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**FINAL REPORT**  
**ANALYSIS OF THE QUALITY OF**  
**SIPP AS IT PERTAINS TO THE**  
**FOOD STAMP PROGRAM**

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## I. INTRODUCTION

The purpose of the Food Stamp Program (FSP) is to enable low-income households to achieve and maintain a nutritious diet by increasing their food purchasing power. The U.S. Congress has defined the target population for the FSP through legislated eligibility requirements. Generally, the target population includes any person, or group of persons living together and sharing food purchases and preparation, whose income and assets in a given month fall below specified limits.

Studies of the FSP often examine the characteristics or behavior (or both) of the target, or eligible, population using national household surveys. However, a household's eligibility status is not directly observable on these surveys--it must be estimated. To estimate a household's eligibility status, researchers must apply the criteria used in actual FSP eligibility determinations to detailed information collected during the survey on the income, assets, expenses, and size of the household, as reported by the survey respondent. Unfortunately, no survey data set has all of the information needed for this estimation.

The Survey of Income and Program Participation (SIPP) is an excellent source of data to measure the food stamp-eligible population because the monthly income, expense, asset, and household composition data available in SIPP provide information on most of the criteria applied in eligibility determinations. The SIPP data are not a perfect source for estimating the eligible population because discrepancies remain between the actual FSP eligibility criteria and the information available in SIPP. However, these data appear to be a significant improvement over previously available data.

In 1986, the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture sponsored a study to investigate the quality of SIPP data in terms of its ability to estimate precisely FSP eligibility. Over the next few years, several memos were written summarizing

analyses which had been done comparing the SIPP data to administrative data, and documenting the effect of imputation procedures on the levels of household incomes, assets, and expenses in SIPP. The purpose of this report is to synthesize and summarize those results, discussing additional analyses when necessary, thus providing a better understanding of the value of SIPP in food stamp research by highlighting both the strengths and weaknesses of the SIPP data.

The report is organized as follows. Chapter II provides background for the remainder of the report. FSP eligibility rules are described, as are the two data sources which are used in the report, the SIPP and the Integrated Quality Control System (IQCS). The findings of the evaluation of SIPP data are presented in Chapter III. Finally, a summary and our conclusions are provided in Chapter IV.

## II. BACKGROUND

Before evaluating the accuracy of SIPP in estimating eligibility for the FSP, one must understand the criteria used in actual FSP eligibility determinations. The rules used in these determinations are described in detail below. In addition, we provide background information on SIPP, and the administrative data file (an extract of the IQCS) that we use in this report as a comparison for the SIPP data.

### A. FSP ELIGIBILITY DETERMINATION

Eligibility for the FSP is based on a series of rules defining the applicant's need, which is deemed a function of available cash income, conditional on unit (household) size as well as on assets accessible to the unit.<sup>1</sup> The determination of need for each household applying for FSP benefits can be broken down into four distinct parts: income limits, asset limits, nonfinancial standards, and benefit levels. The parameters of each of these parts vary over time with cost-of-living adjustments and legislated changes in the program. The analysis done for this report employed FSP criteria in existence in August 1984, the month corresponding to the administrative and SIPP data used.

#### 1. Income Limits

The FSP imposes both a net and a gross income screen. Under the net income screen, monthly gross income net of allowable expenses must fall below the monthly federal poverty guidelines,<sup>2</sup> which vary by household size and geographic location.<sup>3</sup> In August 1984 the

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<sup>1</sup>The discussion that follows is an overview of the regulations governing FSP eligibility. The complete regulations appear in the Code of Federal Regulations (7 CFR parts 270-273).

<sup>2</sup>The income limits are based on the official monthly poverty guidelines, published by the U.S. Department of Health and Human Services (DHHS), which are adjusted each year to account for inflation.

monthly federal poverty guideline for a family of four in the continental United States was \$850. Under the gross income screen, food stamp units that do not contain elderly (age 60 or more) or disabled members must also have gross incomes below 130 percent of the same poverty guidelines.

In August 1984 the FSP measured gross income as all cash income received by members of the food stamp household, with certain exceptions, such as earnings of students under age 18, loans, nonrecurring lump-sum payments, and reimbursements of certain expenses. Net income was defined as gross income less a specified amount of deductible expenses for housing, taxes, work-related costs, and the like. It was computed by subtracting from gross income the following items:

- Standard Deduction: All households with incomes may subtract the standard deduction, which varies by geographic location and is adjusted annually to account for inflation. In August 1984, it equaled \$89 in the continental United States.
- Earned Income Deduction: In August 1984 households with earnings could deduct 18 percent of the combined earnings of all household members.
- Dependent Care Deduction: Households with children under age 18 or that provide care for incapacitated adults may deduct expenses for their care up to a specified limit. The limit on dependent care expenses varies by geographic location and is adjusted annually. In August 1984 this limit was \$125 for households in the continental United States.
- Medical Deduction: In August 1984 households containing an elderly or disabled member could deduct out-of-pocket medical expenses incurred by those individuals in excess of \$35 per month.
- Shelter Deduction: Housing costs (such as rent or mortgage payments, heating or cooling costs, taxes, and insurance) in excess of 50 percent of gross income less the preceding allowable deductions are deductible. A maximum is imposed on the shelter deduction equal to the difference between the limit imposed on the child care costs less actual child care

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<sup>3</sup>The income guidelines and other FSP parameters are generally the same for the 48 contiguous States and the District of Columbia and vary slightly for Alaska and Hawaii and the territories.

expenses incurred. Households with an elderly or disabled member are exempt from the limit on excess shelter costs.

2. Asset Limits

In 1984 a food stamp household could have countable assets (or resources, as they are called by the program) of \$1,500 or less and remain eligible for benefits. If an elderly person was present, and the household contained at least two members, the asset limit was \$3,000. Not included in countable resources are selected pieces of property, such as the principal home, adjacent land, some household goods, and vehicles needed to produce income or to transport disabled individuals; all other financial and nonfinancial assets generally are included.

In most instances, assets are counted at their fair market value as long as they are accessible to at least one member of the food stamp household. The principal exception to this is the treatment of vehicular assets. Vehicles used to produce income or to transport disabled individuals are exempt entirely from the household's countable resources under the program. Vehicles needed for work-related travel, and one additional vehicle owned by members of the food stamp household, are subject to a fair market test in which their value (based on the current Blue Book value) in excess of \$4,500 is counted as a resource. Any remaining vehicles owned by members of the household are subject to both a fair market value test and an equity test, counting the greater of either the equity or fair market value less \$4,500 toward the household's assets.

3. Nonfinancial Standards

In general, food stamp benefits are issued to households, but there are aspects of the program unit definition that distinguish the term from the Census definition of household, namely, a group of individuals who share living quarters. The food stamp household consists of a person who lives alone or persons who live together and share food purchases and meal preparation. Elderly individuals unable to prepare their own meals, together with their spouses,

are allowed to form a food stamp household separate from those with whom they reside as long as the combined income of the remaining household members falls below 165 percent of the monthly federal poverty guidelines. Restrictions are imposed on the formation of the food stamp household to prevent spouses, siblings, and parents with children under age 18 from forming separate units within a dwelling unit even if they purchase and prepare meals separately. Furthermore, selected individuals within dwelling units are excluded altogether from participation in the FSP. These include illegal aliens, persons refusing to comply with work registration requirements, strikers, and residents of most institutions.

