44.0	37.7	39.5	36.6	35.3	32.0	37.4
35 to 59 years	39.5	43.5	36.6	40.9	45.5	36.4	39.0	36.1	40.8	38.6	44.8	34.8
60 years and over	22.9	21.3	24.1	18.9	18.1	19.7	23.3	24.4	22.7	26.1	23.2	27.8
Education of Female Head:												
Less than high school	63.7	66.3	61.7	66.3	66.4	66.2	64.6	73.2	59.2	61.0	62.9	59.8
Completed high school	34.0	32.5	35.1	30.3	31.0	29.6	32.8	26.4	36.7	37.7	37.0	38.1
Completed college	2.3	1.2	3.2	3.4	2.6	4.2	2.7	0.4	4.1	1.3	0.1	2.1
Female Head Employed	17.9	10.9	22.9	17.7	10.4	24.7	20.7	16.1	23.4	16.7	9.0	21.4
Race and Ethnicity:												
Black	33.9	48.2	23.7	31.6	42.4	21.0	28.8	51.8	15.7	38.3	52.7	29.5
Hispanic	5.6	7.1	4.5	6.0	8.4	3.8	5.2	8.3	3.5	5.3	5.0	5.5
Region:												
Northeast	22.3	23.0	21.8	27.4	27.6	27.2	25.7	22.6	27.5	16.3	18.2	15.2
North Central	20.3	22.7	18.5	21.0	24.6	17.5	18.3	18.6	18.2	20.6	22.5	19.5
South	46.4	47.2	45.7	43.6	41.6	45.6	47.1	47.5	46.8	48.3	53.2	45.3
West	11.1	7.1	14.0	8.0	6.3	9.8	8.9	11.4	7.5	14.8	6.1	20.1
Own Home	42.3	22.7	56.3	43.7	19.5	67.1	46.0	22.5	59.4	39.3	26.2	47.3
Household Sample Size	2,925	1,616	1,309	1,025	615	410	582	321	261	1,318	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted. Figures are computed using data from households with valid responses (i.e. non-missing) for that question. Percentages may not add up to 100 percent due to rounding.

eligible nonparticipating households. FSP participants were also far less likely to have a female head employed and to own their house than were nonparticipants.

## 6. Summary

In summary, the descriptive profile of low-income households in 1979-80 shows that on average, the degree to which households have food choices that satisfy the RDA is not strongly associated with their income per person (including food stamps) or other measures of socioeconomic status, but is strongly related to their money value of food used at home. Households with high nutrient availability had a higher average money value of food used than households with moderate levels of nutrient availability, and they in turn had a higher average money value of food used than households with low nutrient availability. In addition, FSP participants had lower cash income than nonparticipants, yet with their FSP benefits they had comparable levels of income, on average, and had average money values of food used that were slightly higher than nonparticipants with the same level of nutrient availability. Despite very small differences in income per person (including FSP benefits) and the money value of food used per person between FSP participants and other low-income households, FSP participants were much less likely than other low-income households to have a male head present, a male head that completed high school, and a male or female head that was employed.

## II. HOUSEHOLD FOOD CHOICES: QUANTITY VERSUS QUALITY

The first goal of the analysis is to determine whether those low-income households who use foods meeting the RDA do so because they use larger quantities of food or because they choose more nutritious foods than households that do not use foods that meet the RDA. The analysis presented in this chapter examines average quantities of food used per person in each of the 31 food groups defined in the TFP, average money values and prices of food used, and the share of home food dollars (expenditure shares) allocated to the 31 food groups, as well as the average nutrient densities in the foods used by low-income households. As discussed in Chapter I, households are divided into three levels of nutrient availability: (1) households with food use meeting 100 percent of the RDA for all 11 nutrients (high nutrient availability), (2) households with food use meeting 80 to 99 percent of the RDA for all 11 nutrients (moderate nutrient availability), and (3) households with food use not meeting 80 percent of the RDA for all 11 nutrients (low nutrient availability).

Average quantities of food used per person, average money values of food used per person, and average prices per pound for each of the 31 food groups are presented in Table 5 for households with high, moderate, and low levels of nutrient availability. In general, Table 5 shows that households with high nutrient availability used larger average quantities of food per person than households with moderate nutrient availability, and households with moderate nutrient availability used larger average quantities per person than households with low nutrient availability. Specifically, households with high nutrient availability used a significantly larger

TABLE 5  
HOUSEHOLD FOOD USE BY LEVEL OF NUTRIENT  
AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients (N=582)			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients (N=1,318)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
<b>Vegetables, Fruits</b>									
Potatoes	2.37*	.36	.16	1.87	.31**	.18	1.51+	.23+	.18
High-nutrient vegetables	3.74*	1.57*	.47	2.48**	1.02**	.45	1.62+	.71+	.50
Other vegetables	3.18*	1.37*	.44	2.18**	.98**	.46	1.65+	.73+	.46
Mixtures, mostly vegetables; condiments	.73*	.44	.69	.48	.25	.57	.34+	.17+	.61
Vitamin C-rich fruit	2.82*	1.05	.43	2.11	.83**	.45	1.67+	.56+	.42
Other fruit	3.10*	1.36*	.46	1.89	.85	.58**	1.38+	.56+	.43
<b>Grain Products</b>									
Whole-grain/high-fiber breakfast cereals	.28	.29	1.13	.24**	.25**	1.10	.13+	.14+	1.03
Other breakfast cereals	.36*	.51*	1.65	.19	.29	1.84	.15+	.20+	1.55
Whole-grain/high-fiber flour, meal, rice, pasta	.11	.06	1.09*	.08	.05	2.33**	.07	.05	1.11
Other flour, meal, rice, pasta	1.75	.70*	.49	1.32	.50	.47	.97+	.39+	.55
Whole-grain/high-fiber bread	.13	.15	1.33	.10	.12	1.25	.09	.11	1.28
Other bread	.98	.86	.92	.84**	.78**	.99	.68+	.61+	.92
Bakery products	.46	.95	2.40	.35**	.81**	2.68	.24+	.52+	2.84
Grain mixtures	.15	.37	3.53	.13**	.49**	4.60	.06+	.19+	3.97
<b>Milk, Cheese, Cream</b>									
Milk, yogurt	10.18*	2.39*	.24	6.83**	1.69**	.25	4.85+	1.15+	.25
Cheese	2.38	.89	.49	1.79**	.70**	.49	1.10+	.47+	.58
Cream; mixtures, mostly milk	.63	.45	1.02	.45	.32	1.46	.33+	.24+	1.83+

TABLE 5 (continued)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients (N=582)			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients (N=1,318)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
<b>Meat and Alternates</b>									
Higher-cost red meats, variety	1.77*	2.95	1.83	1.17	2.12	1.99	.93+	1.59+	1.86
Lower-cost red meats, variety meats	2.27*	3.17*	1.45	1.38	2.05	1.48	1.31+	1.83+	1.50
Poultry	2.14	1.79	.90	1.71	1.40	.89	1.33+	1.09+	.86
Fish, shellfish	.68	1.01	1.73*	.47	.89**	2.00	.34+	.53+	1.88
Bacon, sausage, luncheon meats	1.34*	2.00*	1.53	1.02	1.48	1.59	.86+	1.27+	1.51
Eggs	1.13	.65*	.58	.98**	.54**	.57	.73+	.41+	.57
Dry beans, peas, lentils	.36	.27	.89	.25	.20	.94	.19+	.13+	.81
Mixtures, mostly meat, poultry, fish, egg, legume	.27	.31	1.25	.29	.35	1.07**	.18	.24	1.39
Nuts, peanut butter	.23	.30	1.34*	.20**	.33**	1.82	.10+	.14+	1.44
<b>Other Foods</b>									
Fats, oils	1.21*	.96*	.86	.95**	.75**	.81	.73+	.53+	.75+
Sugar, sweets	1.57	.91*	.75	1.30**	.69**	.62**	.81+	.48+	.79
Soft drinks, punches, ades	.65	.95	2.62*	.38	.75	2.67	.43	.66	2.72
Seasonings	.004	.01	2.58	.002	.01	3.38**	.002	.003+	1.38+
Coffee, tea	.20	.99	6.70	.22**	.96**	5.91	.14+	.65+	6.81
<b>TOTAL</b>	<b>47.18*</b>	<b>30.05*</b>	<b>--</b>	<b>33.64**</b>	<b>22.76**</b>	<b>--</b>	<b>24.92+</b>	<b>16.58+</b>	<b>--</b>

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted. Per person is per equivalent nutrition unit (21-meal-at-home-adult-male-equivalent person).

\*: Different from the mean value for households with food use meeting 80-99 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

\*\* : Different from the mean value for households with food use not meeting 80 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

+ : Different from the mean value for households with food use meeting 100 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

total quantity of food than households with moderate nutrient availability. Individual food groups for which there are statistically significant differences in quantities used between households with high and moderate nutrient availability include all fruits and vegetables, other breakfast cereals, milk, red meats, bacon and sausage, and fats and oils. In addition, households with moderate nutrient availability used a significantly larger total quantity of food, on average, than households with low nutrient availability. With respect to the specific food groups, they used significantly more vegetables, whole-grain cereals, other bread, bakery products, grain mixtures, milk, cheese, fish, eggs, nuts, fats and oils, sugar and sweets, and coffee and tea. Finally, compared to households with high nutrient availability, households with low nutrient availability used a significantly smaller total quantity of food and significantly smaller quantities of all individual food groups except whole grain flour, whole-grain bread, meat mixtures, soft drinks, and seasonings, which they also used in smaller quantities, but not significantly.

Differences in the average money value of food used per person closely parallel the differences in average quantities of food used per person, although fewer differences are statistically significant. Households with high nutrient availability had a significantly higher money value of food used per person than households with moderate nutrient availability (\$30.05 versus \$22.76).<sup>1</sup> The specific food groups for which they spent significantly more money include vegetables, other fruit, other breakfast cereals, other flour, milk, lower-cost red meats, bacon and

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<sup>1</sup> These total money values do not include money spent for alcoholic beverages.

sausage, eggs, fats and oils, and sugar and sweets. Households with moderate nutrient availability in turn had a significantly higher money value of food used per person than households with low nutrient availability (\$22.76 versus \$16.58). In particular, they spent significantly more on potatoes, vegetables, vitamin-C-rich fruit, whole-grain cereals, other bread, bakery products, grain mixtures, milk, cheese, fish, eggs, nuts, fats and oils, sugar and sweets, and coffee and tea. Finally, households with high nutrient availability spent significantly more money than households with low nutrient availability on food use for nearly all 31 food groups.

The magnitude of the findings presented in Table 5 show that as nutrient availability decreases, the quantities and money values of vegetables, vegetable mixtures, other fruit, other breakfast cereals, milk/yogurt, cheese, cream, red meats, fish, and dry beans/peas/lentils decrease the most dramatically. Households with moderate nutrient availability used two-thirds to three-fourths as much of these food groups as households with high nutrient availability, and households with low nutrient availability used approximately one-half as much of these food groups as households with high nutrient availability. Similarly, compared to households with high nutrient availability, households with moderate nutrient availability spent two-thirds to three-fourths as much on these food groups and households with low nutrient availability spent approximately one-half as much on these food groups.

