July 1988

FOOD STAMPS

Examination of Program Data and Analysis of Nonparticipation

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GAO

United States
General Accounting Office
Washington, D.C. 20548

**Program Evaluation and
Methodology Division**

B-227721

July 5, 1988

The Honorable Bill Emerson
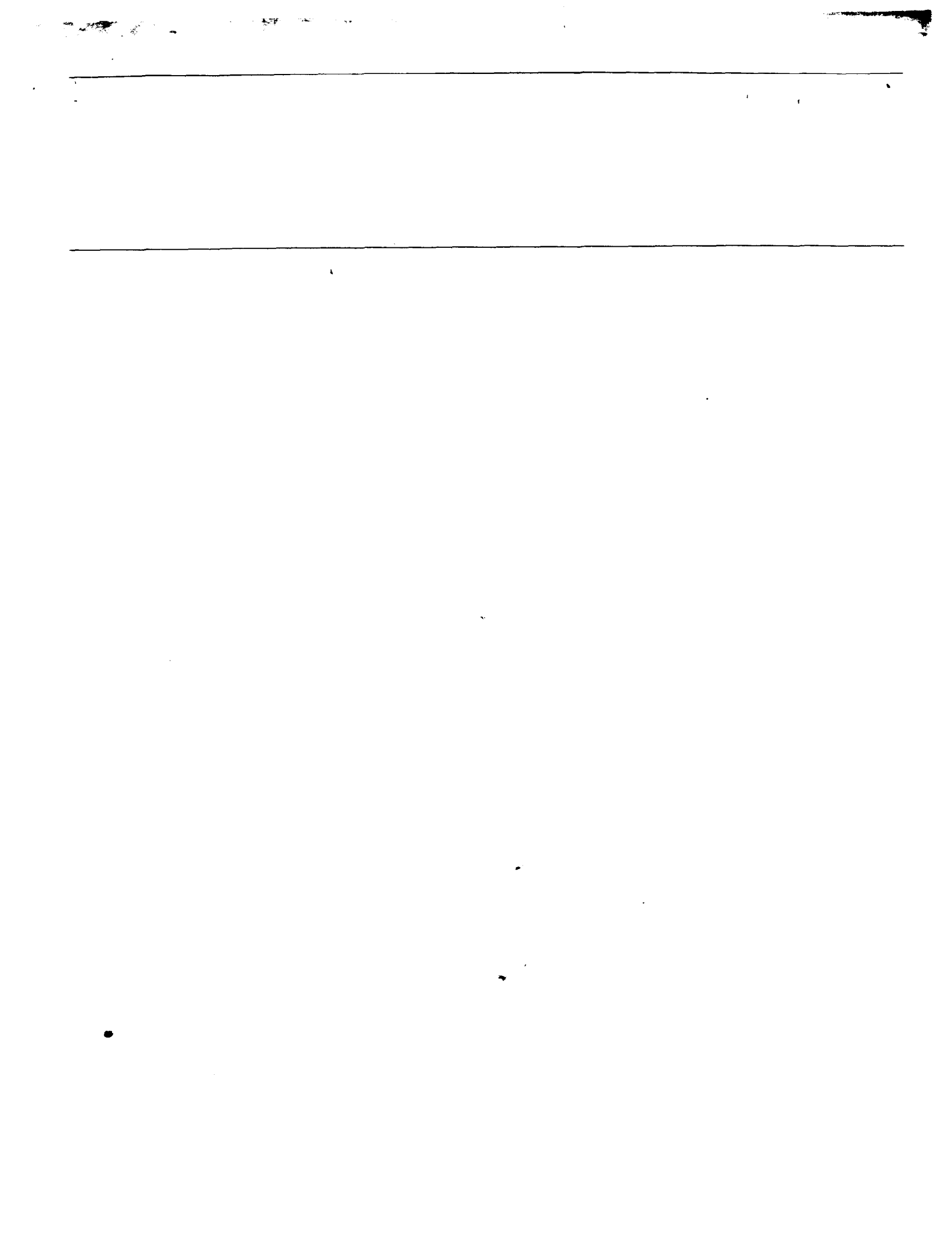Ranking Minority Member
Subcommittee on Domestic
   Marketing, Consumer
   Relations, and Nutrition
Committee on Agriculture
House of Representatives

Dear Mr. Emerson:

In response to your request, we have examined recent program data on the Food Stamp
program. We have also examined what has been published about reasons for
nonparticipation in the Food Stamp program.

Copies of the report are being sent to the secretary of the U.S. Department of Agriculture
and the administrator of the Food and Nutrition Service.

Sincerely yours,

Eleanor Chelimsky
Director

Executive Summary

Purpose

Although the Food Stamp Program is the federal government's most comprehensive food assistance program, there is evidence that substantial numbers of eligible people do not enroll and receive benefits. Critics of the program allege that administrative practices discourage participation, while others believe that only a portion of eligible households actually need to supplement their incomes with food stamps in order to afford an adequate diet. At the request of Congressman Bill Emerson and after discussion with congressional staff, GAO agreed to pursue answers to the following questions in this report:

- What has the current level of operations (that is, the current numbers of applications, participants, and terminations as well as the corresponding rates and trends in these measures) in the Food Stamp program been in recent years?
- To what extent are there state variations in application, participation, and termination counts and rates?
- What does existing research indicate about the reasons for nonparticipation in the Food Stamp program?

Background

The Food Stamp program currently serves approximately 19 million persons each month. The Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA) oversees the program, while day-to-day operations are administered at the state or local level. In fiscal year 1987, approximately $12 billion was spent by the federal government for benefits and program operations. To receive benefits, most applicants must pass a gross income and net income test, adjusted for household size, and an asset test before being considered eligible for food stamps. Households may voluntarily terminate enrollment in the program or they may be dropped because a change in circumstances makes them ineligible.