Income limits, as discussed earlier, take into account the combined income and resources of all persons who belong to the same food stamp household. The composition of the food stamp household affects its eligibility and benefit amounts in the following ways:

- The presence of an elderly person, age 60 or older, entitles the unit to higher assets (conditional on the unit's containing at least two persons, by 1984 rules); exempts the unit from the gross income test and the shelter deduction limit; and allows a deduction for medical expenses incurred.
- The presence of a disabled person, that is, a person under age 60 who receives social security benefits, SSI, or veteran's benefits for reasons of disability, exempts the unit from the gross income test and the shelter deduction limit and entitles the household to a deduction for medical expenses incurred.
- The size of the unit determines the income limits to which it is subject.
- The geographic location of the unit (that is, the continental United States, Alaska, Hawaii, Guam, or the Virgin Islands) affects the income limits and the levels of allowable deductions.

The FSP also contains several provisions designed to require able-bodied adults to work, seek training preparatory for work, or look for work. Individuals not exempt from these work registration requirements are prohibited from participation in the program if they refuse to comply. Exemptions from the requirements are allowed for those caring for young children or

incapacitated adults, those with a physical or mental disability, employed individuals, recipients of unemployment compensation, selected students, and participants in drug treatment programs.

## B. DATA SOURCES

Below, characteristics of food stamp households (or units) in SIPP are compared with characteristics from the IQCS, an administrative quality control file. Both data sets used refer to August 1984 (at the time this study began, the most recently available SIPP data referred to this time period) and, because we were interested in the characteristics of low-income households, both were restricted to households with incomes under 250 percent of the poverty threshold. Because of this restriction, food stamp households containing an elderly or disabled member, and therefore not subject to the gross income test, with exceptionally high incomes may be excluded from the sample.

SIPP. SIPP is a nationally representative longitudinal survey of adults in the United States that provides detailed monthly information on income, program participation, and wealth. It is a multipanel longitudinal survey to which replacement panels are added each year. At the time of this study, only data from the first (or 1984) panel were available. The 1984 panel contains information on persons in a longitudinal sample followed for a period of over two and one-half years. The longitudinal sample is defined by adults, age 15 or older, residing at approximately 20,000 addresses (dwelling units) forming a cross-sectional sample of dwelling units in the U.S., who were interviewed initially in the fall of 1983. These adults, along with other individuals with whom they resided, were interviewed every four months. In each round of interviewing (or wave) a core questionnaire collected information on each of the four months preceding the interview date. In most waves the monthly core questions were supplemented with questions on a variety of topical issues that varied from interview to interview. Because the interviewing process was

staggered, the reference period covered in any given wave was not the same for all sample members.

The information that is needed to precisely simulate FSP eligibility status is not available in SIPP. Thus, an August 1984 "eligibility file" was created and was used for this report. The creation of that file is discussed in detail in Doyle and Post (1988) and is summarized briefly below.<sup>4</sup>

In general, the August 1984 SIPP data provide detailed information on a household's income, assets, expenses, and composition. However, the information provided in SIPP is not adequate to accurately measure a household's eligibility status. In particular, the food stamp unit is not measured for households who do not participate in the FSP; there is no information on medical expenses; child care and shelter expenses were collected for a period other than August 1984;<sup>5</sup> selected income sources and program participation are underreported; and asset balances are not measured on a monthly basis (eligibility determinations are based on monthly balances).

Thus, in the creation of the August eligibility file, these deficiencies were corrected as much as possible. The food stamp unit was estimated; medical expenses were imputed; shelter and child care expenses were linked to the August file, adjusting for changes in circumstances as was appropriate; and monthly asset balances were estimated, correcting an error in interest-bearing accounts. Eligibility for the FSP was simulated for each household based on characteristics of the food stamp unit. The results of the asset, net income, and gross income tests were stored in the file.

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<sup>4</sup>For further information on the design and scope of SIPP, see U.S. Department of Commerce (1987).

<sup>5</sup>We examine child care expenses in SIPP rather than dependent care expenses because the information in SIPP does not capture deductible expenses for the care of older dependents. Deductible expenses for the care of children while the parent was in school or was looking for work also were not captured by these data.

Estimation of the food stamp unit was not flawless. Because it could affect the analysis described in the remainder of the report, it should be noted that multiple food stamp units within the same household were not modeled in the development of the SIPP eligibility file. Instead, one food stamp unit per household was constructed, which may or may not consist of the entire Census household. In instances where food stamps are reported and there is more than one reported food stamp unit within the Census dwelling, those units were combined. The suppression of multiple units is the result of anomalies in the data, and is explained in more detail in Doyle and Dalrymple (1987).

Also of note is that a portion of the analysis presented in this report was completed prior to the availability of the August eligibility file, using a preliminary version of that file (referred to in the tables as the expanded Wave 4 analysis file of the SIPP 1984 panel). The preliminary version differed from the final version in several ways: child care and shelter expenses were imputed rather than linked from the relevant topical modules, and assets were not adjusted to account for changing circumstances between August and the interview month.

Finally, the SIPP and IQCS comparisons could be affected by the underreporting of food stamp receipt in SIPP. U.S. Department of Commerce (1985) reports that the number of households receiving food stamps as estimated in SIPP is 90 percent of an independent benchmark.<sup>6</sup> If the subset of food stamp households that report their participation is a random sample of all food stamp households, then the estimated percentages of these households with certain characteristics from SIPP will still be accurate, although the estimated number of households with these characteristics will be too low. On the other hand, if certain households are more likely than others to misreport their participation in the FSP, then some of the SIPP

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<sup>6</sup>The early releases of the data underlying this analysis contained erroneous information on interest-bearing account balances. The estimates of program eligibility, therefore, were based on an approximation of financial asset balances (i.e., asset income divided by an assumed rate of return on investment). Subsequent to this work, the Census Bureau issued a corrected file.

estimates could be biased. As a hypothetical example, if households with earners were less likely to report receiving food stamps than households without earners, then it would appear that there were proportionately fewer food stamp households with earners in SIPP than in the IQCS. However, in this example, food stamp households with earners are well-represented in the SIPP sample, but the researcher is not able to identify all of them because they misreport food stamp participation.

IQCS. The IQCS is an ongoing review of food stamp household circumstances to determine (1) if participating households are in fact eligible for the FSP and are receiving the correct coupon allotment, and (2) if household participation is correctly denied or terminated. The system is based on a national sample of participating food stamp cases and a somewhat smaller number of denials and terminations. The national sample of participating cases is stratified by the 50 States, the District of Columbia, Guam, and the Virgin Islands. State samples range from a minimum of 300 to 1200 reviews depending on the size of the monthly participating caseload.

The file used in this study was a SAS data set constructed from an extract of the IQCS and refers to August 1984. The file is designed to represent (when weighted) all participating households (active cases) subject to quality control review in the 50 States and the District of Columbia. (Guam and the Virgin Islands are also in the file.) The file contains both reported and edited data--the latter reflects the resolution of inconsistencies between benefits and the determinants of benefit levels. This file has been used to produce summary tables describing the characteristics of food stamp households which are included in annual reports issued by FNS' Office of Analysis and Evaluation.<sup>7</sup>

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<sup>7</sup>See, for example, Office of Analysis and Evaluation, Food and Nutrition Service, U.S. Department of Agriculture (1987).

### III. EVALUATION OF SIPP DATA

To evaluate how well SIPP data measure asset, income, expense, and household composition information that is used in determining FSP eligibility, one needs to compare those data to a benchmark which can show how close the SIPP estimates are to the "true" values. Below, we provide comparisons of the SIPP data to administrative data from the IQCS. Although there is still some sampling error associated with the actual file that we used from the IQCS, the IQCS figures are likely to give a very accurate picture of the FSP participant population, and thus provide a valid benchmark for the SIPP data. Our discussion below centers around the characteristics, incomes, assets, and deductions of FSP households.