In addition to average quantities of food used and average money values of food used per person, Table 5 shows average prices paid by low-income households for each food group in order to determine whether the

food shopping efficiency (as reflected in price differentials) of households differs for households of high, moderate, and low nutrient availability. The results show that the average prices paid by households with high, moderate, and low nutrient availability tended to be very similar, with very few significant differences in prices paid by these households and no consistent pattern of differences between groups of low-income households. The only major difference in price faced by low-income households was for whole grain/high-fiber flour for which households with moderate nutrient availability paid significantly more than households with either high or low nutrient availability.

Table 6 presents data on the share of home food dollars allocated to the 31 food groups of the TFP. These data show that red meats (both high- and low-cost), poultry, bacon and sausage, and milk accounted for the largest proportion of the total money value of food used at home of all low-income households. Table 6 also shows that in general, the average expenditure shares for households with high, moderate, and low nutrient availability are quite similar, although households with moderate nutrient availability spent proportionately less of their total home food budget than households with high nutrient availability on other fruit and proportionately more on grain mixtures. In addition, households with low nutrient availability spent proportionately less of their total home food dollars than households with moderate nutrient availability on grain mixtures and proportionately more on lower-cost red meats. The largest differences in expenditure shares appear when comparing the high and low nutrient availability groups. Households with low nutrient availability spent a significantly lower proportion of their home food budget on high-

TABLE 6

HOUSEHOLD EXPENDITURE SHARES, BY LEVEL OF NUTRIENT  
AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80  
(percentage of home food dollar)

The table content is completely obscured by heavy horizontal black bars, rendering the data unreadable.

TABLE 6 (continued)

	Household Food Use Meeting 100% of the RDA For All 11 Nutrients	Household of Food Use Meeting 80-99% of the RDA For All 11 Nutrients	Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients
<u>Meat and Alternates</u>			
Higher-cost red meats, variety	8.79	8.07	9.27
Lower-cost red meats, variety meats	10.27	8.87**	11.12 *
Poultry	5.99	5.58	6.54
Fish, shellfish	3.14	3.70	3.04
Bacon, sausage, luncheon meats	6.57	6.85	7.90+
Eggs	2.25	2.54	2.62+
Dry beans, peas, lentils	.98	.92	.87
Mixtures, mostly meat, poultry, fish, egg, legume	1.04	1.47	1.35
Nuts, peanut butter	1.05	1.31	.84
<u>Other Foods</u>			
Fats, oils	3.21	3.21	3.24
Sugar, sweets	3.04	3.13	2.77
Soft drinks, punches, ades	3.10	3.24	3.60
Seasonings	.03	.02	.02
Coffee, tea	3.29	4.18	3.83
TOTAL <sup>a</sup>	98.96	97.86	98.65
Sample Size	1,025	582	1,318

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

<sup>a</sup> Total does not include alcoholic beverages.

\*: Different from the mean value for households with food use meeting 80-99 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

\*\* : Different from the mean value for households with food use not meeting 80 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

+ : Different from the mean value for households with food use meeting 100 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

nutrient vegetables, other cereals, and milk (foods containing nutrients more apt to be missing from household diets) and a significantly higher proportion of their total home food budget on other bread, bacon and sausage, and eggs than did households with high nutrient availability.

As additional information on the qualitative differences in the food choices of low-income households, Table 7 provides data on the availability of individual nutrients per 1,000 kilocalories of food energy (nutrient densities). These findings indicate that for the most part, only the average nutrient densities of food used by households with high and low nutrient availability are significantly different. Households with high nutrient availability used foods with higher availability of vitamin A, thiamin, riboflavin, calcium, vitamin B<sub>6</sub>, and iron per 1,000 kilocalories of food energy compared to the foods used by households with low nutrient availability. Households with moderate nutrient availability also used foods with a lower density of vitamin B<sub>6</sub> relative to households with high nutrient availability, but there were no statistically significant differences in nutrient densities between households with moderate and low nutrient availability. Thus, the data suggest that food choices containing lower average densities of several nutrients do contribute to the lower overall nutrient availability of some low-income households.

As noted earlier, there are relatively few significant differences between groups of low-income households in expenditure shares for specific food groups; however, the differences observed, primarily differences between households with high and low nutrient availability, are consistent with and could have contributed to the differences found between these subgroups of households in the average densities of some nutrients. More

TABLE 7  
 AVERAGE NUTRIENT DENSITIES FOR 11 NUTRIENTS, BY LEVEL  
 OF NUTRIENT AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients (N= 1,025)	Household Food Use Meeting 80-99% of the RDA for All 11 Nutrients (N= 582)	Household Food Use Not Meeting 80% of the RDA for All 11 Nutrients (N= 1,318)
Protein (g)	35.50	34.36	35.70
Vitamin A (IU)	3,374.16	2,895.92	2,868.04+
Vitamin C (mg)	51.81	48.54	47.86
Thiamin (mg)	.72	.69	.69+
Riboflavin (mg)	.93	.89	.86+
Vitamin B <sub>6</sub> (mg)	.80*	.74	.75+
Vitamin B <sub>12</sub> (µg)	2.12	2.11	2.06
Calcium (mg)	389.01	367.98	343.10+
Phosphorus (mg)	621.28	601.28	599.75
Magnesium (mg)	140.22	140.40	134.19
Iron (mg)	7.56	7.12	7.09+

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

\*: Different from the mean value for households with food use meeting 80-99 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

+: Different from the mean value for households with food use meeting 100 percent of the RDA for all 11 nutrients at the .05 level of significance, two-tailed test.

specifically, relative to households with high nutrient availability, households with low nutrient availability spent a significantly smaller proportion of their home food dollars on high-nutrient vegetables, an important source of vitamin A; other fruits, possibly also a source of vitamin A; other cereals, a source of thiamin and iron; and milk and yogurt, important sources of calcium and riboflavin. On the other hand, households with low nutrient availability also spent a significantly larger proportion of their home food dollars on bacon, sausage, and luncheon meats, an expensive food group limited in needed nutrients.

In summary, the results presented in Tables 5, 6, and 7 suggest that the major factor differentiating households with different levels of nutrient availability is the quantities (and money values) of food used. For many of the 31 food groups examined, households that achieved 100 percent of the RDA used higher average quantities of food and had higher average money values of food used than households with moderate levels of nutrient availability, who in turn used higher average quantities of food and had higher average money values of food used than households with low levels of nutrient availability. In contrast, there are relatively few significant differences in the average prices paid or in the average expenditure shares of households, suggesting that in terms of the 31 food groups the composition of the food choices of low-income households does not differ as much as quantities of food used for households with high, moderate, and low nutrient availability. For the most part, only differences in expenditure shares between households with high and low nutrient availability are significant, and for these households, only the differences for about one-third of the food groups are significant.

However, differences in the average densities of some nutrients in the foods used by households with high and low nutrient availability appear to contribute to the differences in overall nutrient availability between these groups of households.

### III. FOOD CHOICES OF FOOD STAMP PROGRAM PARTICIPANTS AND NONPARTICIPANTS

The descriptive data presented in Chapter I show that a larger proportion of FSP participants than low-income nonparticipants use foods that satisfy either 100 percent or 80 percent of the RDA. These data also imply that proportionately more FSP participants than nonparticipants fall into the high nutrient availability group. Specifically, while 42 percent of FSP households have high nutrient availability, only 31 percent of other low-income households fall into that category (see Table 1). In this chapter we focus our analysis on the quantity and composition of the foods used by FSP participants within groups of households with different levels of nutrient availability and compare them to low-income nonparticipants in order to gain more insight into differences in the food choices of low-income households according to whether or not they receive FSP benefits.

Average quantities of food used per person, average money values of food used per person, and average prices per pound are presented in Tables 8 through 10 for FSP participants and other low-income households with high, moderate, and low nutrient availability. In general, these results show few significant differences in the average quantities of food used between FSP participants and other low-income households. Two exceptions to this are red meats and eggs; for households with high and moderate nutrient availability (Tables 8 and 9, respectively), FSP participants used higher average quantities of these foods than low-income nonparticipants. In addition, Table 9 shows that among households with moderate nutrient

TABLE 8

HOUSEHOLD FOOD USE, BY FOOD STAMP PROGRAM PARTICIPATION, U.S. LOW-INCOME  
HOUSEHOLDS MEETING 100 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Households with Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)			FSP Participants (N=615)			FSP Nonparticipants (N=410)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
<b>Vegetables, Fruits</b>									
Potatoes	2.37	.36	.16	2.34	.35	.16	2.40	.37	.17
High-nutrient vegetables	3.74	1.57	.47	3.78	1.57	.45	3.71	1.58	.49
Other vegetables	3.18	1.37	.44	3.28	1.39	.43	3.08	1.34	.44
Mixtures, mostly vegetables; condiments	.73	.44	.69	.74	.50	.78	.71	.38	.61
Vitamin C-rich fruit	2.82	1.05	.43	3.33	1.30*	.45	2.33	.81	.40
Other fruit	3.10	1.36	.46	2.83	1.21	.45	3.36	1.51	.47
<b>Grain Products</b>									
Whole-grain/high- fiber breakfast cereals	.28	.29	1.13	.30	.31	1.14	.26	.27	1.11
Other breakfast cereals	.36	.51	1.65	.34	.51	1.75	.39	.51	1.55
Whole-grain/high-fiber flour, meal, rice, pasta	.11	.06	1.09	.13	.08	1.16	.10	.05	1.01
Other flour, meal, rice, pasta	1.75	.70	.49	1.95	.75	.45	1.56	.65	.53
Whole-grain/high-fiber bread	.13	.15	1.33	.14	.17	1.47*	.12	.14	1.21
Other bread	.98	.86	.92	.95	.89	.95	1.00	.83	.90
Bakery products	.46	.95	2.40	.50	1.04	2.57	.42	.85	2.24
Grain mixtures	.15	.37	3.53	.14	.37	3.69	.16	.37	3.39
<b>Milk, Cheese, Cream</b>									
Milk, yogurt	10.18	2.39	.24	10.52	2.57	.25	9.84	2.23	.23
Cheese	2.38	.89	.49	2.31	.87	.53	2.44	.91	.46
Cream; mixtures, mostly milk	.63	.45	1.02	.53	.42	1.20	.72	.48	.89

TABLE 8 (continued)

	All Households with Food Use Meeting 100% of the RDA for All 11 Nutrients (N= 1,025)			FSP Participants (N=615)			FSP Nonparticipants (N=410)		
	Quantity	Money Value		Quantity	Money Value		Quantity	Money Value	
	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)
<b>Meat and Alternates</b>									
Higher-cost red meats, variety	1.77	2.95	1.83	2.19*	3.61*	1.78	1.37	2.31	1.88
Lower-cost red meats, variety meats	2.27	3.17	1.45	2.74*	3.73*	1.41	1.81	2.62	1.49
Poultry	2.14	1.79	.90	2.26	1.81	.82	2.03	1.76	.97
Fish, shellfish	.68	1.01	1.73	.72	1.06	1.74	.64	.95	1.73
Bacon, sausage, luncheon meats	1.34	2.00	1.53	1.43	2.06	1.50	1.26	1.93	1.57
Eggs	1.13	.65	.58	1.26*	.73*	.59	.99	.57	.58
Dry beans, peas, lentils	.36	.27	.89	.40	.30	.93	.32	.23	.85
Mixtures, mostly meat, poultry, fish, egg, legume	.27	.31	1.25	.28	.25	1.04*	.26	.38	1.42
Nuts, peanut butter	.23	.30	1.34	.21	.30	1.46	.26	.30	1.25
<b>Other Foods</b>									
Fats, oils	1.21	.96	.86	1.29	1.02	.82	1.12	.91	.89
Sugar, sweets	1.57	.91	.75	1.66	.92	.80	1.49	.90	.69
Soft drinks, punches, adea	.65	.95	2.62	.58	.99	2.98*	.73	.92	2.28
Seasonings	.004	.01	2.58	.005	.01	2.18*	.003	.01	3.39
Coffee, tea	.20	.99	6.70	.21	.96	6.29	.19	1.03	7.09
<b>TOTAL</b>	<b>47.18</b>	<b>30.05</b>	<b>--</b>	<b>49.38</b>	<b>32.05*</b>	<b>--</b>	<b>45.06</b>	<b>28.12</b>	<b>--</b>

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted. Per person is per equivalent nutrition unit (21-meal-at-home-adult-male-equivalent).