GAO focused on six measures of program operations: the absolute numbers of applications, participants, and terminations and, for each of these, the corresponding rates. The analysis was based on administrative data collected by the states and reported to FNS and on data from independent studies, based on either national or regional samples of low-income households.

Existing research on reasons for nonparticipation was based on data collected between 1979-81. A future GAO report will analyze more current data (1987) on reasons for nonparticipation.

Results in Brief

The number of applications for the program, which are reported to FNS by the states, cannot be meaningfully aggregated or generalized to the national level because of variation in state definitions of what constitutes an application. Data on participation are collected by the states and reported to FNS, which aggregates them. These data show average monthly participation by households increasing from 5.6 million in 1979 to 7.9 million in 1982 and then gradually decreasing to 7.2 million in 1986. The number of terminations could not be estimated because of problems with the data. With regard to rates, application, participation, and termination rates could not be estimated nationally from state-reported data supplied to FNS. However, GAO did find nine studies, not based upon FNS administrative data, that estimated participation rates for varying geographic locations, age groups, and time periods between 1979 and 1981. While estimates of participation rates in these studies cluster around a 50-percent participation rate, the studies only approximate eligibility and are based on dated studies from 1979 to 1981.

Results from three studies that asked people directly why they did not participate in the program showed that lack of information about the program or difficulties with administrative practices were the most commonly cited reasons for nonparticipation.

Principal Findings

Level of Program Operations

For this part of our evaluation, we used FNS program data. To calculate rates of application, participation, and termination, accurate numbers of applications, participants, and terminations are a prerequisite. These calculations also require estimates of the number of households that might appropriately apply for, participate in, or terminate from the program. For example, a participation rate might reasonably be estimated by dividing the number of participants by the number of eligible households. The accompanying table summarizes (1) the source of the data available to estimate numbers and rates, (2) GAO's judgment about the quality of the available data, and (3) the estimate obtained for each measure, where GAO considered the data to be acceptable.

Although information was available on the numbers of applications for food stamps, as reported by the states and FNS, GAO believes that policy inferences should not be drawn from these application counts because of

Table 1: Household Application, Participation, and Termination Numbers and Rates

Data	Application	Participation	Termination
Numbers			
Source	States	States	State quality-control systems
Quality	Definitions vary by state	Acceptable	Questionable because data are not comparable
Estimate	Sound estimate not possible	In 1986, FNS estimate of 19.4 million persons and 7.2 million households monthly	Sound estimate not possible
Rates			
Source	None available	From 9 studies based on 1979-81 data	None available
Quality	Not applicable	Acceptable but not current	Not applicable
Estimate	Sound estimate not possible	Approximately 50%	Sound estimate not possible

variations in definitions and data collection procedures across states. For example, the count of applications in one state may include only "first time" applications, whereas in another state it may include participating households applying to be recertified for benefits. New data collection forms, recently introduced by USDA, provide expanded definitions and instructions for reporting application counts. (See pages 16-18 and appendix IV.)

The number of households that participated monthly in 1986 (7.2 million) represents a decline from a program high of 7.9 million in 1982 and 1983. No sound estimates of participation rates more recent than the 50-percent rate estimated for 1979-81 are available. (See pages 19-23.)

Neither the number of annual terminations nor termination rates could be estimated from available data. (See pages 23 and 24.)

Data Variations Within States

Changes in the state-reported numbers of applicants and participants within states were analyzed for the 4-year time interval 1983-86. In several states, substantial changes occurred in the reported number of applicants. GAO attributed the changes to a combination of faulty data and fluctuations in economic conditions. Most states showed little variation in the numbers of participants in 1983-86. (See pages 32-34.)

Reasons for Nonparticipation

Because the reported reasons for nonparticipation in the Food Stamp program are all based on information collected prior to 1982, GAO is currently reexamining this issue. An ongoing GAO study asks a nationally

representative sample of households deemed eligible their reasons for not participating in the program.

Recommendation

After more than a decade of nationwide operation of the Food Stamp program, GAO finds major shortcomings in the data available for congressional oversight and program management of the Food Stamp program. The data are inadequate to validly estimate the numbers of applications and terminations and the rates of application, participation, and termination. Basic information regarding the operation of the program is thus unavailable, both to the Congress and to policymakers at USDA and in particular FNS. Consequently, GAO recommends that the secretary of the Department of Agriculture direct the Food and Nutrition Service to estimate the number of people eligible for the Food Stamp program for 1 month during each year and determine the monthly termination rates for 1 month during each year from state case files. (See pages 27 and 28.)

GAO makes no recommendations at this time regarding the collection of information on the number of applications and on current reasons for nonparticipation in the Food Stamp program, because these matters are currently under study.

Agency Comments

The Food and Nutrition Service provided comments on the draft report. FNS had serious concerns about the information presented in the report. The agency's general remarks fell into two categories: (1) the policy relevance and adequacy of the six measures of program operations GAO chose to report upon and (2) GAO's analyses of the available data.

GAO does not agree with FNS's general remarks. Instead, GAO believes that its evaluation provides sound and useful information about weaknesses in the data that the states and FNS use to describe Food Stamp program operations. In many of its comments, FNS seems not to be making clear distinctions between the kinds of measures that might be useful and the quality of the data needed to estimate those measures. GAO believes that the six measures are essentially sound though not perfect. The supporting data, however, have flaws that are pointed out in the report.

FNS also provided specific comments. Where appropriate, GAO modified the report to account for these specific comments. FNS' letter is reprinted in appendix XI. Our response is in chapter 5.