#### A. HOUSEHOLD CHARACTERISTICS

As seen in Table 1, SIPP and the IQCS have similar estimates of the percent of FSP households with elderly members, while SIPP shows significantly more FSP households with disabled members than is indicated by the IQCS estimate. The IQCS, however, does not capture all disabled individuals because it misses those classified as disabled due to the receipt of State-administered SSI, social security or veterans' benefits.<sup>8</sup> Because it is likely that recipients of Federally-administered SSI who are under 60 years of age comprise a majority of the disabled population as defined by the FSP, the bias in the IQCS estimates is likely to be small. On the other hand, the receipt of Federally-administered SSI is extremely well reported in SIPP, so that it is likely that a greater proportion of those individuals who are classified as disabled due to their receipt of SSI is captured in the SIPP data.

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<sup>8</sup>Disabled households in the IQCS are defined to be households receiving SSI that contain no elderly members. This restriction to a subset of the FSP disabled population is a result of data limitations.

TABLE 1

SELECTED CHARACTERISTICS OF FSP PARTICIPANT  
HOUSEHOLDS WITH INCOMES AT OR BELOW 250 PERCENT  
OF THE POVERTY THRESHOLD IN SIPP AND IQCS  
(weighted; percentages)

Characteristic	SIPP	IQCS
Elderly Member Present in Household	23.7	22.1
Disabled Member Present in Household	10.4	6.9 <sup>a</sup>
Household Receives Earned Income	27.0	18.2 <sup>b</sup>
Household Receives AFDC, SSI, or GA	65.1	66.7
Female-Headed Household	63.5	70.0
Household size:		
1	26.2	32.2
2	20.7	19.4
3 to 5	44.0	40.5
6 or more	9.2	7.9
Number of School-Age Children in Household (5 to 17):		
Zero	48.2	52.7
1	20.3	19.8
2	18.3	14.1
3	7.5	8.1
4 or more	5.7	5.3
Number of Households	5,905,971	7,341,594
Sample Size	1,272	6,932

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

<sup>a</sup>This variable was missing for 11 households in the IQCS.

<sup>b</sup>This variable was missing for 48 households in the IQCS.

The proportion of elderly and disabled individuals in both data sets may be distorted somewhat because the samples have been restricted to households with incomes at or below 250 percent of the poverty threshold. Since the gross income test is not applied to households containing elderly or disabled members, it is very probable that any food stamp households that are excluded from the sample due to this restriction contained elderly or disabled members. Thus, the percentages of food stamp households containing these individuals are likely to be somewhat underrepresented in the samples we examined.

Although the SIPP and IQCS estimates of the proportion of food stamp households receiving AFDC, SSI, or GA are very similar, the estimates of the proportion of food stamp households receiving earned income differ significantly. According to SIPP, 27 percent of food stamp households received earned income in August 1984, while the IQCS estimate indicates that only about 18 percent of households did so. This difference is very similar to that reported in Dalrymple and Carlson (1986). Comparing August 1983 IQCS data to September 1983 SIPP data, those authors found that, while 28 percent of the Census households with food stamps had earnings in SIPP, only 19 percent of the IQCS food stamp units had earnings.<sup>9</sup> Dalrymple and Carlson stated that, among other things, this differential could be due to the different incentives involved in reporting income to FSP eligibility workers and to SIPP interviewers, although they felt that this would account for only a small part of the differential.

About 64 percent of FSP households were headed by a female, according to SIPP. This is significantly less than the estimate of 70 percent obtained from the IQCS. This possibly is due to an underrepresentation in SIPP of single-parent households with children that participate in the FSP. In their validation study of the MATH model, Doyle and Trippe (1989) assert that there is an undercount of low-income single-parent households with children in SIPP (and in the

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<sup>9</sup>It should be noted, however, that Dalrymple and Carlson used the Census household rather than

March Current Population Survey) and suggest several possible sources of this bias. The first is the methodology used to adjust the sample weights in SIPP. These methods are designed so that weighted counts of households, persons, and families in SIPP will reflect independent demographic targets derived from the decennial Census. They do not, however, ensure that the low-income population is accurately represented. Second, there is no adjustment in the sample frame to account for undercounting problems associated with the decennial Census. Third, the undercount of low-income single-parent households with children could be due to the definition of the FSP unit in SIPP. In a later file development effort, Doyle (1990) reports a significant improvement in the estimate of the number of eligible units with children headed by a single female. The improvement was the result of a change in the procedure for identifying headship status of the food stamp unit.<sup>10</sup>

Both the SIPP and IQCS estimates indicate that the majority of FSP households contain between two and five individuals. There are, however, significantly more one-person households in the IQCS than in SIPP. The IQCS estimates also indicate that a larger number of households contain no school-age children than is indicated by SIPP. It is likely that this is due to the way in which the number of school-age children in this study was defined in the SIPP file. Number of school-age children in SIPP reflects the number of children ages 5 to 17 in the Census household containing the food stamp unit. In contrast, the IQCS variable is defined for the food stamp unit itself. The difference in the number of one-person households could be due to the unit definition in SIPP, discussed above.

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<sup>10</sup>Headship status in Table 1 is based on the marital status of the head of the Census household which contains the food stamp unit. Headship status in Doyle (1990) is based on an assigned head of the food stamp unit. In households which report food stamps, the assigned head is the person who reports to be authorized to receive benefits.

## B. INCOME

Not surprisingly, most food stamp households have monthly incomes that are below 100 percent of the poverty threshold, as seen in Table 2. However, there are significantly fewer households in this category in SIPP (83.4 percent) than in the IQCS (92.7 percent). In addition, there are more households in SIPP with incomes above 100 percent of the poverty threshold than in the IQCS (16.6 percent compared with 7.4 percent). A comparison of gross and net income levels in SIPP and IQCS confirms this difference. There appear to be significantly fewer households in SIPP with no (or very low) gross or net incomes than in the IQCS, and significantly more households with relatively high incomes (\$800 or more per month).

These differences could arise from several sources. Doyle and Dalrymple (1987) examined income levels of food stamp households in SIPP and found that the Census Bureau's procedures for the imputation of missing income data in SIPP tended to distort the level of income for food stamp households. However, they found that the overall income distribution was not greatly affected by income imputation because income was imputed for only a small number of households in SIPP. Two other possible reasons for the income differential are that, first, as seen in Table 1, there appear to be too many food stamp households with earners in SIPP (assuming that the IQCS estimate closely resembles the "true" number of FSP households with earners), and second, because multiple food stamp units within the same household are not identified in SIPP--the unit examined here may be larger than the true food stamp unit.

## C. ASSETS

SIPP asset balances include vehicular and nonvehicular assets. With few exceptions, all assets considered countable under the FSP are measured in SIPP. The major exception is cash on hand which was not included in the battery of asset questions in SIPP.

TABLE 2

DISTRIBUTION OF FSP PARTICIPANT HOUSEHOLDS WITH INCOMES AT  
OR BELOW 250 PERCENT OF THE POVERTY THRESHOLD IN SIPP AND  
IQCS BY GROSS AND NET INCOME LEVELS  
(weighted; percentages)

	SIPP	IQCS
Household Income as a Percent of the Poverty Threshold:		
50 percent or less	34.4	39.0
51 to 100 percent	49.0	53.7
101 to 130 percent	11.1	6.3
131 percent or more	5.5	1.1
Gross Income:		
Zero	3.6	6.5
\$1 to 199	9.5	12.4
\$200 to 399	37.4	42.0
\$400 to 599	23.5	23.3
\$600 to 799	11.6	9.3
\$800 or more	14.3	6.5
Net Income:		
Zero	14.8	17.5
\$1 to 199	28.6	34.4
\$200 to 399	27.4	29.9
\$400 to 599	14.8	11.4
\$600 to 799	6.8	4.7
\$800 or more	7.6	2.2
Number of Households	5,905,971	7,341,594
Sample Size	1,272	6,932

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

Countable vehicular assets were constructed on the SIPP file in a manner that closely approximates the FSP criteria. Vehicles needed to produce income are excluded from the measure of countable vehicular assets. Vehicle usage (needed to determine whether a vehicle is exempt from the FSP asset test) is not measured in SIPP, so a proxy was developed based on the occupation of the vehicle owner. Among the vehicles not used to produce income, the newest was exempt from the equity test, as is the case under FSP eligibility rules. The remaining vehicles were subjected to both an equity and a market value test.