\*: Different from the mean value for FSP nonparticipants at the .05 level of significance, two-tailed test.

TABLE 9

HOUSEHOLD FOOD USE, BY FOOD STAMP PARTICIPATION, U.S. LOW-INCOME  
HOUSEHOLDS MEETING 80 TO 99 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Households with Food Use Meeting 80-99% of the RDA for All 11 Nutrients (N= 582)			FSP Participants (N=321)			FSP Nonparticipants (N=261)		
	Quantity	Money Value		Quantity	Money Value		Quantity	Money Value	
	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)
<b>Vegetables, Fruits</b>									
Potatoes	1.87	.31	.18	1.65	.28	.19	1.99	.33	.18
High-nutrient vegetables	2.48	1.02	.45	2.24	.89	.43	2.62	1.09	.47
Other vegetables	2.18	.98	.46	2.00	.80	.40*	2.29	1.08	.49
Mixtures, mostly vegetables; condiments	.48	.25	.57	.42	.24	.66	.51	.26	.53
Vitamin C-rich fruit	2.11	.83	.45	2.06	.81	.45	2.14	.84	.45
Other fruit	1.89	.85	.58	2.00	.90	.48	1.82	.83	.64
<b>Grain Products</b>									
Whole-grain/high- fiber breakfast cereals	.24	.25	1.10	.22	.23	1.12	.25	.26	1.08
Other breakfast cereals	.19	.29	1.84	.19	.30	1.80	.19	.28	1.86
Whole-grain/high-fiber flour, meal, rice, pasta	.08	.05	2.33	.10	.07	3.87*	.07	.04	1.17
Other flour, meal, rice, pasta	1.32	.50	.47	1.56	.58	.42	1.19	.45	.49
Whole-grain/high-fiber bread	.10	.12	1.25	.05	.06	1.35	.12	.16	1.22
Other bread	.84	.78	.99	.78	.67	.93	.88	.85	1.02
Bakery products	.35	.81	2.68	.39	.81	2.24	.32	.82	2.91
Grain mixtures	.13	.49	4.60	.10	.27	4.18	.14	.62	4.85
<b>Milk, Cheese, Cream</b>									
Milk, yogurt	6.83	1.69	.25	7.37	1.83	.25	6.52	1.60	.25
Cheese	1.79	.70	.49	1.64	.65	.50	1.88	.73	.48
Cream; mixtures, mostly milk	.45	.32	1.46	.35	.29	1.99	.50	.34	1.18

TABLE 9 (continued)

	All Households with Food Use Meeting 80-99% of the RDA for All 11 Nutrients (N= 582)			FSP Participants (N=321)			FSP Nonparticipants (N=261)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
<b>Meat and Alternates</b>									
Higher-cost red meats, variety	1.17	2.12	1.99	1.46	2.21	1.64*	1.01	2.07	2.21
Lower-cost red meats, variety meats	1.38	2.05	1.48	1.74*	2.43	1.42	1.18	1.84	1.51
Poultry	1.71	1.40	.89	2.37	1.88	.83	1.33	1.13	.93
Fish, shellfish	.47	.89	2.00	.53*	.90	1.94	.43	.88	2.03
Bacon, sausage, luncheon meats	1.02	1.48	1.59	1.27	1.84*	1.49	.87	1.28	1.64
Eggs	.98	.54	.57	1.02*	.53	.57	.95	.57	.57
Dry beans, peas, lentils	.25	.20	.94	.30	.21	.73	.23	.19	1.05
Mixtures, mostly meat, poultry, fish, egg, legume	.29	.35	1.07	.22	.24	1.01	.33	.41	1.10
Nuts, peanut butter	.20	.33	1.82	.20	.31	1.30	.19	.34	2.03
<b>Other Foods</b>									
Fats, oils	.95	.75	.81	1.02	.80	.77	.91	.73	.83
Sugar, sweets	1.30	.69	.62	1.27	.67	.64	1.32	.69	.61
Soft drinks, punches, ades	.38	.75	2.67	.36	.79	2.96	.39	.73	2.51
Seasonings	.002	.002	3.38	.001	.002	3.70	.003	.008	3.30
Coffee, tea	.22	.96	5.91	.18	.92	6.86	.25	.98	5.42
<b>TOTAL</b>	<b>33.64</b>	<b>22.76</b>	<b>--</b>	<b>35.05</b>	<b>23.44</b>	<b>--</b>	<b>32.84</b>	<b>22.37</b>	<b>--</b>

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted. Per person is per equivalent nutrition unit (21-meal-at-home-adult-male-equivalent).

\*: Different from the mean value for FSP nonparticipants at the .05 level of significance, two-tailed test.

TABLE 10

HOUSEHOLD FOOD USE, BY FOOD STAMP PARTICIPATION, U.S. LOW-INCOME  
HOUSEHOLDS NOT MEETING 80 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Household with Food Use Not Meeting 80% of the RDA for All 11 Nutrients (N=1,318)			FSP Participants (N=680)			FSP Nonparticipants (N=638)		
	Quantity	Money Value		Quantity	Money Value		Quantity	Money Value	
	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)	Per Person (lbs./week)	Per Person (\$/week)	Price (\$/lb.)
<b>Vegetables, Fruits</b>									
Potatoes	1.51	.23	.18	1.65	.26	.18	1.43	.22	.17
High-nutrient vegetables	1.62	.71	.50	1.55	.63	.49	1.66	.76	.51
Other vegetables	1.65	.73	.46	1.51	.68	.46	1.73	.77	.46
Mixtures, mostly vegetables; condiments	.34	.17	.61	.32	.18	.72*	.36	.17	.55
Vitamin C-rich fruit	1.67	.56	.42	1.39	.50	.44	1.84	.60	.41
Other fruit	1.38	.56	.43	1.41	.56	.43	1.36	.56	.44
<b>Grain Products</b>									
Whole-grain/high-fiber breakfast cereals	.13	.14	1.03	.13	.12	1.09	.14	.14	.99
Other breakfast cereals	.15	.20	1.55	.17	.25*	1.66*	.13	.17	1.46
Whole-grain/high-fiber flour, meal, rice, pasta	.07	.05	1.11	.07	.05	1.13	.07	.05	1.09
Other flour, meal, rice, pasta	.97	.39	.55	1.04	.40	.49	.92	.38	.58
Whole-grain/high-fiber bread	.09	.11	1.28	.08	.09	1.42*	.10	.11	1.21
Other bread	.68	.61	.92	.64	.55	.90	.71	.64	.94
Bakery products	.24	.52	.84	.25	.48	2.71	.24	.55	2.92
Grain mixtures	.06	.19	3.97	.07	.19	3.77	.06	.18	4.10
<b>Milk, Cheese, Cream</b>									
Milk, yogurt	4.85	1.15	.25	5.32	1.28	.26	4.57	1.07	.25
Cheese	1.10	.47	.58	.90	.33*	.54	1.21	.55	.61
Cream; mixtures, mostly milk	.33	.24	1.83	.30	.21	2.34*	.35	.25	1.51

TABL 10(continued)

	All Household with Food Use Not Meeting 80% of the RDA for All 11 Nutrients (N=1,318)			FSP Participants (N=680)			FSP Nonparticipants (N=638)		
	Quantity	Money Value	Price (\$/lb.)	Quantity	Money Value	Price (\$/lb.)	Quantity	Money Value	Price (\$/lb.)
	Per Person (lbs./week)	Per Person (\$/week)		Per Person (lbs./week)	Per Person (\$/week)		Per Person (lbs./week)	Per Person (\$/week)	
<b>Meat and Alternates</b>									
Higher-cost red meats, variety	.93	1.59	1.86	.95	1.52	1.75*	.93	1.64	1.92
Lower-cost red meats, variety meats	1.31	1.83	1.50	1.30	1.78	1.47	1.31	1.86	1.52
Poultry	1.33	1.09	.86	1.46	1.15	.81	1.25	1.05	.88
Fish, shellfish	.34	.53	1.88	.39	.52	1.65*	.31	.54	2.01
Bacon, sausage, luncheon meats	.86	1.27	1.51	.95	1.37	1.48	.80	1.20	1.52
Eggs	.73	.41	.57	.73	.41	.57	.73	.41	.57
Dry beans, peas, lentils	.19	.13	.81	.25*	.16	.77	.16	.11	.85
Mixtures, mostly meat, poultry, fish, egg, legume	.18	.24	1.39	.13	.13	1.11*	.22	.31	1.49
Nuts, peanut butter	.10	.14	1.44	.10	.13	1.48	.10	.15	1.41
<b>Other Foods</b>									
Fats, oils	.73	.53	.75	.73	.53	.75	.73	.54	.76
Sugar, sweets	.81	.48	.79	.82	.45	.59*	.80	.50	.91
Soft drinks, punches, ades	.43	.66	2.72	.38	.68	2.65*	.46	.65	2.76
Seasonings	.001	.003	1.38	.001	.003	2.43	.001	.004	1.27
Coffee, tea	.14	.65	6.81	.12	.60	7.00	.15	.68	6.71
<b>TOTAL</b>	<b>24.92</b>	<b>16.58</b>	<b>--</b>	<b>25.10</b>	<b>16.19</b>	<b>--</b>	<b>24.82</b>	<b>16.82</b>	<b>--</b>

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted. Per person is per equivalent nutrition unit (21-meal-at-home-adult-male-equivalent).

\*: Different from the mean value for FSP nonparticipants at the .05 level of significance, two-tailed test.

availability, FSP participants used significantly larger average amounts of fish than nonparticipants. Finally, Table 10 indicates that FSP households with low nutrient availability used significantly larger average quantities of dry beans/peas/lentils than nonparticipants with low nutrient availability.

Differences in average money values of food used per person largely parallel the differences in average quantities of food used per person. There are few significant differences between FSP participants and nonparticipants in the average money values of food used per person. Among households with high nutrient availability, FSP participants spent significantly more money than nonparticipants on vitamin-C-rich fruit, red meats, and eggs. Among households with moderate nutrient availability, FSP participants spent significantly more than nonparticipants only on bacon and sausage. Finally, among households with low nutrient availability, FSP participants spent significantly more money than nonparticipants on other breakfast cereals but significantly less money on cheese.

The average prices paid by FSP participants were generally similar to the average prices paid by nonparticipants for food in the 31 food groups, and no consistent pattern of price differences between FSP participants and nonparticipants is observed. More specifically, FSP participants with high levels of nutrient availability paid significantly higher average prices for whole-grain bread and soft drinks and significantly lower average prices for meat mixtures and seasonings than low-income nonparticipants. Among households with moderate nutrient availability, FSP participants paid significantly higher average prices for whole grains but paid significantly lower average prices for other

vegetables and higher-cost red meats relative to other low-income households.