Contents

Abbreviations

FNS	Food and Nutrition Service
FS/SSI	Food Stamps and Supplemental Security Income
GAO	General Accounting Office
ISDP	Income survey development program
NFCS	Nationwide food consumption survey
PSID	Panel study of income dynamics
SIPP	Survey of income and program participation
SSI	Supplemental Security Income
USDA	U.S. Department of Agriculture

Introduction

The federal Food Stamp program, which provides eligible households with coupons redeemable for food, has been a major component of the national commitment to eradicate hunger since the 1960's.[1] Local and state governments are responsible for the day-to-day operation of the program, but it is overseen and largely funded by the Department of Agriculture's (USDA's) Food and Nutrition Service (FNS). Congressman Bill Emerson asked us to address the following questions.[2]

- What has the current level of operations (that is, the current numbers of applications, participants, and terminations as well as the corresponding rates and the trends in these measures) in the Food Stamp program been in recent years?
- To what extent are there state variations in application, participation, and termination counts and rates?
- What does the existing research indicate about the reasons for nonparticipation in the Food Stamp program?

In this report, we detail the extent to which we are able to answer these evaluation questions using data available from the states and reported to the Food and Nutrition Service and from independently conducted studies. A subsequent report will extend our findings by reporting the current results on reasons for nonparticipation in the Food Stamp program.

Background

Initiated in 1959 as a demonstration project, the federal Food Stamp program had a dual emphasis: (1) to provide food assistance to those without the resources to feed themselves and their families adequately and (2) to assist the U.S. Department of Agriculture's price support operations by disposing of surplus food commodities in a manner beneficial to the nation's needy. As the program developed, however. the provision of food assistance to the poor and near poor became its primary objective. Through expansion to a nationwide basis in 1975 and successive additions to the list of commodities that could be purchased with the coupons, the program gradually became the largest of the government's food assistance programs.[3] In 1975, federal expenditures for food

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[1] A very small percentage (less than 1 percent) of program participants receive checks instead of coupons as part of pilot projects.

[2] The original wording of the congressional request was slightly changed with the concurrence of the committee's office. See appendix I for a copy of the request letter and appendix II for a discussion of the changes.

[3] The program became nationwide in January 1975 with the inclusion of Puerto Rico to the program.

stamps were approximately $4.6 billion; by fiscal year 1987, federal out-
lays for the program had more than doubled to $12 billion.

As the scope and cost of the program grew, it also increased in complex-
ity. The program's eligibility criteria constitute a good example of this
complexity. Currently, to receive food stamps, households must pass a
two-tiered income test (unless a household member is elderly or dis-
abled) and an assets test and must register for work if not elderly, dis-
abled, or caring for a dependent child under age 6. To qualify, the gross
monthly income of the applicant household must be less than an estab-
lished amount adjusted for household size. If the household's gross
income is below the maximum allowable amount, specified deductions
are then calculated to determine whether the household's adjusted
monthly income is below the net income ceiling. Gross and net income
criteria are displayed in table 1.1.

Table 1.1: Household Eligibility by Income for Fiscal Year 1987

Household size	Monthly	
	Gross	Net
1	$581	$447
2	785	604
3	988	760
4	1,192	917
5	1,396	1,074
6	1,599	1,230
7	1,803	1,387
8	2,007	1,544
9	2,211	1,701
10	2,415	1,858
Each additional household member	+$204	+$157

Source: Food and Nutrition Service.

If a household meets both income criteria, the assets test is then applied.
Households with an elderly member are currently allowed $3,000 in
assets; all others are allowed $2,000. Neither the value of an applicant's
vehicle used for income-generating purposes nor the value of an appli-
cant's home is included in the assets test.

Institutionalized individuals, commercial boarders, most college students, and most households with members on strike are ineligible.[1] Typically, to receive food stamps, an eligible applicant household must present proof of gross income; applicable medical, dependent, child care, shelter and utility expenses; Social Security numbers for all household members; and assets. This information must be updated at regular intervals to remain in the program as a recertified enrollee. States also have the option to require beneficiaries to report monthly on changes in household composition, income, and a variety of other socioeconomic circumstances. States vary in the type of households and the kind of information required to be reported on monthly.

Objectives, Scope, and Methodology

We sought to answer the three evaluation questions by using existing data, from the USDA administrative files and from published and unpublished literature. For the first evaluation question concerned with three measures—application, participation, and termination numbers and their corresponding three rates—we limited our analysis to data provided by FNS plus information from officials in selected states and from program experts both inside and outside FNS.[5]

Specifically, our analysis of program applications was limited to the 4 fiscal years for which data were available—1983 through 1986.[6] Our analysis of participation numbers was based upon data from the same years (1983-86) for consistency. We attempted to estimate terminations but found no approach to be successful given the data problems we encountered. Data on application and termination rates do not exist. Studies based on data collected between 1979 and 1981 provided estimates of participation rates.

For the second evaluation question dealing with the variation in the three measures—applications, participants, and terminations and their three corresponding rates—we considered several different summary

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[1]Commercial boarders are ineligible for food stamps, unless they can qualify as separate households or purchase food and prepare meals in common with the landlord's household.

[5]The states were chosen because they showed large variation in numbers of program applications or numbers of participants over time. The details of their selection and the names of the states are given in chapter 3.

[6]Although states started collecting application data in 1981, it was not until 1983 that FNS first collected and reported these data in the aggregate.

measures. (Appendix X gives more detail on the various methods considered.) Although it is possible to study the pattern of household participation between 1983 and 1986 by examining 4 years of data points for each state, it is more informative to examine a single summary measure for each state and then identify unusually high or low summary measures.[7] We considered five different summary measures of variation and ultimately chose the max-to-min measure. The max-to-min measure is calculated as the maximum count of participants divided by the minimum count during the 4-year period 1983-86.