Countable nonvehicular assets were determined in SIPP by using a proxy (income from financial assets divided by an average rate of return on an investment). The need for the proxy was driven by an error in the main financial asset type held by the low-income population (interest-bearing accounts).<sup>11</sup>

In the text that follows, we examine the quality of the asset data in the SIPP analysis file. First we focus on countable assets of participants, comparing the countable assets in SIPP to those in the IQCS. Second, we focus on the distribution of countable assets of all low-income households relative to the food stamp eligibility cutoffs. Finally, a profile of asset holdings of the low-income population is provided.

Countable Assets. The distribution of food stamp households by countable asset levels is presented in Table 3. It is interesting to note that significantly more households in SIPP appear to have no assets than in the IQCS. On the other hand, significantly more households in SIPP have countable assets over \$1,000. It is not obvious why the differences in these distributions exist.

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<sup>11</sup>In the development of the August 1985 eligibility file (not analyzed in this report) this situation was corrected. Doyle (1989) provides a discussion of the impact of the use of a proxy for financial assets as was done for the August 1984 file.

TABLE 3

DISTRIBUTION OF FSP PARTICIPANT HOUSEHOLDS  
WITH INCOMES AT OR BELOW 250 PERCENT OF THE POVERTY  
THRESHOLD IN SIPP AND IQCS BY COUNTABLE ASSET LEVELS  
(weighted; percentages)

Amount of Countable Assets	SIPP	IQCS
\$0	84.0	77.2
\$1 to 199	2.4	14.6
\$200 to 399	2.3	3.3
\$400 to 599	2.9	1.5
\$600 to 799	1.1	0.9
\$800 to 999	0.8	0.7
\$1,000 to 1,999	2.9	1.7
\$2,000 to 2,999	1.3	0.1
\$3,000 or more	2.3	0.0
Number of Households	5,905,971	7,263,831
Sample Size	1,272	6,877 <sup>a</sup>

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

NOTE: The information on the 1984 SIPP FSP eligibility file regarding interest-bearing nonvehicular assets was incorrect. As a result, total financial asset balances were estimated as reported asset income divided by 0.00522, the average rate of return on an investment.

<sup>a</sup>Fifty-five cases were excluded from this table because of missing data.

Asset levels in SIPP are examined further in Table 4. As discussed in Section A, the asset restriction for food stamp eligibility differs for households depending on whether an elderly member is present in the household and the household contains two or more people. For these households, the asset limit in August 1984 was \$3,000, while for all other households the asset limit was \$1,500. According to Table 4, about 78 percent of the elderly FSP households (FSP households of size two or more containing an elderly member) with incomes at or below 130 percent of the poverty threshold had zero countable assets, compared to 86 percent of the nonelderly households. Seventeen percent of the elderly households in the lower income category (0 to 130 percent of the poverty threshold) had positive countable asset balances that were at or below the asset limit, as did 10 percent of the nonelderly households in that income category. There appear to have been both elderly and nonelderly households that were asset-ineligible, or which had assets greater than the eligibility limit (close to 4 percent of both types of households). FSP households which appear to be ineligible for the program are examined further in Section D.

Nonvehicular Assets. In the next several pages, we provide a detailed examination of asset levels in SIPP, dividing countable assets into nonvehicular and vehicular assets. In this section, we discuss nonvehicular assets in SIPP; the next section covers vehicular assets.

Among FSP households in SIPP, the most commonly owned nonvehicular assets were non-income-producing nonvehicular assets such as checking accounts (owned by almost 17 percent of the households) and life insurance policies (owned by about 31 percent). Only about 4 percent of these households owned other nonvehicular assets, as seen in Table 5. This analysis ignores interest bearing accounts in banks and institutions because the data used for this report regarding those assets were incorrect, as noted above.

The effect of imputation on the value of nonvehicular assets owned also is examined in Table 5. For the most part, imputed balances are higher than reported balances. The value of

TABLE 4

DISTRIBUTION OF HOUSEHOLDS WITH INCOME AT OR BELOW 250 PERCENT  
OF THE POVERTY THRESHOLD BY FSP PARTICIPATION STATUS,  
HOUSEHOLD INCOME RELATIVE TO THE POVERTY THRESHOLD,  
AND COUNTABLE ASSETS RELATIVE TO THE ASSET LIMIT  
(weighted; percentages)

Countable Assets Relative to the Asset Limit	FSP Participants		FSP Nonparticipants	
	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold
Households Subject to \$3,000 Asset Limit:				
Zero assets	78.4	29.8 <sup>a</sup>	32.1	13.1
At or below asset limit	17.2	39.6 <sup>a</sup>	27.0	19.1
Above asset limit	<u>4.4</u>	<u>30.7<sup>a</sup></u>	<u>40.9</u>	<u>67.9</u>
Total	100.0	100.0	100.0	100.0
Number of households	475,924	70,835	1,414,839	4,696,370
Households Subject to \$1,500 Asset Limit:				
Zero assets	86.3	74.5	45.2	22.1
At or below asset limit	10.0	15.3	20.0	24.0
Above asset limit	<u>3.7</u>	<u>10.3</u>	<u>34.8</u>	<u>53.9</u>
Total	100.0	100.0	100.0	100.0
Number of households	4,843,385	515,828	9,587,885	15,530,386

SOURCE: The August 1984 Food Stamp Program eligibility file.

NOTES: In August 1984, households of size two or more that contained an elderly (age 60 or older) member were subject to a \$3,000 asset limit; all other households were subject to a \$1,500 asset limit. The information on the 1984 SIPP FSP eligibility file regarding interest-bearing nonvehicular assets was incorrect. As a result, total financial asset balances were estimated as reported asset income divided by 0.00522, the average rate of return on an investment.

<sup>a</sup>Due to the small number of households subject to the \$3,000 asset limit with incomes between 131% and 250% of the poverty threshold (N=16), these figures should not be viewed as reliable estimates.

TABLE 5  
 AVERAGE VALUES OF SELECTED NONVEHICULAR ASSETS FOR  
 FSP PARTICIPANT HOUSEHOLDS WITH INCOMES AT OR BELOW  
 250 PERCENT OF THE POVERTY THRESHOLD  
 (weighted)

	Percent of Households With Positive Value of Asset	Of Households With A Positive Value Of Asset, Percent For Whom Value Was Imputed	Mean Value of Asset for Households with Positive Value of Asset	
			Not Imputed	Imputed
Non-Income Producing Nonvehicular Assets	16.7	22.2	\$267.56	\$1,968.78
Face Value of Life Insurance	31.1	27.4	\$9,198.02	\$20,893.22
Other Nonvehicular Assets <sup>1</sup>	3.7	46.7	\$10,102.54	\$24,136.03

SOURCE: Expanded Wave 4 analysis file of the SIPP 1984 panel.

<sup>1</sup> These include: self-employment business equity, stocks and mutual funds, debt of margin accounts held by households against stocks or mutual funds, equity in rental property, equity in nonrental property other than principal residence, equity of other financial investments, and IRA and Keogh accounts.

non-income-producing nonvehicular assets was imputed for about 22 percent of the households with those assets, and the average imputed value of the asset was more than eight times the average reported value. Of the food stamp households with life insurance policies, about 27 percent had imputed values and, on average, these were more than twice as high as the reported values. For other nonvehicular assets, almost 50 percent of the households with positive values of those assets had the value imputed, and the average imputed value was more than twice the average reported value. Thus, it appears that the procedure used by the Census Bureau to impute asset balances did not contain adequate controls for the low-income population.