More significant differences in the average prices paid by FSP participants and low-income nonparticipants are observed for households with low nutrient availability, although no consistent pattern of price differences is observed. Specifically, FSP participants with low nutrient availability paid significantly higher average prices for vegetable mixtures, other breakfast cereals, whole-grain bread, and cream, but significantly lower average prices for higher-cost red meats, fish, meat mixtures, sugar and sweets, and soft drinks compared to other low-income nonparticipants.

Table 11 presents data on the share of home food dollars allocated to the 31 food groups for households with different levels of nutrient availability and FSP participation status. Overall, the differences in expenditure shares between FSP participants and other low-income households are quite small. The only exceptions are that among households with high nutrient availability, FSP participants spent proportionately more of their total home food budget than nonparticipants on vitamin-C-rich fruit and higher-cost red meats. FSP participants with moderate nutrient availability spent proportionately more of their home food budget than nonparticipants on bacon and sausage and proportionately less on other vegetables. Finally, among households with low nutrient availability, FSP participants spent proportionately more of their home food expenditures than nonparticipants on potatoes but proportionately less on cheese and meat mixtures.

TABLE 11

HOUSEHOLD EXPENDITURE SHARES, BY LEVEL OF NUTRIENT AVAILABILITY  
AND FSP PARTICIPATION STATUS, U.S. LOW-INCOME HOUSEHOLDS, 1979-80  
(percentage of home food dollar)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients		
	FSP		FSP	FSP		FSP	FSP		FSP
	All	Participants	Nonparticipants	All	Participants	Nonparticipants	All	Participants	Nonparticipants
<b>Vegetables, Fruits</b>									
Potatoes	1.21	1.08	1.33	1.40	1.25	1.48	1.41	1.61*	1.29
High-nutrient vegetables	5.25	4.84	5.64	4.34	3.79	4.65	4.19	3.86	4.39
Other vegetables	4.47	4.30	4.64	4.20	3.36*	4.68	4.27	4.12	4.36
Mixtures, mostly vegetables; condiments	1.41	1.43	1.40	1.15	1.15	1.15	.98	1.01	.96
Vitamin C-rich fruit	3.33	3.94*	2.75	3.54	3.29	3.68	3.25	2.98	3.42
Other fruit	4.43	3.64	5.19	3.24	3.58	3.05	3.19	3.31	3.12
<b>Grain Products</b>									
Whole-grain/high- fiber breakfast cereals	1.02	.99	1.06	1.17	1.04	1.25	.79	.73	.83
Other breakfast cereals	1.77	1.69	1.84	1.43	1.52	1.38	1.31	1.58	1.15
Whole-grain/high-fiber flour, meal, rice, pasta	.21	.25	.18	.21	.28	.18	.27	.26	.27
Other flour, meal, rice, pasta	2.40	2.44	2.37	2.20	2.39	2.10	2.46	2.53	2.41
Whole-grain/high-fiber bread	.51	.54	.48	.46	.26	.57	.57	.54	.60
Other bread	2.95	2.86	3.04	3.57	3.07	3.86	3.80	3.45	4.01
Bakery products	3.03	3.17	2.89	3.44	3.45	3.43	3.00	2.76	3.14
Grain mixtures	1.21	1.16	1.25	2.38	1.18	3.06	1.14	1.29	1.05
<b>Milk, Cheese, Cream</b>									
Milk, yogurt	8.50	8.61	8.38	7.71	8.18	7.44	7.08	7.95	6.55
Cheese	3.05	2.80	3.28	2.92	2.73	3.03	2.61	1.98*	2.99
Cream; mixtures, mostly milk	1.46	1.26	1.64	1.40	1.17	1.53	1.31	1.26	1.34

TABLE 11 (continued)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients		
	All	FSP		All	FSP		All	FSP	
		Participants	Nonparticipants		Participants	Nonparticipants		Participants	Nonparticipants
<b>Meat and Alternates</b>									
Higher-cost red meats, variety	8.79	10.25*	7.37	8.07	8.85	7.63	9.27	9.16	9.34
Lower-cost red meats, variety meats	10.27	11.39	9.20	8.87	10.18	8.12	11.12	10.82	11.30
Poultry	5.99	5.59	6.37	5.58	6.91	4.81	6.54	7.04	6.23
Fish, shellfish	3.14	3.13	3.14	3.70	3.07	4.06	3.04	3.18	2.96
Bacon, sausage, luncheon meats	6.57	6.54	6.60	6.85	8.41*	5.96	7.90	8.66	7.43
Eggs	2.25	2.42	2.09	2.54	2.61	2.50	2.62	2.62	2.63
Dry beans, peas, lentils	.98	1.01	.96	.92	.90	.94	.87	1.05	.76
Mixtures, mostly meat, poultry, fish, egg, legume	1.04	.71	1.36	1.47	.97	1.76	1.35	.69*	1.76
Nuts, peanut butter	1.05	1.00	1.10	1.31	1.22	1.36	.84	.76	.90
<b>Other Foods</b>									
Fats, oils	3.21	3.21	3.20	3.21	3.30	3.16	3.24	3.15	3.29
Sugar, sweets	3.04	2.87	3.21	3.13	3.02	3.19	2.77	2.69	2.82
Soft drinks, punches, ades	3.10	2.98	3.71	3.24	3.40	3.15	3.60	3.94	3.39
Seasonings	.03	.05	.02	.03	.01	.04	.02	.01	.02
Coffee, tea	3.29	3.09	3.49	4.18	3.60	4.50	3.83	3.57	3.98
<b>TOTAL<sup>a</sup></b>	<b>98.96</b>	<b>99.34</b>	<b>98.60</b>	<b>97.86</b>	<b>98.12</b>	<b>97.71</b>	<b>98.65</b>	<b>98.56</b>	<b>98.69</b>
Household Sample Size	1,025	615	410	582	321	261	1,318	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

<sup>a</sup>Total does not include alcoholic beverages.

\*: Different from the mean value for FSP nonparticipants at the .05 level of significance, two-tailed test.

An examination of the quality of the diets of FSP participants and other low-income nonparticipants in terms of average nutrient densities, shown in Table 12, reveals that there are no significant differences with respect to average nutrient densities between FSP participants and nonparticipants in any of the three groups of households. These findings suggest that, according to the average nutrient density measures, the quality of the food choices of FSP participants and nonparticipants is remarkably similar.

In summary, the comparisons of the quantities of food used, money values of food used, average expenditure shares, and average nutrient densities between FSP participants and nonparticipants suggest that the food choices of FSP households and low-income nonparticipating households were generally similar. The major exceptions are red meat and eggs; FSP households with high and moderate levels of nutrient availability used significantly larger quantities of these foods than did other low-income households.

TABLE 12

AVERAGE NUTRIENT DENSITIES BY LEVEL OF NUTRIENT AVAILABILITY  
AND FSP PARTICIPATION STATUS, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA for All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA for All 11 Nutrients		
	FSP		FSP	FSP		FSP	FSP		FSP
	All	Participants	Nonparticipants	All	Participants	Nonparticipants	All	Participants	Nonparticipants
Protein (g)	35.50	35.33	35.67	34.36	35.31	33.82	35.70	36.11	35.45
Vitamin A (IU)	3,374.16	3,453.87	3,297.10	2,895.92	3,007.11	2,832.58	2,868.04	2,806.80	2,905.35
Vitamin C (mg)	51.81	52.23	51.40	48.54	46.45	49.73	47.86	45.50	49.30
Thiamin (mg)	.72	.73	.72	.69	.70	.68	.69	.70	.69
Riboflavin (mg)	.93	.93	.94	.89	.89	.88	.86	.87	.85
Vitamin B <sub>6</sub> (mg)	.80	.79	.81	.74	.74	.74	.75	.76	.74
Vitamin B <sub>12</sub> (µg)	2.12	2.28	1.97	2.11	2.24	2.04	2.06	2.19	1.98
Calcium (mg)	389.01	374.54	403.00	367.98	350.22	378.10	343.10	347.02	340.71
Phosphorus (mg)	621.28	613.42	628.87	601.28	597.14	603.65	599.75	605.90	596.00
Magnesium (mg)	140.22	135.98	144.33	140.40	132.28	145.02	134.19	133.53	134.60
Iron (mg)	7.56	7.62	7.50	7.12	7.16	7.10	7.09	7.14	7.06

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted. No statistically significant differences between FSP participants and eligible nonparticipants were found.

#### IV. FOOD USED BY LOW-INCOME HOUSEHOLDS COMPARED TO THE THRIFTY FOOD PLAN

The objective of this chapter is to determine how closely the food choices of low-income households resemble the TFP. The TFP is a low-cost food plan developed by the Human Nutrition Information Service (HNIS) of USDA. It consists of suggested quantities of different food groups that provide nutritious meals and conform, as much as possible, to the average consumption patterns of low-income households. The TFP includes foods that are generally low-cost sources of nutrients.

The TFP is revised periodically to incorporate new information on nutritional requirements, nutritive values of food, food consumption patterns, and food prices. The TFP was last revised in 1983 to take into account the following: (1) the usual food consumption patterns observed in the 1977-78 NFCS-LI, (2) the 1980 National Research Council-Recommended RDA, and (3) updated information on the nutritional value of foods. The current TFP (the 1983 TFP adjusted for changes in food prices), includes suggested quantities for 31 different food groups for individuals of different ages and sexes.

The TFP for a specific family of four -- a man and woman 20 to 54 years old and two children, 6 to 8 and 9 to 11 years old--is used to set FSP allotments. Food stamp benefits are provided to increase the food purchasing power of participants approximately up to the TFP level for that household's size, based on the cost of providing the TFP to the standard family of four.

Although the TFP is a low-cost, nutritious diet and FSP benefits are distributed so that most participating households are able to afford

the TFP, household food choices may differ from those specified by the TFP. The analysis presented in this chapter investigates how the food choices of low-income households compare to the TFP.

A. FOOD USED BY HOUSEHOLDS WITH HIGH, MODERATE, AND LOW NUTRIENT AVAILABILITY COMPARED TO THE TFP

In order to investigate the extent to which the foods used by households with high, moderate, and low nutrient availability resemble the TFP-recommended diet, we use two measures of food use relative to the TFP for these households. The first measure is the median ratio of the quantity of food used to the TFP-recommended quantity for each food group. This measure provides a rough assessment of the extent to which quantities of food used exceed or fall short of the TFP quantities. The median rather than the mean was chosen for this purpose because it is not sensitive to outliers in the distribution of households with respect to the ratio of the quantity used to the TFP quantity.<sup>1</sup> The second measure is the percentage of households using at least the TFP quantity of each food group.