For the third evaluation question—to determine what is currently known about reasons for nonparticipation in the Food Stamp program—we synthesized the results of available studies.[8] This approach had three components:

1. identification and methodological review of all relevant unpublished and published studies,

2. selection of the soundest studies for more detailed analysis, and

3. synthesis of results from the selected studies and discussion of what is known, unclear, or unknown about the reasons for nonparticipation in the Food Stamp program.

We examined only studies based on data collected after 1978 because a major program change, the elimination of the purchase requirement, occurred in January 1979. Prior to that date, households eligible for food stamps were required to buy their monthly allotment with cash. Qualifying households received coupons with a value greater than their cash payment. The difference between the cash outlay and the coupon value represented the "bonus" value of the stamps. Because eliminating the purchase requirement represented a basic program change, reasons for nonparticipation were likely to have been quite different before and after 1978.

Our literature search and our methodological review led to the identification of nine studies that warranted detailed analysis. An important methodological criterion for including a study in our synthesis was that it must be based upon a probability sample of households (although not

[7]This would also apply, in theory, to sound estimates of applications and terminations.

[8]Program changes, legislated in 1977 and implemented in January 1979, fundamentally altered the program so we excluded all earlier studies of nonparticipation.

necessarily a nationally representative sample). Other screening criteria are discussed in appendix VII. In three studies, people deemed eligible for food stamps were asked directly why they did not participate. In these three studies as well as six others, statistical analyses were performed on information about individual and household characteristics and conclusions were drawn about the factors that are related to participation or nonparticipation in the program.

In our preliminary work, we found that the quality of the available data was too poor to confidently answer most of the congressional questions about the Food Stamp program. Since we believe that the answers are needed for sound management of the program and for agency accountability to the Congress, we tried to learn the reasons for the data problems and to suggest ways to improve the data quality. Much of the report is devoted to our findings about data quality.

Report Structure

The remainder of this report is structured to correspond with our evaluation questions. Chapter 2 addresses the evaluation questions about application, participation, and termination numbers and rates and discusses the data quality problems. Chapter 3 discusses state variations in the data and the additional difficulties that occur when attempting to draw conclusions about trends over time or differences among the states. Chapter 4 and appendix IX review existing research evidence, indicating reasons for nonparticipation in the Food Stamp program. Although some of the data referred to in chapter 4 may be outside the purview of USDA, we also discuss the data quality problems we found in independent studies. Each chapter states the congressional question, followed by the results and a conclusion section. Where appropriate, a recommendation section is also included. FNS received a draft of this report and provided us with comments (See appendix XI). Chapter 5 contains our response to its comments.

Applications, Participation, and Terminations

In this chapter, we respond to the first evaluation question: What has the current level of operations (that is, the current numbers of applications, participants, and terminations as well as the corresponding rates and trends in these measures) in the Food Stamp program been in recent years?

Background

In 1986, an average of more than 19.4 million persons in approximately 7.2 million households participated in the Food Stamp program each month.[1] The program requires much management attention because the beneficiaries are constantly changing as new households join the program and others leave it. Most of the administrative work is performed by officials in local jurisdictions, called project areas, who take applications, determine eligibility, record participation, disburse food stamps, and oversee terminations from the program. Statistics on program operations at the project area level are collected by states and forwarded to the Food and Nutrition Service in USDA, where the data are aggregated.

The FNS role includes issuing program regulations intended to ensure that congressional intent is followed in program operations, overseeing state operations through FNS regional offices, and providing funding for the administrative process and food stamps. Program statistics are needed to answer basic questions about program operations such as, Who participates in the program? To what extent do all eligible persons know about and participate in the program if they wish? To what extent are ineligible persons kept off the rolls? To what extent are households improperly denied or terminated? And how do the answers to such questions change from year to year? Answers to these questions are relevant not only to congressional policymakers in their oversight role but also to program managers and policymakers at FNS and USDA in their routine operation of the program. Without data on changes in application, participation, and termination rates, for example, it is difficult to answer questions about program effectiveness, efficiency, and productivity. Our congressional request deals directly with key questions such as these. Earlier work of ours has addressed some of them in part.[2]

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[1] Because the program caseload is defined in terms of households, we usually speak of households as the unit of analysis, although we occasionally refer to findings at the individual level.

[2] Food Stamp Program: Restoration of Improperly Denied or Terminated Benefits, GAO RCED-87-51 (Washington, D.C.: October 1986).

The next three sections detail the answers we are able to provide and
the data problems that prevent complete answers. Appendix III further
describes some changes in the Food Stamp program.

Applications

An application is the request by a household representative for food
stamp assistance, as evidenced by a signed application form, which pro-
vides detailed information about income, resources, employment, and
expenditures. The number of applications for food stamps is thus an
indicator of new need for the program as expressed by persons in poten-
tially eligible households. The expressed need is new because under this
definition, already participating households that seek recertification are
not counted as applicants.[3] We use the term "expressed need" because a
household may have a need for food but not know about the Food Stamp
program or a household may choose not to apply, even though a need
for food exists.

Applications can thus serve as an indicator of change in the number of
persons served by the program. Factors that would be expected to affect
the number of applications include general and local economic condi-
tions, eligibility rules and procedures, prior experience with program
personnel, knowledge about the program among potentially eligible
households, and the availability of other programs that provide assis-
tance to the poor.

For comparisons across jurisdictions and comparisons over time, the
number of applications alone are not a fully satisfactory indicator. For
those purposes, it is desirable to have an application rate, an indicator
that will adjust for the number of households that might apply. An
application rate could be defined in several ways. For example, the
numerator could be the total number of applicants or the number of
applicants who are later deemed eligible.

There are also several possibilities for the denominator. Two obvious
choices are the number of eligible households in the jurisdiction or the
number of eligible-but-nonparticipating households.[4] A third possibility

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[3] A household is approved for a period not to exceed 1 year. If the household is still eligible at the end
of the year, it may be approved for another year; this is called "recertification."