As discussed above, some FSP households in SIPP have asset balances above the specified eligibility limit. It is likely that the high imputed balances documented in Table 5 contributed to this phenomenon. It is suspect that these balances are so much higher than the reported balances, and worthy of further investigation. If households with certain characteristics are more likely than others to have their asset balances imputed, and are therefore more likely to be asset-ineligible for the FSP, then results regarding the asset balances of FSP households in SIPP could be biased.

Vehicular Assets. Quite a few food stamp households owned no vehicles, as seen in Table 6. Of those with incomes at or below 130 percent of the poverty threshold, 58 percent owned no vehicles, while 33 percent of food stamp households with incomes between 131 and 250 percent of the poverty threshold fell into that category. If a household did own at least one vehicle, it usually owned only one.

The average value and positive equity for the cars owned are displayed in Table 7. It can be seen that the average car value of the first car for FSP households with incomes at or below 130 percent of the poverty threshold was about \$1,550, compared to about \$2,450 for FSP households with incomes between 131 and 250 percent of the poverty threshold. The average positive car equity of the first car was 83 percent of the average value for FSP households in the

TABLE 6

DISTRIBUTION OF HOUSEHOLDS WITH INCOMES AT OR BELOW 250 PERCENT  
OF THE POVERTY THRESHOLD BY FSP PARTICIPATION STATUS,  
HOUSEHOLD INCOME AS A PERCENT OF THE POVERTY THRESHOLD,  
AND THE NUMBER OF VEHICLES OWNED  
(weighted; percentages)

Number of Vehicles Owned	FSP Participants		FSP Nonparticipants	
	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold
Zero	58.2	33.0	36.4	15.9
One	33.8	44.1	40.3	43.4
Two	6.1	14.8	15.2	26.3
Three	1.5	6.0	5.2	10.8
Four	0.4	0.6	2.2	3.0
Five	<u>0.0</u>	<u>1.5</u>	<u>0.8</u>	<u>0.7</u>
Total	100.0	100.0	100.0	100.0
Number of Households	5,319,309	586,662	11,002,724	20,226,756
Sample Size	1,134	138	2,314	4,282

SOURCE: The August 1984 SIPP Food Stamp Program eligibility file.

NOTE: Due to the framework of the SIPP questionnaire, questions regarding a household's fourth or fifth vehicle usually refer to recreational vehicles owned by the household.

TABLE 7

AVERAGE VALUE AND POSITIVE EQUITY OF CARS OWNED BY HOUSEHOLDS WITH  
INCOMES AT OR BELOW 250 PERCENT OF THE POVERTY THRESHOLD BY FSP  
PARTICIPATION STATUS AND HOUSEHOLD INCOME AS A PERCENT OF THE POVERTY THRESHOLD  
(weighted; means)

	FSP Participants		FSP Nonparticipants	
	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold
<b>Average Value:</b>				
Car 1	\$1,551.56	\$2,446.84	\$3,007.87	\$3,560.52
Car 2	\$1,175.66	\$1,176.85	\$2,127.44	\$2,121.73
Car 3	\$1,698.98	\$1,354.72	\$1,733.18	\$2,204.92
Car 4	\$2,369.90	\$1,760.60	\$2,109.53	\$2,411.69
Car 5	--	\$2,078.84	\$1,918.23	\$1,688.37
Total Car Value	\$1,873.01	\$3,113.18	\$4,129.62	\$5,088.50
<b>Average Positive Equity:</b>				
Car 1	\$1,290.15	\$2,084.00	\$2,414.28	\$2,769.95
Car 2	\$1,033.90	\$943.85	\$1,967.38	\$1,830.29
Car 3	\$1,263.99	\$823.02	\$1,159.34	\$1,873.26
Car 4	\$1,385.64	\$1,760.69	\$1,800.34	\$2,151.72
Car 5	---	\$1,836.43	\$1,883.13	\$1,392.55
Total Car Equity	\$1,553.57	\$2,589.24	\$3,430.53	\$4,081.04

SOURCE: Expanded Wave 4 analysis file of the SIPP 1984 panel.

NOTE: Due to the framework of the SIPP questionnaire, questions regarding a household's fourth or fifth vehicle usually refer to recreational vehicles owned by the household.

lower income category, and 85 percent of the average value for FSP households in the upper income category.

For almost all food stamp households in SIPP, the value of the car owned by the household was reported, not imputed, as seen in the top half of Table 8. Similarly, as seen in the bottom half of Table 8, only about 5 percent of the food stamp households with at least one vehicle had the equity on any of their cars imputed. (A car's equity was considered to be imputed if either the value of the car or the debt outstanding on the car was imputed.) Thus, imputation procedures did not appear to play a major role in food stamp households' vehicular asset balances, since very few households had the value or equity of their cars imputed.

Average reported and imputed equity of cars owned by food stamp households are shown in Table 9 (a table comparing average reported and imputed value of these cars is not included since the values of so few cars were imputed). Among the low-income population, average imputed equity is generally higher than average reported equity, and in some cases it is much higher. For example, for FSP households with incomes between 131 and 250 percent of the poverty threshold, the average reported equity of the second car was \$734, compared to an average imputed equity of over \$5,000. Thus, it appears again that the Census Bureau's imputation procedures do not adequately control for income at the low end of the income distribution. As discussed above, however, the equity is imputed for only a small number of cars, so the imputation procedures for vehicle value and equity probably have only a small effect on average food stamp household asset balances.

#### D. DEDUCTIONS AND EXPENSES

In the determination of a household's eligibility and benefit amount, certain expenses are deducted from the household's income. Net income is calculated as gross income, less a standard deduction, an earned income deduction, a dependent care deduction, a medical deduction, and

TABLE 8

PROPORTION OF CARS OWNED BY HOUSEHOLDS WITH INCOMES AT OR BELOW  
250 PERCENT OF THE POVERTY THRESHOLD FOR WHICH THE VALUE OR EQUITY  
WAS IMPUTED BY FSP PARTICIPATION STATUS AND HOUSEHOLD  
INCOME AS A PERCENT OF THE POVERTY THRESHOLD  
(weighted; percentages)

	FSP Participants		FSP Nonparticipants	
	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold
Proportion of Cars for Which the Value Was Imputed:				
Zero Percent	99.1	98.6	98.0	98.2
1 to 50 Percent	0.5	1.4	1.9	1.6
51 to 99 Percent	0.0	0.0	0.0	0.0
100 Percent	<u>0.5</u>	<u>0.0</u>	<u>0.1</u>	<u>0.1</u>
Total	100.0	100.0	100.0	100.0
Proportion of Cars for Which the Equity Was Imputed:				
Zero percent	94.9	93.6	93.5	93.1
1 to 50 percent	1.5	2.6	3.6	4.2
51 to 99 percent	0.0	0.0	0.3	0.4
100 percent	<u>3.6</u>	<u>3.9</u>	<u>2.7</u>	<u>2.4</u>
Total	100.0	100.0	100.0	100.0
Number of Households	2,223,351	392,851	6,996,046	17,016,573
Sample Size	478	92	1,491	3,639

SOURCE: The August 1984 SIPP Food Stamp Program eligibility file.

NOTES: There were 2,168 households excluded from this table because they owned no vehicles. In addition, 4 households (24,509 households, weighted) were excluded from the bottom half of this table because of missing data. All 4 of these households were FSP nonparticipants and had incomes between 131 percent and 250 percent of the poverty threshold. Car equity was not reported in the 1984 SIPP data; it was calculated as the maximum of zero and reported car value minus car debt. If the value of either of those variables was imputed then equity was considered to be imputed. Percentages may not add to 100 percent because of rounding error.