Data on the food choices of low-income households relative to the TFP are presented in Table 13 and suggest that all low-income households were more likely to use the recommended quantities of some foods than others. The

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<sup>1</sup> The statistical properties of the sample median are considerably more complex than those of the sample mean and, consequently, statistical

TABLE 13

MEDIAN RATIOS OF POUNDS USED TO THE TFP RECOMMENDED QUANTITY AND PERCENTAGES OF HOUSEHOLDS USING AT LEAST THE TFP RECOMMENDED QUANTITY, BY LEVEL OF NUTRIENT AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients (N=582)		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients (N=1,318)	
	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Households Using TFP Quantity	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Households Using TFP Quantity	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Household Using TFP Quantity
<b>Vegetables, Fruits</b>						
Potatoes	1.23	65.5	.96	54.3	.69	39.5
High-nutrient vegetables	1.64	65.4	1.03	49.6	.65	25.4
Other vegetables	1.15	62.2	.84	39.6	.59	25.0
Mixtures, mostly vegetables; condiments	2.87	62.8	1.66	59.5	0	43.5
Vitamin C-rich fruit	1.18	50.6	.76	46.4	.32	32.4
Other fruit	1.36	64.3	.81	42.0	.43	30.6
<b>Grain Products</b>						
Whole-grain/high-fiber breakfast cereals	.29	38.7	0	37.5	0	20.1
Other breakfast cereals	.86	48.8	.47	27.6	.16	20.5
Whole-grain/high-fiber flour, meal, rice, pasta	0	12.4	0	8.2	0	10.0
Other flour, meal, rice, pasta	.86	28.9	.71	19.3	.44	12.9
Whole-grain/high-fiber bread	0	15.5	0	11.7	0	11.4
Other bread	.85	40.3	.69	26.4	.54	22.4
Bakery products	1.21	55.9	.78	45.5	.53	29.9
Grain mixtures	0	22.3	0	16.2	0	8.6
<b>Milk, Cheese, Cream</b>						
Milk, yogurt	1.16	64.2	.76	35.6	.51	20.6
Cheese	7.06	78.9	4.14	74.5	.67	54.7
Cream; mixtures, mostly milk	.23	44.9	0	39.6	0	26.8

TABLE 13 (continued)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients (N=582)		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients (N=1,318)	
	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Households Using TFP Quantity	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Households Using TFP Quantity	Median Ratio of Pounds Used Relative To TFP Quantity	Percent of Household Using TFP Quantity
<u>Meat and Alternates</u>						
Higher cost red meats, variety	2.96	70.3	1.91	52.4	1.36	54.8
Lower-cost meats, variety meats	1.04	50.3	.76	31.9	.52	26.1
Poultry	2.02	75.8	1.58	60.7	1.23	55.4
Fish, shellfish	5.25	60.3	2.13	61.0	0	48.3
Bacon, sausage, luncheon meats	2.76	75.6	2.14	64.5	1.60	64.6
Eggs	1.92	83.2	1.46	69.5	1.15	48.5
Dry beans, peas, lentils	.59	27.6	.41	16.1	.16	12.9
Mixtures, mostly meat, poultry, fish, egg, legume	0	26.1	0	28.8	0	20.5
Nuts, peanut butter	.24	38.3	0	29.3	0	14.4
<u>Other Foods</u>						
Fats, oils	2.47	76.3	1.82	70.6	1.23	59.9
Sugar, sweets	2.49	77.4	1.92	72.0	1.14	46.0
Soft drinks, punches, ades	.33	24.1	.25	11.1	.17	12.5
Seasonings	---	---	---	---	---	---
Coffee, tea	---	---	---	---	---	---

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages and medians are weighted; sample sizes are unweighted.

food groups for which all low-income households were least likely to use the TFP quantities were the grain products.

Households with high nutrient availability were most likely to use at least the TFP quantities (based on the percentage using the TFP-recommended quantity) of vegetables and fruits, bakery products, milk, cheese, red meats, poultry, fish, bacon and sausage, eggs, fats and oils, and sugar and sweets; and they were least likely to use at least the TFP quantities of whole grain cereals, whole-grain/high-fibre flour, whole-grain bread, grain mixtures, dry beans/peas/lentils, meat mixtures, nuts, and soft drinks. In general, the food groups for which the highest percentage of households used at least the TFP quantity are the same food groups for which the median household exceeded the TFP quantity by the greatest amount. It is worth noting that more than half of households with high nutrient availability used more than twice the TFP quantity of vegetable mixtures, cheese, high-cost red meat, poultry, fish, bacon and sausage, fats and oils, and sugar and sweets; and more than half used no whole grain/high-fibre flour, whole-grain bread, grain mixtures, or meat mixtures.

Similar to households with high nutrient availability, households with moderate nutrient availability were most likely to use at least the TFP quantity of vegetables and fruits, bakery products, cheese, higher-cost red meats, poultry, fish, bacon and sausage, eggs, fats and oils, and sugar and sweets; and they were also least likely to use at least the TFP quantity of most grain products, dry beans/peas/lentils, meat mixtures, nuts, and soft drinks. More than half of households with moderate nutrient availability used more than twice the TFP quantity of cheese, fish, and

bacon and sausage, while more than 50 percent of these households used no whole-grain products, grain mixtures, cream, meat mixtures, or nuts.

Finally, households with low nutrient availability were least likely to use the TFP quantity of any food group, and the median household exceeded the TFP quantity of only a few food groups. The highest proportions of households with low nutrient availability used at least the TFP quantities of cheese, high-cost red meats, poultry, bacon and sausage, and fats and oils. The median household with low nutrient availability used no vegetable mixtures, whole-grain products, grain mixtures, cream, fish, meat mixtures, or nuts.

The findings presented in Table 13 also reinforce the findings of Chapter II that households with higher levels of nutrient availability used larger quantities of food per person than other households. For nearly all of the 31 food groups, the median ratio of quantity used relative to the TFP-recommended quantity and the percentage of households using at least the TFP quantity are highest for households with high nutrient availability and lowest for households with low nutrient availability. Moreover, as nutrient availability decreases, the number of food groups for which at least half of all households used at least the TFP quantity decreases. Specifically, at least half of all households with high nutrient availability used at least the TFP quantity of 17 food groups and at least two times the TFP quantity of 8 food groups. For moderate nutrient availability households, at least half used at least the TFP quantity of only 10 food groups and at least two times the TFP quantity of only 3 food groups. Finally, at least half of all households with low nutrient availability used at least the TFP quantity of only 6 food groups, and for

no food groups did at least half of all households use at least two times the TFP quantity.

In summary, the comparisons of the foods used by low-income households to the TFP suggest that all low-income households were likely to use the recommended quantities of some foods more than others and that compositionally, household food use differed from the TFP. Low-income households used relatively more vegetables, fruits, cheese, higher-cost red meats, poultry, bacon and sausage, and fats and oils and relatively less whole-grain products, dry beans/peas/lentils, and soft drinks compared to the TFP. In addition, households with high nutrient availability were more likely than households with moderate or low nutrient availability to use the TFP quantities of each food group, providing further support for the earlier finding that low-income households with high nutrient availability used the largest average quantities of food in every food group. Moreover, the analysis in this section also suggests that the foods used by households with different levels of nutrient availability differed from the TFP in similar ways, which is consistent with our earlier analysis showing that the composition of the food choices of households with high, moderate, and low nutrient availability was quite similar.

#### B. FOOD USED BY FSP PARTICIPANTS AND NONPARTICIPANTS COMPARED TO THE TFP

Table 14 presents the percentages of households using at least the TFP quantity of each food group for FSP participants and nonparticipants within each level of nutrient availability, and Table 15 presents the median ratios of quantity of food used relative to the TFP quantity for the same groups of households. Some differences are observed between FSP participants and nonparticipant households in the degree to which their food use resembles the TFP.

TABLE 14

PERCENTAGES OF HOUSEHOLDS USING AT LEAST THE TFP QUANTITY,  
BY LEVEL OF NUTRIENT AVAILABILITY AND FSP PARTICIPATION STATUS,  
U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients	
	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants
<u>Vegetables, Fruits</u>						
Potatoes	63.5	67.4	52.5	55.4	42.4	37.8
High-nutrient vegetables	67.9	63.0	42.0	53.9	26.6	24.7
Other vegetables	66.8	57.7	30.6	44.8	25.1	24.9
Mixtures, mostly vegetables; condiments	61.6	64.0	53.2	63.1	42.8	44.0
Vitamin C-rich fruit	59.2	42.2	42.7	48.5	26.0	36.3
Other fruit	60.7	67.8	45.9	39.8	31.1	30.3
<u>Grain Products</u>						
Whole-grain/high- fiber breakfast cereals	37.1	40.2	32.9	40.2	19.0	20.8
Other breakfast cereals	47.2	50.4	24.5	29.3	22.5	19.3
Whole-grain/high-fiber flour, meal, rice, pasta	13.5	11.4	9.1	7.8	7.8	11.4
Other flour, meal, rice, pasta	33.4	24.5	30.3	13.0	11.9	13.5
Whole-grain/high-fiber bread	14.5	16.4	5.7	15.0	10.8	11.7
Other bread	40.6	40.1	26.9	26.2	20.8	23.3
Bakery products	60.3	51.7	58.7	38.0	30.8	29.3
Grain mixtures	19.3	25.1	15.3	16.7	10.1	7.7
<u>Milk, Cheese, Cream</u>						
Milk, yogurt	63.5	65.0	36.6	35.0	20.1	20.9
Cheese	73.9	83.9	71.5	76.2	50.5	57.2
Cream; mixtures, mostly milk	39.4	50.3	36.0	41.6	24.0	28.4

TABLE 14 (continued)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients	
	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants
<u>Meat and Alternates</u>						
Higher-cost red meats, variety	77.3	63.4	62.8	46.4	53.5	55.3
Lower-cost red meats, variety meats	58.2	42.7	36.3	29.4	27.2	25.5
Poultry	74.1	77.6	73.2	53.6	60.5	52.3
Fish, shellfish	53.9	66.5	52.0	66.1	44.4	50.7
Bacon, sausage, luncheon meats	81.1	70.4	77.9	56.8	71.6	60.4
Eggs	84.3	82.0	69.6	69.4	51.2	46.8
Dry beans, peas, lentils	31.2	24.2	25.1	11.1	19.0	9.2
Mixtures, mostly meat, poultry, fish, egg, legume	22.5	29.5	27.1	29.8	14.5	24.1
Nuts, peanut butter	35.1	41.3	25.7	31.4	11.4	16.2
<u>Other Foods</u>						
Fats, oils	81.0	71.8	77.5	66.7	61.2	59.0
Sugar, sweets	73.8	81.0	79.2	67.9	48.9	44.2
Soft drinks, punches, ades	22.6	25.6	11.5	10.9	10.9	13.4
Seasonings	--	--	--	--	--	--
Coffee, tea	--	--	--	--	--	--
Household Sample Size	615	410	321	261	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are not weighted.