[4] There is a relatively minor conceptual problem with both of these possibilities, in that the numerator
could include applicant households that are both eligible and ineligible. As a consequence, the result-
ing measure should not be thought of as a proportion but it would otherwise be satisfactory as an
indicator of new need for the Food Stamp program.

would be to take the number of households in poverty as the denominator, and a fourth would be to use the total number of households. The latter two choices are attractive because the data are more readily available, but the first two are closer, in our view, to what an application rate intuitively means.

Using the number of people in poverty or the number of households in the state as the denominator would provide estimates for which there are data but estimates with conceptual shortcomings. Since the number of households in poverty and the number of households eligible for food stamps can be quite different—in that the characteristics used to officially identify a household as in poverty are different in some respects from the criteria for food stamp eligibility—there is a question about what the calculated application rate would really mean. Similarly, use of the number of households in the state in the denominator fails to take into account income, assets, or other family characteristics. It is theoretically just these changes in income, assets, and family characteristics that drive changes in applications for food stamps. Any measure that fails to include these important descriptive characteristics cannot account for changes in applications.

Therefore, we attempted to use the first two measures to estimate application rates but were not able to do so because of problems with data availability and quality.

Estimates of Application Numbers and Rates

During the period of 1983 through 1985, the reported annual number of applications decreased 25 percent, from 16.8 million in 1983 to 14.6 million in 1984 to 12.6 million in 1985. This decline stopped in 1986, with applications remaining roughly constant at just over 12.8 million. However, for reasons explained in the next subsection, we conclude that these estimates do not give a true picture of the national number of applicants for food stamps. USDA does not collect data on the number of eligible households, so it is not possible to estimate application rates in which such numbers are part of the denominator.[6]

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[5]Food and Nutrition Service activity reports 1983-86.

[6]The number of eligible food stamp households can potentially be estimated from the monthly survey of income and program participation (SIPP) administered by the Bureau of the Census, although an exact determination of eligibility during each month using information on medical costs, excess shelter costs, child care, dependent care costs, earned income, and assets would not be available.

Data Quality Problems

Estimates of the number of applications for food stamps must be viewed with caution because differences exist among state definitions of "application," and some states' definitions changed over the 4-year period. For example, in 2 states (North Carolina and Georgia) households recertified as eligible for food stamp benefits were included among their count of "applicants" in 1-year but were excluded in a subsequent year. Based on state officials' responses in our telephone interviews, the exclusion of recertified households from the first year's data halved the count of applicants, and when the 2 years were compared, large differences in the data over the 2-year period were eliminated.[7] Because of problems like this, we believe the state reports should not be used to form a national estimate of the number of food stamp applicants.

At least part of the definition problem can be attributed to the FNS form, which the states use in reporting food stamp data. The form does not have instructions for dealing with recertifications, and this can obviously lead to some inconsistency across states and across years. FNS recognizes the limitations of state-reported application data and has prepared a new reporting form (see appendix IV for both new and old reporting forms). The new form separates applications by public assistance and nonpublic assistance, into recertifications and initial and expedited services applications—approved, denied, or overdue (or pending). We intend to report on the current types of information the states report and discuss the new FNS form and the states' ability to provide additional detail.

Given the unacceptability of data on the number of applications, we could not compute estimates of application rates. However, even if data on the number of applications are improved by FNS' clarifying instructions on the reporting form, some problems will remain in estimating the denominator in the application rates. We found no current estimates of the number of eligible households in a state, much less in a project area, which we believed would be satisfactory as the denominator for the application rate.

We believe that once FNS has improved the quality of data on the number of applications, an effort to develop an acceptable denominator for the application rate should be pursued.

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[7] In an earlier report entitled Food Stamp Program: Trends in Program Applications, Participation, and Denials, RCED-87-80BR (Washington, D.C.: April 1987), we noted that FNS does not [   ] whether states are properly reporting the number of applications.

Participation

A participant is a household that has been approved to receive food stamps. A reasonable definition for the participation rate is the number of participants divided by the number of eligible households. The number of participants is thus a good overall indicator of the magnitude of the program, and the participation rate is an indicator of expressed need for the program. The number of participants and the rate of participation are potentially influenced by the same factors that influence applications: economic conditions, program rules and operating procedures, prior experience with program personnel, knowledge about the program among potentially eligible households, and availability of other programs for the poor.

Estimates of Participation Numbers and Rates

Monthly participation averages are calculated by FNS for each year, using state-reported data: they are presented in table 2.1. We have included average monthly participation numbers since 1979 in the table to show the context for our subsequent analyses. Although we analyzed household participation only during the period between 1983 and 1986 in detail, it is important to place fluctuations in program participation in a broader historical framework.

Table 2.1: Average Monthly Participation in Fiscal Year 1979-86ᵃ

Fiscal year	Individual	Household
1979	15.9	5 6
1980	19.3	7 0
1981	20.6	7 7
1982	20.4	7 9
1983	21.6	7 9
1984	20.9	7 6
1985	20.1	7 3
1986	19.4	7 2

ᵃNumbers are rounded in millions and include Guam and the Virgin Islands. Numbers exclude Puerto Rico.

Source: Committee on Agriculture. Nutrition and Forestry, U.S. Senate, The Food Stamp Program its tory, Description, Issues and Options (Washington, D.C.: April 1985), pp. 172-73; Food and Nutrition Service, Statistical Summary of Operations (Washington, D.C. October 1978 through September unpublished Food and Nutrition Service data.

The dramatic increase in participation that occurred between 1979 and 1980 coincides with the elimination of the purchase requirement that occurred in that year. Prior to that time, participating households were required to "buy" food stamps with cash; in return, they were given coupons of greater value than the cash payment. After 1979, households

were simply awarded food stamp benefits based on need; program participation increased by approximately 1.4 million households in 1 year.