TABLE 9

AVERAGE REPORTED AND IMPUTED EQUITY OF CARS OWNED BY HOUSEHOLDS  
WITH INCOMES AT OR BELOW 250 PERCENT OF THE  
POVERTY THRESHOLD BY FSP PARTICIPATION STATUS  
AND HOUSEHOLD INCOME AS A PERCENT OF THE POVERTY THRESHOLD  
(weighted; means)

	FSP Participants		FSP Nonparticipants	
	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold	Household Income Is 0% to 130% of the Poverty Threshold	Household Income Is 131% to 250% of the Poverty Threshold
Car 1				
Reported	\$1,268.72	\$1,876.78	\$2,350.95	\$2,736.33
Imputed	\$1,802.29	\$7,234.00	\$3,808.57	\$3,565.39
Car 2				
Reported	\$973.78	\$733.92	\$1,968.09	\$1,799.15
Imputed	\$2,844.55	\$5,644.18	\$1,947.02	\$2,469.62
Car 3				
Reported	\$1,179.93	\$823.02	\$1,523.75	\$1,795.10
Imputed	\$2,084.45	--	\$1,468.40	\$2,695.01
Car 4				
Reported	\$573.36	\$1,760.60	\$1,815.24	\$2,091.36
Imputed	\$3,378.24	--	\$1,691.54	\$2,939.12
Car 5				
Reported	--	\$600.00	\$2,091.36	\$1,425.50
Imputed	--	\$3,000.00	\$1,150.01	\$1,314.29

SOURCE: The August 1984 Food Stamp Program eligibility file.

NOTE: Car equity was not reported in the 1984 SIPP data; it was calculated as the maximum of zero and reported car value minus car debt. If the value of either of those variables was imputed, then equity was considered to be imputed.

an excess shelter expense deduction. The quality of the information regarding the amount of these deductions is an important aspect of the accuracy of FSP eligibility determinations using SIPP.

Information regarding deductible expenses is not available for all of the households in Wave 4. Furthermore, that which is available does not pertain exactly to the month of August. Therefore, in creating the August 1984 eligibility file, MPR imputed expenses for those households for whom the information was not available and adjusted the expenses to reflect the circumstances existing in August. The procedures varied depending on the type of expense.

Medical expenses were not collected at all in SIPP and, hence, had to be imputed for households with elderly or disabled members. The imputation model used was estimated on the 1980-81 Consumer Expenditure Survey for use in the MATH system (see Doyle et al. 1988).

Child care expenses were collected in Wave 5 of the 1984 panel and were linked to the August 1984 data. In merging these data, we took into account the impact of changes in circumstances, such as the birth of a child or a marital dissolution. In essence, we developed a predictive child care expense model designed to directly assign child care expenses from Wave 5, if circumstances did not change between the two time periods. If circumstances did change or if data were unavailable from Wave 5, this model was used to predict whether a household would incur expenses in August 1984 and to impute the expense amount. The imputation system was designed to maintain a high level of correlation between predicted expenses in August and reported expenses in Wave 5 when an observation was present in the sample at both points in time. The expenses of persons for whom child care expenses in Wave 5 were imputed by the Census Bureau were reimputed by MPR in order to maintain consistency among the imputed amounts and to improve the imputation for the low income population.

Shelter costs were collected in Wave 4 pertaining to the address at which the household resided at the time of the interview and thus the problem of integrating those expenses with the

other data for August was simpler than that of integrating child care costs. As long as address and ownership status remained constant between August and the interview month, reported shelter costs at the time of the interview were assumed to reflect shelter expenses in August.<sup>12</sup> Otherwise, we imputed shelter costs separately for owners and renters. When shelter costs were originally missing (and hence imputed by the Census Bureau), we reimputed the data to maintain consistency among the imputed amounts and to improve the information for the low-income population.

Deductions. There are five deductions in the FSP—standard, earnings, child care, medical, and excess shelter expenses. The latter three are functions of expenses, subject to a cap in most instances. The child care deduction equals actual expenses up to a limit. The medical deduction (allowed only for households containing elderly or disabled members) equals actual expenses in excess of a threshold. The excess shelter deduction equals shelter expenses in excess of half of gross income less the other four deductions. For households not containing an elderly or disabled member, the shelter deduction is capped. Shelter, child care, and medical deductions are examined below; shelter, child care, and medical expenses are discussed in subsequent sections.

Child care, shelter, and medical deductions in SIPP are compared to those in the IQCS in Table 10. Although more food stamp households in SIPP had child care deductions than in the IQCS, and less had shelter deductions, neither of these differences was statistically significant.<sup>13</sup> There are, however, significantly fewer food stamp households in SIPP than in

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<sup>12</sup>The interview month was either September, October, November or December depending on the rotation group.

<sup>13</sup>We used the Census Bureau's generalized standard errors table to compute standard errors for child care expenses. However, they are not entirely appropriate for this purpose because the standard error table was developed for reported expenses in Wave 5, rather than the expenses assigned or imputed to the August file.

TABLE 10

COMPARISON OF THE DEDUCTIONS OF FSP  
 PARTICIPANT HOUSEHOLDS WITH INCOMES AT OR BELOW 250  
 PERCENT OF THE POVERTY THRESHOLD IN SIPP AND IQCS  
 (weighted)

Deductible Expense	SIPP		IQCS	
	Percent of FSP Households With Deductions	Average Deductions for Households With Deductions	Percent of FSP Households With Deductions	Average Deductions for Households With Deductions
Child Care	3.0	\$67.24	1.9	\$93.13
Shelter	66.1	\$87.69	68.6	\$99.45
Medical	1.0	\$28.04	2.7	\$68.33
Number of Households	5,905,971		7,341,594	
Sample Size	1,272		6,932	

SOURCE: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

the IQCS with a medical deduction. Only 1 percent of the households in SIPP had medical deductions, while almost 3 percent of the households in the IQCS did.

The levels of the child care and medical deductions in SIPP and IQCS are substantially different. In both cases, the average deduction in the IQCS is considerably larger than that in SIPP (the average child care deduction in SIPP is about 72 percent of the average deduction in the IQCS and the average medical deduction in SIPP is only 41 percent of the average IQCS deduction). The average shelter deduction is also larger in the IQCS than in SIPP, although the difference is not as dramatic.

The reasons for these discrepancies vary for the three deductions. Since child care expenses were reported rather than imputed for most of the observations in SIPP, the differences in the deductions for program participants reflect differences in the methods of collection of the underlying data. However, there is a sample size problem in SIPP with child care expenses of the food stamp population affecting the reliability of the estimate of the deduction and the comparison to the IQCS. Medical expenses were imputed to the SIPP file and the results presented here clearly indicate that the imputation model needs to be adjusted. The shelter deduction is a function of expenses which are generally reported in SIPP, the level of gross income, and the size of the other deductions. Hence the differences observed here are generated in part by the differences observed in the other deductions. The discrepancy is also a function of differences in the collection and processing procedures employed for the surveys.

It is likely that, because the deductions in SIPP tend to be low, fewer households are estimated to be eligible for the FSP using SIPP than should be, according to the IQCS. In addition, since SIPP would tend to overestimate net income, simulated benefit amounts are likely to be too low. It is unclear whether the underestimation of deductions in SIPP is systematic, so that the deductions of certain households would be more likely to be underestimated than those

of other households. If that were true, eligibility estimations using SIPP would be biased. However, it is impossible to know from this analysis whether such a bias exists.

Shelter Expenses. Shelter expenses in SIPP and the IQCS are examined in Tables 11 and 12. Unlike shelter deductions, the average shelter expense in SIPP was larger than that in the IQCS, as seen in Table 11. The average shelter expense for food stamp households in SIPP was about \$34 higher than the average expense in the IQCS, or 120 percent of the IQCS average. The maximum expenses in the data sets were very similar--around \$975.