TABLE 15

MEDIAN RATIOS OF THE QUANTITY OF FOOD USED TO THE TFP-  
RECOMMENDED QUANTITY, BY LEVEL OF NUTRIENT AVAILABILITY  
AND FSP PARTICIPATION STATUS, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients	
	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants
<u>Vegetables, Fruits</u>						
Potatoes	1.22	1.25	.87	1.11	.64	.73
High-nutrient vegetables	1.69	1.53	1.08	.93	.65	.65
Other vegetables	1.14	1.16	.82	.86	.60	.58
Mixtures, mostly vegetables; condiments	2.99	2.84	1.71	1.59	0	0
Vitamin C-rich fruit	1.21	1.11	.77	.73	.36	.30
Other fruit	1.37	1.34	.76	.84	.40	.47
<u>Grain Products</u>						
Whole-grain/high- fiber breakfast cereals	.27	.32	0	0	0	0
Other breakfast cereals	.88	.84	.51	.41	.31	0
Whole-grain/high-fiber flour, meal, rice, pasta	0	0	0	0	0	0
Other flour, meal, rice, pasta	.95	.80	.69	.73	.47	.43
Whole-grain/high-fiber bread	0	0	0	0		
Other bread	.87	.84	.74	.64	.53	.55
Bakery products	1.25	1.15	.87	.70	.49	.57
Grain mixtures	.05	0	0	0	0	0
<u>Milk, Cheese, Cream</u>						
Milk, yogurt	1.19	1.15	.72	.79	.50	.53
Cheese	6.96	7.22	4.06	4.27	.18	.89
Cream; mixtures, mostly milk	.23	.21	0	.01	0	0

TABLE 15 (continued)

	Household Food Use Meeting 100% of the RDA for All 11 Nutrients		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients	
	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants	FSP Participants	FSP Nonparticipants
<u>Meat and Alternates</u>						
Higher-cost red meats, variety	2.98	2.82	2.24	1.58	1.67	1.27
Lower-cost red meats, variety meats	1.10	.99	.85	.65	.58	.48
Poultry	2.13	1.77	1.76	1.42	1.38	1.10
Fish, shellfish	6.00	4.61	3.14	0	0	0
Bacon, sausage, luncheon meats	2.85	2.61	2.54	1.79	1.69	1.50
Eggs	1.93	1.91	1.46	1.46	1.13	1.18
Dry beans, peas, lentils	.69	.45	.48	.27	.25	0
Mixtures, mostly meat, poultry, fish, egg, legume	0	0	0	0	0	0
Nuts, peanut butter	0	0	0	0	0	0
<u>Other Foods</u>						
Fats, oils	2.64	2.31	1.83	1.80	1.28	1.20
Sugar, sweets	2.64	2.27	1.78	2.21	1.12	1.17
Soft drinks, punches, ades	.35	.31	.22	.27	.18	.16
Seasonings	--	--	--	--	--	--
Coffee, tea	--	--	--	--	--	--
Sample Size	615	410	321	261	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

Table 14 shows that among households with high nutrient availability, FSP participants were considerably more likely than nonparticipants to use at least the TFP quantity of vitamin-C-rich fruit, higher- and lower-cost red meats, bacon and sausage, and fats and oils, but they were considerably less likely than nonparticipants to use at least the TFP quantity of cheese, cream, and fish. In Table 15 the median ratio of quantity of food used to the TFP quantity for FSP households with high nutrient availability exceeds the median ratio for nonparticipating households in most but not all food groups; in most cases, the differences in the median ratios between FSP participants and nonparticipants are not large.

Among households with moderate nutrient availability, FSP participants were much more likely than nonparticipants to use at least the TFP quantities of other flour, bakery products, higher-cost red meats, poultry, bacon and sausage, dry beans/peas/lentils, fats and oils, and sugar and sweets, while FSP nonparticipants were more likely than participants to use at least the TFP quantities of vegetables, whole-grain bread, and fish. The median ratio for FSP participants is considerably larger than the median ratio for nonparticipants for higher-cost red meats, fish, bacon and sausage, and dry beans/peas/lentils but considerably less for sugar and sweets.

Finally, among households with low nutrient availability, the proportions of FSP participants and nonparticipants using at least the TFP quantities of each food group were more similar, although FSP participants were more likely than nonparticipants to use at least the TFP quantity of bacon and sausage and dry beans/peas/lentils, and nonparticipants were more likely than participants to use at least the TFP quantity of vitamin-C-rich

fruit and meat mixtures. The median ratios of the quantity of food used to the TFP quantity are also similar for both FSP participants and nonparticipant households with low nutrient availability.

### C. SUMMARY

The comparisons of the foods used by low-income households to the TFP show that the composition of the food choices of low-income households differs from the TFP; relative to the TFP, these households tended to use proportionately fewer grain products (particularly whole-grain products), meat alternates, and soft drinks but proportionately more vegetables and fruits, bakery products, milk, cheese, red meat, poultry, bacon and sausage, and fats and oils than recommended in the TFP. In addition, the analysis in this chapter suggests that not only did households with high nutrient availability use the largest average quantities of food in every food group, as shown in Chapter II, but they were also more likely than other low-income households to use at least the TFP quantity of food in each food group. Most of the households with low nutrient availability, on the other hand, did not use the TFP quantity of food in most food groups.

The comparisons of the foods used by FSP participants and nonparticipants to the TFP within levels of nutrient availability show that there are some differences between FSP participants and nonparticipants in the degree to which their food use resembles the TFP, especially for households with high or moderate nutrient availability. The most striking difference between the foods used by FSP participants and nonparticipants in relation to the TFP is in their use of higher-cost red meats, bacon and sausage, fats and oils, and fish; considerably larger proportions of FSP participants than nonparticipants used at least the TFP quantity of higher-cost red meats, bacon and sausage, and fats and oils, while a smaller

proportion of FSP participants than nonparticipants used at least the TFP quantity of fish.

## V. PERCEIVED ADEQUACY OF HOUSEHOLD FOOD SUPPLIES

The analyses presented in Chapters II through IV suggest that low-income households differ in the nutritional quality of their food supplies primarily because of differences in the quantities of food used rather than because of qualitative differences in their food choices. The objective of this chapter is to examine household perceptions of the adequacy of their food supplies. Specifically, descriptive data are presented to show how low-income households responded to a question on the adequacy of their household food supplies and to show how their answers varied with their level of nutrient availability and with their FSP participation status.

The 1979-80 SFC-LI included the following question on the perceived adequacy of household food supplies:

"Which one of the following statements best describes the food eaten in your household:

1. Enough and the kinds of food we want to eat,
2. Enough but not always what we want to eat,
3. Sometimes not enough to eat, or
4. Often not enough to eat?"

For our analysis of the perceived quality of household food supplies, three categories are examined: (1) enough and desirable (response 1); (2) enough, not always desirable (response 2); and (3) sometimes not enough (responses 3 and 4).<sup>1</sup>

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<sup>1</sup>The third and fourth categories were combined because only 111 households, or 3.8 percent of the sample, described their food supplies as often not enough to eat.

Table 16 presents descriptive data on the perceived adequacy of household food supplies. Most respondents considered their food supplies to be adequate with respect to quantity, but not necessarily adequate with respect to the quality of the food used. In addition, approximately 15 percent of households in 1979-80 felt that they sometimes or often did not have enough food to eat.

In general, the perceived adequacy of household food supplies does not differ greatly for households with high, moderate, and low nutrient availability. The percentage responding that their food supplies are enough but not always desirable is approximately the same for the three nutrient availability groups. Households with low nutrient availability are somewhat less likely than the other two groups to report their food supplies as enough and desirable and are slightly more likely than the other two groups to perceive their food supplies as sometimes not enough.

In contrast to only small differences in the perceptions of the quality of household food supplies by levels of nutrient availability, strong differences in the perceived adequacy of household diets are observed for FSP participants and nonparticipants. For all households and for households stratified by level of nutrient availability, FSP participants are more likely than low-income nonparticipants to perceive their food supplies as sometimes not enough. Furthermore, except for the high nutrient availability group, FSP participants are generally less likely than low-income nonparticipants to consider their food supplies as enough and desirable.

These findings concerning the perceived adequacy of household food supplies, particularly the findings that perceptions about the quality of

TABLE 16

PERCEPTIONS OF THE QUALITY OF HOUSEHOLD FOOD SUPPLIES,  
 BY LEVEL OF NUTRIENT AVAILABILITY AND FSP PARTICIPATION STATUS,  
 U.S. LOW-INCOME HOUSEHOLDS, 1979-80  
 (percentage of households)

	All Low-Income Households			Household Food Use Meeting 100% of the RDA For All 11 Nutrients			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients		
	FSP		FSP	FSP		FSP	FSP		FSP	FSP		FSP
	All	Participants	Nonparticipants	All	Participants	Nonparticipants	All	Participants	Nonparticipants	All	Participants	Nonparticipants
Enough Food of Desirable Kinds	30.6	25.6	34.2	31.1	31.5	30.7	33.6	22.6	39.8	28.7	20.6	33.7
Enough Food But Not Always Desirable Kinds	54.6	50.5	57.5	54.4	43.4	65.1	54.3	56.7	52.9	54.8	55.2	54.6
Sometimes Not Enough Food	14.9	24.0	8.3	14.5	25.2	4.2	12.2	20.7	7.3	16.4	24.3	11.6
Household Sample Size	2,925	1,616	1,309	1,025	615	410	582	321	261	1,318	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

food supplies do not differ greatly for households with varying levels of nutrient availability, suggest that household perceptions of the quality of food supplies are not necessarily related to the nutritional adequacy of household food use. To investigate this further, Tables 17 and 18 present data on the average quantities used of the 31 food groups and on expenditure shares for households with different perceptions of the quality of their food supplies. Although the total quantity of food used is significantly greater for households with enough and desired foods compared to other households, most differences in the quantities of specific foods used are small and not statistically significant. The only significant differences are that households that describe their food supplies as enough and desirable use significantly more whole grain/high-fibre flour and higher-cost red meats than households with enough but not always desirable food supplies. In addition, households that describe their food supplies as enough and desirable use significantly more other vegetables, other fruit, whole-grain bread, cheese, and fats and oils than households that describe their food supplies as sometimes not enough.

Table 18 shows that the composition of the food choices of households with different perceptions of the quality of their food supplies is generally similar. The only significant differences in expenditure shares for the 31 food groups show the following: households with enough and desired foods spent a significantly larger proportion of their home food budgets on higher-cost red meats and less on poultry than households with enough but not always the desired foods; households with enough but not always the desired foods spent proportionately more on other vegetables and proportionately less on other flour/meal/rice/pasta relative to

TABLE 17  
 AVERAGE QUANTITIES OF FOOD USED PER PERSON, BY DESCRIPTION  
 OF HOUSEHOLD FOOD SUPPLIES, U.S. LOW INCOME HOUSEHOLDS, 1979-80  
 (pounds per week)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
<u>Vegetables, Fruits-</u>			
Potatoes	1.97	1.91	1.70
High-nutrient vegetables	2.75	2.48	2.47
Other vegetables	2.64	2.24	1.88+
Mixtures, mostly vegetables; condiments	.62	.46	.46
Vitamin C-rich fruit	2.09	2.19	2.30
Other fruit	2.49	1.98	1.76+
<u>Grain Products</u>			
Whole-grain/high- fiber breakfast cereals	.21	.20	.22
Other breakfast cereals	.24	.22	.27
Whole-grain/high-fiber flour, meal, rice, pasta	.10	.08	.09
Other flour, meal, rice, pasta	1.25	1.30	1.55
Whole-grain/high-fiber bread	.15*	.09	.08+
Other bread	.85	.81	.80
Bakery products	.37	.32	.39
Grain mixtures	.10	.12	.10
<u>Milk, Cheese, Cream</u>			
Milk, yogurt	7.78	6.99	6.61
Cheese	2.05	1.61	1.31+
Cream; mixtures, mostly milk	.49	.47	.36
<u>Meat and Alternates</u>			
Higher-cost red meats, variety	1.61*	1.08	1.37
Lower-cost red meats, variety meats	1.64	1.64	1.82
Poultry	1.57	1.73	1.87
Fish, shellfish	.42	.51	.52
Bacon, sausage, luncheon meats	1.08	1.06	1.06
Eggs	.97	.92	.86
Dry beans, peas, lentils	.24	.27	.31
Mixtures, mostly meat, poultry, fish, egg, legume	.24	.25	.19
Nuts, peanut butter	.17	.18	.14

Table 17 (continued)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
<u>Other Foods</u>			
Fats, oils	1.00	.95	.82+
Sugar, sweets	1.24	1.17	1.15
Soft drinks, punches, ades	.56	.50	.37
Seasonings	0	0	0
Coffee, tea	.20	.17	.15
TOTAL	37.10*	33.91	33.00+
Household Sample Size	810	1,609	506

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

- \*: Different from the mean value for enough, not always desirable at the .05 level of significance, two-tailed test.
- \*\* : Different from the mean value for sometimes not enough at the .05 level of significance, two-tailed test.
- + : Different from the mean value for enough and desirable at the .05 level of significance, two-tailed test.