The number of participants, both at the individual and the household level, have shown a decrease each year since 1983. There are two major explanations that are frequently advanced to account for the decline. One explanation is that changing program regulations—designed to reduce cost increases by slowing the rate of benefit increases, by tightening eligibility criteria, and by preventing fraud and abuse—have deterred some participants. The second explanation attributes the decrease to economic recovery, which began in 1983 and continued through the following years. Both arguments we believe have some merit.

Six national and five regional surveys have been used to estimate participation rates. The results for each study are presented in table 2.2, with the following exceptions. In one instance, two studies (Czajka 1981 and Bickel and MacDonald 1981) were based on the same data (without any stratification). We decided to present the study with the higher estimate (Bickel and MacDonald 1981) in the table and the study with the lower estimate (Czajka 1981) in the footnote to the table. We mention the Rogers study (Rogers 1985) only in a footnote, because it was based on a single county. All studies used households as the unit of analysis; in some instances, individual participation rates are provided as well.

For six studies, all begun with intentions to project estimates to the nation (Akin, Guilkey, and Popkin 1985; Burt, Johnson, and Morgan 1984; Blaylock and Smallwood 1984; Bickel and MacDonald 1981; Czajka 1981; and Coe 1983), household participation rates ranged between 28 and 60 percent.[3] After deleting the Czajka study because of

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[3]The Akin study, while national in its geographic scope, was focused solely on the elderly.

Table 2.2: Participation Rate and Sample Design From 9 Studies

Study[a]	Sample design	Participation rate Household	Individual
Akin, Guilkey, and Popkin (1985)	1,588 persons older than 55 from nationally representative 1979-80 nationwide food consumption survey	45% for whites, 53% for blacks	Not reported
Bick (1981)	207 households from two counties in Ohio	58%	63%
Bickel and MacDonald[b] (1981)	7,200 persons from nationally representative 1979 income survey development program	47% based on previous 3 months' status	57%
Blanchard et al. (1982)	600 persons older than 55 in counties of New York, Oregon, and South Carolina in 1981 from FS/SSI	48%	Not reported
Burt, Johnson, and Morgan (1984)[c]	2,645 households from nationally representative 1979-80 nationwide food consumption survey	60%, 55% based on previous month[d]	Not reported
Coe (1983)[e]	993 households from nationally representative 1979 panel study of income dynamics	46%	Not reported
Kim (1983)	613 households from stratified multistage sample of two counties in California, Indiana, Ohio, and Virginia	55%	58%
Lane, Kushman, and Ranney (1983)	896 households from multistage sample from California, Indiana, Ohio, and Virginia	57%, 43% based on previous month	Not reported
Phillips (1982)	600 households from stratified multistage sample from Washington	60%	Not reported

[a]Rogers conducted a study with 405 persons from a multistage stratified sample of Conway County Arkansas, with a household participation rate of 58 percent and an individual participation rate of 65 percent.

[b]Bickel and MacDonald data are at variance with another study (Czajka 1981) based on 7.500 persons from 1979 income survey development program, which posited household participation at 28-31% for the previous 3 months' status. According to FNS, underreporting income appears to have affected the results of the 1979 survey.

[c]Another study based on the 1979-80 nationwide food consumption survey (n = 3,000) calculated participation at 45 percent for a reference period of 1 year (James Blaylock and David Smallwood. "Reasons for Nonparticipation in the Food Stamp Program," Western Journal of Agricultural Economics 9 1 (1984), 117-26.

[d]We calculated this rate from original data.

[e]Coe excluded households that changed their family composition during the past year, that had incomes in excess of $3,000 other than by head of household or wife, and that spent less than $100 for food purchases for the year.

its reporting problems, participation rates cluster at approximately 50 percent for five of the six studies based on national data (see table 2.2).[9]

Data Quality Problems

Although the estimates of participation rates displayed in table 2.2 are the best available, they are not without problems. For example, the panel study of income dynamics (PSID) interviews (the results of which are presented by Coe) are conducted in spring through fall of a given year. At that time, respondents are asked about their food stamp experience and income history over the past year. This procedure may result in determining that households are eligible based on their annual incomes, but the households may in fact have been ineligible for food stamps for 1 or more months during the year to which the survey refers. The survey is, however, the only data base collected uniformly over time, thus making participation rates comparable from one year to the next.

All other studies were considerably dated, focusing on the years 1979 through 1981. For instance, the nationwide food consumption survey low-income supplement, conducted in 1979 through early 1980, was used by Akin, Guilkey, and Popkin (1985) and by Burt, Johnson, and Morgan (1984). The survey screened potential applicants to determine food stamp eligibility. However, in about 15 percent of the sample, eligibility was difficult to determine, thus casting some doubt on the precision of the responses.

Also, Czajka used data from the 1979 income survey development program to produce participation rates. Again, there were reporting problems, including underreporting of benefits and low estimates of participation for households more likely to participate (those with no income) and the data were produced for only 1979 and, therefore, are considerably dated.