Table 12 examines in more detail the difference between shelter expenses in SIPP and those in IQCS, as well as the effect of imputation procedures on the SIPP expenses. A significantly larger percentage of food stamp households in SIPP than in the IQCS have shelter expenses (96 percent compared to 92 percent), and the average expense for those households with expenses is higher in SIPP than the IQCS (\$255 compared to \$234).

Shelter expenses were imputed for more than 40 percent of the households with shelter expenses in SIPP, and among the FSP participants, the average expense for those who had the expense imputed was 13 percent higher than the average for FSP households in SIPP with reported shelter expenses (\$282 versus \$250). Hence, even though the imputation procedures developed by MPR were designed to improve the predicted values for the low-income population, there is still room for improvement.

Child Care Expenses. Food stamp households' child care expenses, examined in Tables 13 and 14, are higher in SIPP than in the IQCS even though child care deductions discussed earlier are lower. The average expense in SIPP is about 77 percent higher than that in the IQCS, and the maximum expense in SIPP is about 17 percent higher. From Table 14, one can see that, again, significantly more households in SIPP have child care expenses (3.4 percent compared to 1.9 percent). The average child care expense for households that do have the expense is quite similar in the two data sets (\$104.78 in SIPP compared to \$101.61 in IQCS), so the difference

TABLE 11  
 UNIVARIATE STATISTICS OF SHELTER EXPENSES  
 OF HOUSEHOLDS WITH INCOMES AT OR BELOW 250  
 PERCENT OF THE POVERTY THRESHOLD IN THE IQCS AND SIPP  
 (weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Mean	\$215.07	\$249.39	\$329.08
Minimum	\$0.00	\$0.00	\$0.00
Maximum	\$971.00	\$976.00	\$7,950.00
Standard Deviation	\$136.57	\$158.42	\$249.80
Number of Households	7,324,547	5,905,971	31,232,799
Sample Size	6,913 <sup>a</sup>	1,272	6,595

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

<sup>a</sup>Nineteen observations were excluded from this table because of missing data.

TABLE 12

REPORTED AND IMPUTED SHELTER EXPENSES IN THE IQCS AND SIPP  
 FOR HOUSEHOLDS WITH INCOMES AT OR BELOW  
 250 PERCENT OF THE POVERTY THRESHOLD  
 (weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Percent of Households with Shelter Expenses	91.9	96.1	94.7
Average Shelter Expense for Households with Shelter Expenses	\$233.55	\$254.94	\$328.57
Percent of Households with Shelter Expenses for Which the Expenses Were Imputed	--	41.2	59.8
Average Shelter Expense for Households with Imputed Shelter Expenses	--	\$282.26	\$312.72
Average Shelter Expense for Households with Reported Shelter Expenses	--	\$249.83	\$387.30

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

TABLE 13  
 UNIVARIATE STATISTICS OF CHILD CARE EXPENSES  
 OF HOUSEHOLDS WITH INCOMES AT OR BELOW 250  
 PERCENT OF THE POVERTY THRESHOLD IN THE IQCS AND SIPP  
 (weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Mean	\$1.98	\$3.51	\$7.82
Minimum	\$0.00	\$0.00	\$0.00
Maximum	\$363.00	\$424.00	\$433.00
Standard Deviation	\$15.78	\$24.58	\$38.75
Number of Households	7,341,594	5,905,981	31,229,461
Sample Size	6,932	1,272	6,595

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

TABLE 14

REPORTED AND IMPUTED CHILD CARE EXPENSES IN THE IQCS  
AND SIPP FOR HOUSEHOLDS WITH INCOMES AT OR BELOW  
250 PERCENT OF THE POVERTY THRESHOLD  
(weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Percent of Households with Child Care Expenses	1.9	3.4	5.2
Average Child Care Expense for Households with Child Care Expenses	\$101.61	\$104.78	\$151.57
Percent of Households with Child Care Expenses for Which the Expenses Were Imputed	--	87.9	59.3
Average Child Care Expense for Households with Imputed Child Care Expenses	--	\$102.65	\$154.95
Average Child Care Expense for Households with Reported Child Care Expenses	--	\$120.30	146.64

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

in average expenses for all food stamp households appears to be due in large part to the fact that more food stamp households have child care expenses in SIPP.

As noted above, the average child care deduction in SIPP falls below the average deduction in the IQCS while average expenses follow the reverse pattern. The reason for this anomaly is that 62 percent of the food stamp households with child care expenses in SIPP have a child care deduction less than their actual expenses while 14 percent of food stamp households in the IQCS do so.<sup>14</sup> A food stamp household will have a child care deduction less than actual expenses in one of two circumstances: expenses exceed the child care limit or expenses exceed gross income minus the earnings and standard deduction.

As discussed above, there was no child care expense information in Wave 4 of SIPP, although this information was available in Wave 5. For households that were eligible for child care expenses (a child under 15 was present in the household and the parent worked at least one week of the month) in both waves, reported expenses in Wave 5 were transferred to Wave 4, accounting for changes in circumstances between the two periods. If a household was eligible for child care expenses in Wave 4 and child care expenses were not available in Wave 5, or the household was not eligible for child care expenses in Wave 5, those expenses were imputed for Wave 4. Child care expenses were imputed for a surprisingly large percentage of the food stamp households in SIPP with nonzero child care expenses (87.9 percent). Because we thought that percentage was too high, we investigated further the imputation process developed by MPR for child care expenses, and found that several unweighted households that were eligible for child care expenses in Wave 5, and had reported expenses for that period, were estimated mistakenly to be ineligible for child care expense in Wave 5, and therefore had their expenses imputed for

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<sup>14</sup>These estimates were derived from the August 1984 Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

Wave 4.<sup>15</sup> As seen in Table 14, average imputed child care expenses in SIPP are about \$18 less than average reported expenses.

Medical Expenses. Medical expenses were not available in the SIPP file, so they were imputed by MPR. The model imputes medical expenses to households based on information from the Consumer Expenditure Survey and then applies a nonlinear adjustment procedure to allocate expenses to elderly and disabled individuals within the households. Tables 15 and 16 compare these imputed expenses to reported expenses in the IQCS.

The average medical expense for food stamp households in the August eligibility file is \$0.77, compared to \$3.24 in the IQCS. The maximum expense in SIPP is substantially less than the maximum in the IQCS--\$129 compared to \$745. Thus, the imputation process used appears to have underestimated medical expenses for food stamp households. Note, however, that the sample size for the SIPP estimates is very low and hence the reliability of the estimates is low. As seen in Table 16, too few households were estimated to have medical expenses and the amount imputed for those households was too low. Average medical expenses in the IQCS were about \$75, while average (imputed) expenses in SIPP were only about \$34. Clearly, the imputation procedure used for medical expenses in the August eligibility file needs to be calibrated.<sup>16</sup>

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<sup>15</sup>Eligible in this context means the household contained a family with children under 15 and working parents. The imputation model assigned the value of the expenses reported in Wave 5 (which could be zero) to Wave 4 if the family was eligible in both Waves. If the family was eligible in Wave 4 but not in Wave 5, expenses were imputed in Wave 4.

<sup>16</sup>The model permits both additive and multiplicative calibration (or adjustment) factors to be applied to medical expenses. To date, they have not been adjusted due to the absence of a participation model needed to construct the universe comparable to the QC data which provides a control for the process.