TABLE 18

HOUSEHOLD FOOD EXPENDITURE SHARES FOR 31  
 FOOD GROUPS, BY DESCRIPTION OF HOUSEHOLD FOOD  
 SUPPLIES, U.S. LOW-INCOME HOUSEHOLDS 1979-80  
 (percentage of home food dollar)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
<u>Vegetables, Fruits</u>			
Potatoes	1.22	1.41	1.30
High-nutrient vegetables	4.61	4.60	4.57
Other vegetables	4.70	4.34**	3.53+
Mixtures, mostly vegetables; condiments	1.18	1.17	1.15
Vitamin C-rich fruit	3.07	3.42	3.62
Other fruit	4.07	3.52	3.25
<u>Grain Products</u>			
Whole-grain/high- fiber breakfast cereals	.88	.99	.97
Other breakfast cereals	1.47	1.45	1.75
Whole-grain/high-fiber flour, meal, rice, pasta	.23	.23	.27
Other flour, meal, rice, pasta	2.09	2.39**	2.99+
Whole-grain/high-fiber bread	.71	.45	.43
Other bread	3.23	3.50	3.69
Bakery products	3.47	2.92	3.01
Grain mixtures	1.07	1.61	1.49
<u>Milk, Cheese, Cream</u>			
Milk, yogurt	7.60	7.75	7.87
Cheese	3.22	2.78	2.21+
Cream; mixtures, mostly milk	1.50	1.39	1.11
<u>Meat and Alternates</u>			
Higher cost red meats, variety	10.58*	7.94	8.59
Lower-cost meats, variety meats	9.41	10.65	11.11
Poultry	5.18*	6.47	6.87+
Fish, shellfish	3.12	3.28	3.18
Bacon, sausage, luncheon meats	6.60	7.37	7.84
Eggs	2.26	2.59	2.48

Table 18 (continued)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
Dry beans, peas, lentils	.72	.97	1.17+
Mixtures, mostly meat, poultry, fish, egg, legume	1.47	1.25	.92
Nuts, peanut butter	1.00	1.08	.83
<u>Other Foods</u>			
Fats, oils	3.19	3.33	2.90
Sugar, sweets	2.92	3.01	2.75
Soft drinks, punches, ades	3.46	3.29	3.31
Seasonings	.04	.02	0
Coffee, tea	3.80	3.81	3.15
TOTAL <sup>a</sup>	98.07	98.96	98.34
Household Sample Size	810	1,609	506

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

<sup>a</sup> Total does not include alcoholic beverages.

\*: Different from the mean value for enough, not always desirable at the .05 level of significance, two-tailed test.

\*\* : Different from the mean value for sometimes not enough at the .05 level of significance, two-tailed test.

+: Different from the mean value for enough and desirable at the .05 level of significance, two-tailed test.

households that sometimes did not have enough to eat; and households with sometimes not enough spent a significantly larger proportion of their home food budget on other flour/meal/rice/pasta, poultry, and dry beans/peas/lentils and a significantly smaller proportion on other vegetables and cheese relative to households with enough and desired foods. In essence, the results in Table 18 suggest that the perceived adequacy of household food supplies is related to the expenditure shares of only a few food groups (most notably, other vegetables, other flour/meal/rice/pasta, and poultry), rather than to systematic differences in expenditure shares across most food groups.

To summarize briefly, the perceived adequacy of household food supplies appears to be a subjective measure and does not appear to be related to the household level of nutrient availability. Households that vary by their level of nutrient availability do not differ significantly in their perceptions of the quantity and quality of their food supplies. Moreover, with the major exceptions of other vegetables, other flour/meal/rice/pasta, higher-cost red meats, and poultry, the quantities of food used and expenditure shares do not differ significantly for households with different perceptions of the quantity and quality of their food supplies. In addition, despite our earlier finding that FSP participants are more likely than low-income nonparticipants to be in the high nutrient availability group due to higher average quantities of food used, FSP participants are more likely than low-income nonparticipants to report that the quantity of their household food supplies is sometimes or often not enough and are generally less likely than nonparticipants to perceive their food supplies as adequate with respect to both quantity and desirability.

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different levels of nutrient availability was significantly different, with households with high nutrient availability using foods with higher nutrient densities than households with low nutrient availability. Although there were few significant differences between low-income households with different levels of nutrient availability in expenditure shares for particular food groups, the differences observed are consistent with and could partially account for the differences in average nutrient densities found for these subgroups of households.

The second question examined in our analysis is how the foods used by FSP participants differ from the foods used by other low-income households. Results from this analysis show, first, that proportionately more FSP participants than low-income nonparticipants used food that met 100 percent of the RDA and fell into the category of low-income households that have high levels of nutrient availability. In addition, our analysis focuses on the differences in the foods used by FSP participants and other low-income nonparticipants within groups of households with high, moderate, and low levels of nutrient availability. The results show that their food use was very similar, with two exceptions; for households with high and moderate levels of nutrient availability, FSP participants used significantly larger average quantities of red meats and eggs than low-income nonparticipants. In general, the composition of the food choices of FSP participants and low-income nonparticipants was also very similar, with only a few significant differences in expenditure shares and no significant differences in average nutrient densities for individual nutrients.

The third part of our analysis compares the quantities of food used by low-income households to the quantities of food recommended by the TFP

in order to determine the extent to which the quantity and composition of foods used by low-income household resemble the TFP. The major finding of this analysis is that all low-income households were more likely to use the TFP quantities of some foods than others, and compositionally, their food choices differed from the TFP. In addition, the comparisons of the foods used by households with high, moderate, and low level of nutrient availability to the TFP suggest that low-income households with high nutrient availability were more likely than low-income households with moderate or low nutrient availability to use at least the TFP quantities of each of the 31 food groups.

The final component of our analysis investigates whether the perceived adequacy of household food supplies varies with household food choices and with FSP participation status. Our results suggest that the perceived adequacy of household food supplies is a subjective measure that is apparently not systematically related to our measures of quantities of food used or composition of food choices. That is, households that differ with respect to their level of nutrient availability and quantities of food used did not differ significantly in their perceptions of the quantity and quality of their food supplies. In addition, expenditure shares did not usually differ significantly for households with different perceptions of the adequacy of their food supplies. However, FSP participants were more likely than low-income nonparticipants to report that they sometimes did not have enough food, and they were less likely than nonparticipants to perceive their food supplies as adequate with respect to both quantity and quality.

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APPENDIX A

TABLES FROM THE 1979-80  
SURVEY OF FOOD CONSUMPTION IN LOW-  
INCOME HOUSEHOLDS FOR 14 FOOD GROUPS

TABLE A.1

THE COMPOSITION OF THE 14 FOOD GROUPS IN TERMS OF THE 31  
FOOD GROUPS IN THE THRIFTY FOOD PLAN

New Food Group	Thrifty Food Plan Food Groups
Potatoes	Potatoes
Other vegetables	High-nutrient vegetables Other vegetables Mixtures, mostly vegetables; condiments
Fruits	Vitamin-C-rich fruit Other fruit
Cereal, flours	Whole-grain/high-fiber breakfast cereal Other breakfast cereals Whole-grain/high-fiber flour, meal, rice, pasta Other flour, meal, rice, pasta
Bread	Whole-grain/high-fiber bread Other bread
Other bakery products	Bakery products
Grain and meat mixtures	Grain mixtures Mixtures, mostly meat, poultry, fish, eggs, legumes
Milk, cheese, creams	Milk, yogurt Cheese Cream, mixtures mostly milk
Meat, poultry, fish	Lower-cost red meats, variety meats Higher-cost red meats, variety meats Poultry Fish, shellfish Bacon, sausage, luncheon meats
Eggs	Eggs
Legumes, nuts	Dry beans, peas, lentils Nuts, peanut butter
Fats and oils	Fats, oils

TABLE A.1 (continued)

New Food Group	Thrifty Food Plan Food Groups
Sugar and sweets	Sugar, sweets
Non-alcoholic beverages, Seasonings	Soft drinks, punches, ades Seasonings Coffee, tea

TABLE A.2

HOUSEHOLD FOOD USE OF 14 FOOD GROUPS, BY LEVEL OF NUTRIENT  
AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA For All 11 Nutrients (N=1,025)			Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients (N=582)			Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients (N=1,318)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
Potatoes	2.37*	.36	.16	1.87	.31**	.18	1.51+	.23+	.18
Other Vegetables	7.65*	3.38*	.45	5.14**	2.25**	.45	3.61+	1.62+	.46
Fruits	5.92*	2.41*	.43	4.00**	1.68**	.53**	3.05+	1.13+	.42
Cereals, Flours	2.51*	1.55*	.76	1.83**	1.09**	.74	1.32+	.77+	.75
Bread	1.11	1.01	.96	.94**	.91**	.98	.78+	.71+	.95
Other Bakery Products	.46	.95	2.40	.35**	.81**	2.68	.24+	.52+	2.84
Grain and Meat Mixtures	.15	.37	3.53	.13**	.49**	4.60	.06+	.19+	3.97
Milk, Cheese, Creams	13.18*	3.74*	.29	9.07**	2.71**	.31	6.28+	1.86+	.35+
Meat, Poultry, Fish	8.20*	10.91*	1.38	5.75**	7.95**	1.45	4.77+	6.31+	1.38
Eggs	1.13	.65*	.58	.98**	.54**	.57	.73+	.41+	.57
Legumes, Nuts	.86	.89	1.11	.74**	.87**	1.22	.48+	.51+	1.12
Fats and Oils	1.21*	.96*	.86	.95**	.75**	.81	.73+	.53+	.75+
Sugar and Sweets	1.57	.91*	.75	1.30**	.69**	.62**	.81+	.48+	.79
Non-alcoholic Beverages, Seasonings	.86	1.96	4.10	.61	1.71**	4.25	.57	1.31+	4.56

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

\*: Significantly different from the mean value for households meeting 80-99 percent of the RDA for all 11 nutrients at the .05 level, two-tailed test.

\*\*: Significantly different from the mean value for households not meeting 80 of the RDA for all 11 nutrients at the .05 level, two-tailed test.

+: Significantly different from the mean value for households meeting 100% of the RDA for all 11 nutrients at the .05 level, two-tailed test.

TABLE A.3

HOUSEHOLD EXPENDITURE SHARES FOR 14 FOOD GROUPS, BY LEVEL OF  
NUTRIENT AVAILABILITY, U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA For All 11 Nutrients	Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients	Household Food Use <sup>+</sup> Not Meeting 80% of the RDA For All 11 Nutrients
Potatoes	1.21	1.40	1.41
Other Vegetables	11.13	9.69	9.44+
Fruits	7.76	6.78	6.45+
Cereals, Flours	5.41	5.02	4.83
Bread	3.46	4.03	4.38+
Other Bakery Products	3.03	3.44	3.00
Grain and Meat Mixtures	1.21*	2.38**	1.14
Milk, Cheese, Creams	13.00	12.03	11.00+
Meat, Poultry, Fish	34.76	33.06**	37.87+
Eggs	2.25	2.54	2.62+
Legumes, Nuts	3.07	3.71	3.06
Fats and Oils	3.21	3.21	3.24
Sugar and Sweets	3.04	3.13	2.77
Non-alcoholic Beverages, Seasonings	6.42	7.44	7.44
Household Sample Size	1,025	582	1,318

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

- \*: Significantly different from the mean value for households meeting 80-99 percent of the RDA for all 11 nutrients at the .05 level, two-tailed test.
- \*\* : Significantly different from the mean value for households not meeting 80 percent of the RDA for all 11 nutrients at the .05 level, two-tailed test.
- + : Significantly different from the mean value for households meeting 100% of the RDA for all 11 nutrients at the .05 level, two-tailed test.