In sum, the data supporting estimates that cluster around a 50-percent food stamp participation rate are somewhat limited. In addition, studies may not include all appropriate deductions such as medical or excess

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[9]A participation rate of 50 percent taken by itself does not necessarily imply that FNS is either effective or not effective in administering and delivering benefits. Many eligible households may choose not to participate. A household may decide that the rewards or benefits of the Food Stamp program do not compensate for the costs, monetary or otherwise, involved in obtaining food stamps. For instance, a household may choose not to participate in the program because the costs of travel to and from the food stamp office or costs of providing child care outweigh the anticipated benefits. Household members may not feel they need assistance because their current food purchases are adequate. An analysis of reasons for nonparticipation is presented in chapter 4.

shelter expenses. Also, the assets test is difficult to apply to households self-reporting without first checking with motor vehicle departments or unemployment compensation departments. The facts that the studies are all rather dated and that they only approximate eligibility must be considered.[10]

Terminations

FNS calls "terminated" a household that has left the program because its perceived needs or circumstances have changed or because of a change in eligibility standards. Leaving may be voluntary because the household no longer needs food stamps or believes it is unable to recertify as eligible or believes that either the effort to participate or the costs exceed the benefits. New household income that raises gross income above the eligibility standard is a common change. Involuntary terminations sometimes follow program changes. By examining how states or other geographic locales vary in terminations, policymakers can effectively target sites with unusual patterns of termination for further investigation.

A household may apply, participate in, and terminate from the Food Stamp program more than once in a given year. The number of terminations from the Food Stamp program represents the number of events, not the number of households terminating from the program.

Estimates of Termination Numbers and Rates

It was not possible to make estimates of the number of households terminated from the Food Stamp program. Similarly, estimates of termination rates could not be derived.[11]

Data Quality Problems

Despite our attempts in an earlier report and our current efforts to estimate the annual number of terminations for fiscal year 1983-86 with state-reported data, using two different approaches to compiling counts of terminations, it proved impossible to produce an accurate estimate of

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[10]No study on participation rates attempted to match weighted survey data to actual FNS program data.

[11]One study (Carr, Doyle, and Lubitz 1984) estimated termination rates using 1979 data from a national survey. Focusing on nonprogram data, the study found that for each month, a participating household had a 7.3-percent chance of not being in the program in the following month. However, because the estimated totals from this study did not adequately match FNS program data, the data are of limited value.

terminations.[12] The first approach was based on combining information from the FNS quality control system, which provided a monthly sum of denials and terminations and state supplied annual information from FNS Form 366-B. The second approach used only information from the FNS quality-control system. A discussion of these two approaches is in appendix V.

Because no accurate number of either annual or monthly terminations could be calculated, neither annual nor monthly termination rates could be computed from FNS program data. However, even if it had been possible to estimate annual numbers of terminations and annual numbers of participants, termination rates calculated as a ratio of the two figures would not be without problems.[13] For example, because the data are based upon a full year of program activity, a household can be recorded as both a participant and a termination multiple times. In some cases a household might be counted as a termination several times but as a participant only once, because the case was reopened through recertification rather than reapplication. Theoretically, then, it is possible to have an annual termination rate greater than 1.

Summary and Suggestions for Improvements

In this chapter, we described our attempts to answer our first evaluation question and detailed the data problems we encountered. Table 2.3 summarizes the extent to which we are able to answer each component of our evaluation question using existing data from program administrators or other sources to estimate the numbers and rates of applications, participation, and terminations from the Food Stamp program. The table also presents our assessment of what would be necessary to resolve existing data problems. A more detailed discussion follows.

[12]Food Stamp Program: Trends in Program Applications, Participation, and Denials, GAO/RCED-87-80BR (Washington, D.C.: April 1987).

[13]It has been suggested that it is possible to estimate the annual number of participants that eliminates multiple counting of households that reenter the program during the year. Using data from a 1979 survey (Carr, Doyle, and Lubitz 1984), annual participation was found to be 1.74 times the average monthly participation. However, because the data used in the study were somewhat inconsistent with FNS program data and because the data were collected in 1979, we believed it was inappropriate to consider this approach.

Table 2.3: Application, Participation, and Termination Summary

Data	Application	Participation	Termination
Numbers			
Source	States	States	State quality-control systems
Quality	Definitions vary by state	Acceptable	Questionable because data are not comparable
Estimate	Sound estimate not possible	In 1986, FNS estimate of 19.4 million persons and 7.2 million households monthly	Sound estimate not possible
Improvement needed	No change suggested; FNS has revised Form 366-B	No change suggested	Estimates of annual terminations from quality-control system and with revisions of monthly count based on state caseload files
Rates			
Source	None available	From 9 studies based on 1979-81 data	None available
Quality	Not applicable	Acceptable but not current	Not applicable
Estimate	Sound estimate not possible	Approximately 50%	Sound estimate not possible
Improvement needed	Denominator comparable to numerator	Estimates of number of eligible households perhaps from survey of income and program participation (SIPP)	Estimates of monthly termination rates from state files or nationally representative data such as SIPP

Number of Applications

FNS is currently implementing a new form and procedures for states to follow in reporting application data. As part of an ongoing effort, we are reviewing the new form as it relates to the collection and aggregation of state-reported applications. The results of that review will help determine whether the new form and procedures will bring about improvements and, therefore, we suggest no other change at this time.

Application Rates

For application rates, part of the problem is that accurate figures on the number of applications are not available nationally. However, even if acceptable data existed on the annual number of applications (which include both eligibles and ineligibles), data necessary for the denominator, the number of eligible households, which allows one to compute a meaningful rate, are not available.

Number of Participants

Estimates of the number of participants reported to FNS from states seem to be satisfactory for federal purposes.

Participation Rates

In estimating participation rates, the stumbling block is obtaining a satisfactory estimate of the number of eligible households. There are several possibilities for improving the current estimates. For example. while we recognize that a broad national survey cannot give a precise estimate of the number of eligible households, because it would not be practical to take account of all allowable household expenses nor to apply the food stamp assets test for every wave of every panel, data from such a survey combined with program data might yield estimates of monthly participation rates that are satisfactory for policymaking and oversight purposes at the national level.