TABLE 15

UNIVARIATE STATISTICS OF MEDICAL EXPENSES  
OF HOUSEHOLDS WITH INCOMES AT OR BELOW 250  
PERCENT OF THE POVERTY THRESHOLD IN THE IQCS AND SIPP  
(weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Mean	\$3.24	\$0.77	\$8.21
Minimum	\$0.00	\$0.00	\$0.00
Maximum	\$745.00	\$129.00	\$424.00
Standard Deviation	\$21.01	\$6.98	\$27.83
Number of Households	7,341,594	5,905,971	31,229,479
Sample Size	6,932	1,272	6,595

SOURCES: The August 1984 SIPP Food Stamp Program eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

TABLE 16

MEDICAL EXPENSES IN THE IQCS AND SIPP FOR  
HOUSEHOLDS WITH INCOMES AT OR BELOW 250 PERCENT  
OF THE POVERTY THRESHOLD  
(weighted)

	IQCS	SIPP	
		FSP Participants	FSP Nonparticipants
Percent of Households with Medical Expenses	4.3	2.3	18.7
Average Medical Expenses for Households with Medical Expenses	\$74.73	\$33.96	\$43.98

SOURCES: The August 1984 SIPP Food Stamp Program Eligibility file and the August 1984 analysis file of the Integrated Quality Control System (IQCS).

## E. SEEMINGLY INELIGIBLE PARTICIPANTS

Because no household survey data set has all of the information needed to perfectly simulate the eligibility determination process, there inevitably will be some households in the data set that are estimated to be ineligible for the program, but who report receiving food stamps. The magnitude of this problem varies across data sets, depending on the type and quality of the asset, income, expense, and household composition information available. As discussed above, there are food stamp households in SIPP with unusually large incomes or asset holdings, which are estimated to be ineligible for the FSP. Of all the food stamp participants in the August eligibility file, about 11 percent were estimated to be ineligible for the program.

As seen in Table 17, the three most common reasons for the ineligibility of seemingly ineligible households in SIPP are: the household failed only the asset test (30.5 percent), it failed only the net income test (22.1 percent), or it failed both the gross and net income tests (26.3 percent). Only about 7 percent of these households failed all three eligibility tests. These results are consistent with those of Doyle and Dalrymple (1987) that showed that 9 percent of the Census households and 5 percent of the food stamp units were ineligible due to receiving high incomes.<sup>17</sup>

Seemingly ineligible participants reflect one or more inconsistencies between the food stamp participation flag in SIPP and the variables used to determine program eligibility. The distribution of seemingly ineligible units by reason for ineligibility suggests that the inconsistency may be occurring within one eligibility test (assets, income, or expenses) rather than in all three tests simultaneously. For example, the 31 percent who failed only the asset test had income and

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<sup>17</sup>Table 17 shows that 250 thousand households (or 39 percent) failed the gross income test either singly or in combination with another test. This is 4 percent of the total participant population. An additional 172 thousand households (or 27 percent) failed the net income test but not the gross income test. This is 3 percent of the participant population.

TABLE 17  
 DISTRIBUTION OF SEEMINGLY INELIGIBLE PARTICIPANTS  
 IN SIPP BY THE REASON FOR THEIR INELIGIBILITY  
 (weighted, percentages)

Reason for Ineligibility	Percent
Passed Asset, Gross and Net Income Tests, but were Simulated to be Eligible for Zero Benefits <sup>a</sup>	3.1
Failed Asset Test Only	30.5
Failed Gross Income Test Only	5.6
Failed Net Income Test Only	22.1
Failed Asset and Gross Income Tests Only	0.8
Failed Asset and Net Income Tests Only	4.9
Failed Gross and Net Income Tests Only	26.3
Failed Asset, Gross Income, and Net Income Tests	6.5
Total	<u>100.0</u>
Number of Households	638,132
<hr/>	
Sample Size	139

SOURCE: The August 1984 SIPP Food Stamp Program eligibility file.

NOTE: Percentages may not add to 100 percent because of rounding error.

<sup>a</sup>Households which are eligible for zero benefits are treated as income-ineligible for the FSP.

expenses in August consistent with reported participation. However, countable assets exceeded the allowable limit.

The distribution of seemingly ineligible households by the imputation of income, assets or both is shown in Table 18. There is a marked difference between the amount of asset or income imputation occurring for eligible units (5 percent for eligible participants, 10 percent for eligible nonparticipants) and the amount occurring for ineligible units (28 percent for seemingly eligible participants and 25 percent for ineligible nonparticipants). Given that the imputed asset and income balances (see Doyle and Dalrymple (1987) for an examination of the effect of imputation procedures on household incomes) of FSP households tend to be much higher than reported balances, it is likely that the imputation procedures caused some eligible households to appear ineligible.

TABLE 18  
 DISTRIBUTION OF HOUSEHOLDS WITH INCOME AT OR BELOW  
 250 PERCENT OF THE POVERTY THRESHOLD BY  
 INCOME AND ASSET IMPUTATION STATUS AND  
 ELIGIBILITY STATUS  
 (weighted; percentages)

	Eligibility Status			
	Eligible Participants	Ineligible Participants	Eligible Nonparticipants	Ineligible Nonparticipants
No Income Imputed:				
No assets imputed	95.0	72.2	89.5	75.4
Some or all assets imputed	0.2	2.4	0.6	1.7
Some or All Income Imputed:				
No assets imputed	4.5	13.0	5.8	4.4
Some or all assets imputed	<u>0.3</u>	<u>12.2</u>	<u>4.1</u>	<u>18.6</u>
Total	100.0	100.0	100.0	100.0
Number of Households	5,267,839	638,132	6,785,935	24,443,544
Sample Size	1,133	139	1,420	5,175

SOURCE: The August 1984 Food Stamp Program eligibility file.

#### IV. SUMMARY AND CONCLUSIONS

Eligibility for the FSP is based on household size and composition, as well as the household's assets, income, and expenses. Studies using national household surveys to examine the behavior of, or participation among, the FSP-eligible population must simulate the eligibility criteria in order to define, among the survey respondents, those that are eligible for the FSP. Given that the eligibility criteria are very complex, and require a large amount of information about the household, these simulations are quite difficult, and are subject to error. This report has examined how well SIPP, a nationally representative monthly longitudinal survey, measures the information needed for eligibility determinations. To make this assessment, SIPP estimates were compared to administrative data from the Integrated Quality Control System. In addition, the effects of the imputation procedures employed in the SIPP file on the asset and expense information were examined.

This study found that, among FSP households with incomes at or below 250 percent of the poverty threshold there were several differences between SIPP and the IQCS:

- SIPP estimates, compared to the IQCS, show too few female-headed households and households of size one, and too many households with disabled members and households that receive earned income.
- There are fewer households with no or very low income in SIPP, compared to the IQCS, and more upper-income households.
- In SIPP, there are significantly more households than in the IQCS with no countable assets.
- Compared to the IQCS, too many FSP households have child care deductions, and too few have medical deductions. In addition, average shelter, child care, and medical deductions were substantially lower in SIPP.
- Average shelter and child care expenses were higher in SIPP than in the IQCS. In contrast, medical expenses were much lower.

In addition, the study yielded important information in the vehicular asset holding of FSP households:

- The most commonly held nonvehicular assets among FSP households in SIPP are non-income-producing nonvehicular assets and life insurance policies.
- Most FSP households in SIPP do not own any cars; households that do own cars are very likely to own only one car.
- Car value was imputed for only about 1 percent of the cars owned by FSP households; equity was imputed for about 5 percent of these cars. Although the asset balances of few households were affected by these imputation procedures, imputed equity amounts tended to be much higher than reported amounts.

Finally, of all the food stamp households in the August eligibility file, about 11 percent were estimated to be ineligible for the program. The most common reasons for that ineligibility were that the household failed only the asset test, only the net income test, or both the gross and net income tests.

Thus, while SIPP offers the best data source for the estimation of Food Stamp Program eligibility, some problems remain. There is room for improvement in the measurement of unit characteristics and in the procedures employed to compensate for nonresponse and noninterview. The new eligibility module being introduced in the 1988 panel is likely to offer significant improvement in measurement of the determinants of program eligibility. However, improvements in the imputation procedures are dependent on changes in the Census Bureau's procedures for processing the data. Basically, more emphasis on the low-income population is needed.

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