TABLE A.4

HOUSEHOLD FOOD USE OF 14 FOOD GROUPS, BY FOOD STAMP PROGRAM PARTICIPATION, U.S. LOW-INCOME  
HOUSEHOLDS MEETING 100 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Households with Food Use Meeting 100% of the RDA for All 11 Nutrients (N=1,025)			FSP Participants (N=615)			FSP Nonparticipants (N=410)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
Potatoes	2.37	.36	.16	2.34	.35	.16	2.40	.37	.17
Other Vegetables	7.65	3.38	.45	7.81	3.46	.45	7.50	3.31	.45
Fruits	5.92	2.41	.43	6.17	2.50	.43	5.69	2.32	.43
Cereals, Flours	2.51	1.55	.76	2.72	1.64	.75	2.31	1.47	.77
Bread	1.11	1.01	.96	1.09	1.06	1.03*	1.12	.97	.90
Other Bakery Products	.46	.95	2.40	.50	1.04	2.57	.42	.85	2.24
Grain and Meat Mixtures	.15	.37	3.53	.14	.37	3.69	.16	.37	3.39
Milk, Cheese, Creams	13.18	3.74	.29	13.36	3.85	.30	13.01	3.62	.29
Meat, Poultry, Fish	8.20	10.91	1.38	9.33*	12.27*	1.34	7.10	9.59	1.41
Eggs	1.13	.65	.58	1.26*	.73*	.59	.99	.57	.58
Legumes, Nuts	.86	.89	1.11	.89	.86	1.08	.83	.91	1.14
Fats and Oils	1.21	.96	.86	1.29	1.02	.82	1.12	.91	.89
Sugar and Sweets	1.57	.91	.75	1.66	.92	.80	1.49	.90	.69
Non-alcoholic Beverages, Seasonings	.86	1.96	4.10	.79	1.96	4.41	.91	1.95	3.81

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

\*: Significantly different from the mean value for FSP nonparticipants at the .05 level, two-tailed test.

TABLE A.5

HOUSEHOLD FOOD USE OF 14 FOOD GROUPS, BY FOOD STAMP PROGRAM PARTICIPATION, U.S. LOW-INCOME  
HOUSEHOLDS MEETING 80-99 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Households with Food Use Meeting 80-99% of the RDA for All 11 Nutrients (N=582)			FSP Participants (N=321)			FSP Nonparticipants (N=261)		
	Quantity	Money Value	Price	Quantity	Money Value	Price	Quantity	Money Value	Price
	Per Person (lbs./week)	Per Person (\$/week)		Per Person (lbs./week)	Per Person (\$/week)		Per Person (lbs./week)	Per Person (\$/week)	
Potatoes	1.87	.31	.18	1.65	.28	.19	1.99	.33	.18
Other Vegetables	5.14	2.25	.45	4.66	1.93	.42	5.42	2.43	.46
Fruits	4.00	1.68	.53	4.06	1.70	.44	3.97	1.66	.58
Cereals, Flours	1.83	1.09	.74	2.07	1.19	.73	1.70	1.03	.74
Bread	.94	.91	.98	.83	.73	.94	1.00	1.00	1.00
Other Bakery Products	.35	.81	2.68	.39	.81	2.24	.32	.82	2.91
Grain and Meat Mixtures	.13	.49	4.60	.10	.27	4.18	.14	.62	4.85
Milk, Cheese, Creams	9.07	2.71	.31	9.36	2.77	.31	8.90	2.68	.31
Meat, Poultry, Fish	5.75	7.95	1.45	7.37*	9.25	1.29*	4.82	7.20	1.54
Eggs	.98	.54	.57	1.02	.57	.57	.95	.53	.57
Legumes, Nuts	.74	.87	1.22	.72	.76	.98	.75	.93	1.35
Fats and Oils	.95	.75	.81	1.02	.80	.77	.91	.73	.83
Sugar and Sweets	1.30	.69	.62	1.27	.67	.64	1.32	.69	.61
Non-alcoholic Beverages, Seasonings	.61	1.71	4.25	.54	1.71	4.63	.64	1.71	4.03

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

\*: Significantly different from the mean value for FSP nonparticipants at the .05 level, two-tailed test.

TABLE A.6

HOUSEHOLD FOOD USE OF 14 FOOD GROUPS, BY FOOD STAMP PROGRAM PARTICIPATION, U.S. LOW-INCOME HOUSEHOLDS NOT MEETING 80 PERCENT OF THE RDA FOR ALL 11 NUTRIENTS, 1979-80

	All Households with Food Use Not Meeting 80% of the RDA for All 11 Nutrients (N=1,318)			FSP Participants (N=680)			FSP Nonparticipants (N=638)		
	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)	Quantity Per Person (lbs./week)	Money Value Per Person (\$/week)	Price (\$/lb.)
Potatoes	1.51	.23	.18	1.65	.26	.18	1.43	.22	.17
Other Vegetables	3.61	1.62	.46	3.38	1.49	.47	3.75	1.69	.46
Fruits	3.05	1.13	.42	2.80	1.06	.42	3.20	1.17	.42
Cereals, Flours	1.32	.77	.75	1.42	.82	.74	1.26	.75	.75
Bread	.78	.71	.95	.72	.64	.93	.81	.75	.96
Other Bakery Products	.24	.52	2.84	.25	.48	2.71	.24	.55	2.92
Grain and Meat Mixtures	.06	.19	3.97	.07	.19	3.77	.06	.18	4.10
Milk, Cheese, Creams	6.28	1.86	.35	6.52	1.83	.34	6.13	1.87	.35
Meat, Poultry, Fish	4.77	6.31	1.38	5.05	6.34	1.31*	4.59	6.29	1.42
Eggs	.73	.41	.57	.73	.41	.57	.73	.41	.57
Legumes, Nuts	.48	.51	1.12	.47	.41	.96*	.48	.57	1.22
Fats and Oils	.73	.53	.75	.73	.53	.75	.73	.54	.76
Sugar and Sweets	.81	.48	.79	.82	.45	.59*	.80	.50	.91
Non-alcoholic Beverages, Seasonings	.57	1.31	4.56	.50	1.27	4.59	.61	1.33	4.55

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

\*: Significantly different from the mean value for FSP nonparticipants at the .05 level, two-tailed test.

TABLE A.7

HOUSEHOLD EXPENDITURE SHARES FOR 14 FOOD GROUPS, BY LEVEL  
OF NUTRIENT AVAILABILITY AND FSP PARTICIPATION STATUS,  
U.S. LOW-INCOME HOUSEHOLDS, 1979-80

	Household Food Use Meeting 100% of the RDA For All 11 Nutrients		Household Food Use Meeting 80-99% of the RDA For All 11 Nutrients		Household Food Use Not Meeting 80% of the RDA For All 11 Nutrients	
	FSP	FSP	FSP	FSP	FSP	FSP
	Participants	Nonparticipants	Participants	Nonparticipants	Participants	Nonparticipants
Potatoes	1.08	1.33	1.25	1.48	1.61*	1.29
Other Vegetables	10.57	11.67	8.31*	10.48	9.00	9.71
Fruits	7.58	7.94	6.87	6.73	6.29	6.54
Cereals, Flours	5.37	5.45	5.23	4.91	5.10	4.66
Bread	3.40	3.52	3.32*	4.43	3.99	4.61
Other Bakery Products	3.17	2.89	3.45	3.43	2.76	3.14
Grain and Meat Mixtures	1.16	1.25	1.18	3.06	1.29	1.05
Milk, Cheese, Creams	12.68	13.31	12.07	12.00	11.19	10.88
Meat, Poultry, Fish	36.91*	32.68	37.42*	30.58	38.86	37.27
Eggs	2.42	2.09	2.61	2.50	2.62	2.63
Legumes, Nuts	2.72	3.41	3.09	4.06	2.50	3.41
Fats and Oils	3.21	3.20	3.30	3.16	3.15	3.29
Sugar and Sweets	2.87	3.21	3.02	3.19	2.69	2.82
Non-alcoholic Beverages, seasonings	6.19	6.65	7.01	7.69	7.53	7.39
Household Sample Size	615	410	321	261	680	638

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

\*: Significantly different from the mean value for FSP nonparticipants at the .05 level, two-tailed test.

TABLE A.8

AVERAGE QUANTITIES OF FOOD USED PER PERSON,  
FOR 14 FOOD GROUPS, BY DESCRIPTION OF HOUSEHOLD  
FOOD SUPPLIES, U.S. LOW INCOME HOUSEHOLDS, 1979-80  
(pounds per week)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
Potatoes	1.97	1.91	1.70
Other Vegetables	6.01	5.19	4.82+
Fruits	4.59	4.17	4.07
Cereals, Flours	1.80	1.81	2.13
Bread	1.01	.90	.88
Other Bakery Products	.37	.32	.39
Grain and Meat Mixtures	.10	.12	.10
Milk, Cheese, Creams	10.33	9.08	8.28+
Meat, Poultry, Fish	6.33	6.02	6.64
Eggs	.97	.92	.86
Legumes, Nuts	.64	.69	.64
Fats and Oils	1.00	.95	.82+
Sugar and Sweets	1.24	1.17	1.15
Non-alcoholic Beverages, Seasonings	.76	.67	.52+
Household Sample Size	810	1,609	506

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All percentages are weighted; sample sizes are unweighted.

+: Significantly different from the mean value for households describing their food supplies as enough and desirable at the .05 level, two-tailed test.

TABLE A.9

HOUSEHOLD EXPENDITURE SHARES FOR 14 FOOD GROUPS, BY DESCRIPTION OF  
HOUSEHOLD FOOD SUPPLIES, U.S. LOW-INCOME HOUSEHOLDS, 1979-80  
(percentage of home food dollar)

	Enough and Desirable	Enough, Not Always Desirable	Sometimes Not Enough
Potatoes	1.22	1.41	1.30
Other Vegetables	10.49	10.11	9.26
Fruits	7.14	6.93	6.87
Cereals, Grains	4.67	5.06**	5.98+
Bread	3.94	3.95	4.13
Other Bakery Products	3.47	2.92	3.01
Grain Mixtures	1.07	1.61	1.49
Milk, Cheese, Creams	12.31	11.92	11.19
Meat, Poultry, Fish	34.90	35.71	37.59
Eggs	2.26	2.59	2.48
Legumes, Nuts	3.18	3.29	2.93
Fats and Oils	3.19	3.33	2.90
Sugar and Sweets	2.92	3.01	2.75
Non-alcoholic Beverages, Seasonings	7.30	7.12	6.47
Household Sample Size	810	1,609	506

SOURCE: 1979-80 Survey of Food Consumption in Low-Income Households.

NOTES: All means are weighted; sample sizes are unweighted.

\*\* : Significantly different from the mean value for households describing their food supplies as sometimes not enough at the .05 level, two-tailed test.

+ : Significantly different from the mean value for households describing their food supplies as enough and desirable at the .05 level, two-tailed test.