Good monthly estimates of the participation rate might be useful to help resolve concerns raised by critics of Food Stamp program operation. The critics often compare monthly participation numbers of people to the annual number of people in poverty in order to estimate participation rates. This is not a good comparison. We believe it would be better to use the survey of income and program participation to estimate the participation rate (by dividing the monthly participation numbers from FNS by a survey estimate of the number of people below the gross income ceiling for food stamp eligibility on a monthly basis). That is, a monthly FNS survey estimate of the participation rate would be preferred to a procedure that compared a monthly estimate of the number of participants to an estimate of the number of people in poverty on an annual basis.

Data from SIPP and the Food Stamp program could be combined in the following way. The survey can provide an estimate for numbers of eligibles based only on gross income.[14] But by using information from the states' negative caseload files on the proportion of households who applied for benefits and calculating the proportion of "gross-income eligibles" who are "net-income ineligible" or "asset-ineligible," SIPP counts can be adjusted to reflect an estimated number of eligible households. We recognize that problems exist with this procedure. First, state samples of negative cases are not uniformly drawn and may be collected in such a way as to underrepresent short-term participants. Second, the procedure assumes that the proportion of gross-income eligibles who are net-income or asset-ineligible is the same for applicants and the general population of eligible households. Although this assumption is probably

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[14]Because the gross income threshold is only the first criterion for determining eligibility. a proportion of households eligible at the gross income level would have net incomes or assets that would make them ineligible. The three criteria used to determine eligibility include gross income. net income. and assets. Using 1979 data, it was found that about one quarter of those who were income eligible were asset ineligible for the Food Stamp program.

inaccurate and sampling problems may occur, the procedure will provide a better estimate of the number of eligible households using existing data than simply using unadjusted survey data.

The foregoing is one example of how participation rates might be better estimated. We believe that close examination of available data may reveal other strong candidates.

Number of Terminations

As a part of its quality-control system, FNS currently collects data identifying the reason a household is terminated from the program. Our future work will focus on this issue. It is expected, therefore, that it will be possible to estimate the number of terminations and the reasons for termination using state-reported samples of terminated cases. Therefore, no changes are suggested at this time.

Termination Rates

As explained earlier, two approaches to improving estimates of termination rates were attempted. With improved data quality, either of these approaches may prove useful.

The first approach is to use existing state participant data to estimate termination rates. By calculating the loss of participation in successive months, subtracting the number of approved applications during the period, and dividing the remainder by the number of participants in the previous month, termination rates could be calculated. Care should be taken, however, to make sure that households are adequately matched from month to month.

The second possibility is to use SIPP as a source for calculating terminations. Every 4 months, the same household is asked to recall its monthly participation experience during the entire 4-month period. By tabulating household departures from the program, it is theoretically possible to estimate terminations. At the present time, however, it appears that respondents tend to recall that they participated either during all 4 months or not at all. This response pattern probably constitutes a serious reporting problem. These recall and survey problems would have to be rectified for SIPP to yield valid estimates of monthly terminations.

Recommendation

This chapter has demonstrated that one of the major problems in estimating application and participation rates is the lack of an estimate of the number of eligible households and that information on termination

rates may be possible with improved data quality. Therefore, we recommend that the secretary of the Department of Agriculture direct the Food and Nutrition Service to estimate the number of people eligible for the Food Stamp program for 1 month during each year and to determine the monthly termination rates for 1 month during each year from state case files.

Within-State Variations in Applications, Participation, and Terminations

In this chapter we respond to the second evaluation question: To what extent are there state variations in application, participation, and termination counts and rates?[1] Analysis across states would be valuable because it might reveal variations in how states have implemented the Food Stamp program—that is, how they differ with respect to important program indicators such as applications, participation, and terminations. However, the differences in definitions and data collection procedures among the states described in chapter 2 would have effectively precluded us from drawing conclusions about state policies and operations from cross-state analyses. Instead, we analyzed how some of the results changed over time within each state so that differences across the states would not be a confounding factor in interpreting the results.

For within-state analyses, we wanted a measure that would allow us to identify states where "case activity" (changes in applications, participation, or terminations) appears to be unusually volatile or where data problems create the appearance of volatility. True volatility in case activity may be a consequence of factors internal to the program, such as changed legislation or administrative practices, or external factors, such as changes in the local economy. Data problems may result from variations in definitions over time or they may reflect something as simple as errors in data entry. Whatever the reason for fluctuation, by identifying states with high variation, program administrators can effectively target states and project areas for review.

Data for within-state analyses over time were limited to those for numbers of applications and participants in the 4 years 1983 through 1986. States began collecting application data in 1981 and began reporting these data to FNS in 1983. Although participation data were available for years prior to 1983, we chose, for consistency, the same starting point for our data analysis of participation as we did for applications. Our data series ended with 1986 because those were the most recent data available at the end of the data collection phase of our project.

The measure we used, called the max-to-min ratio, is the ratio of the maximum value of a time series (for example, the highest number of applications across the 4 years) divided by the minimum value (for

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[1] The congressional request also sought information about variation at the local level. Because of complexity, the results from analyses of project area data on participants have been reported orally to committee staff members.

example, the smallest number of applications) for the series. Two statistics were computed for each state: (1) application max-to-min ratio = maximum applications between 1983 and 1986 divided by minimum applications between 1983 and 1986 and (2) participation max-to-min ratio = maximum participants between 1983 and 1986 divided by minimum participants between 1983 and 1986.

The results we present were based upon analyses using the annual counts of applicants in the first ratio and average monthly counts of participants in the second.[2] As in the previous chapter, years are fiscal years and the household serves as the unit of analysis. Because households may apply for benefits and may enter and leave the program more than once in a given year, annual numbers of applications may include multiple counts of a single household.

Results

Tables 3.1 and 3.2 present the reported numbers of applicants and participants for the 50 states and the District of Columbia as well as our max-to-min ratio. While viewing the first four columns of each table

Table 3.1: Applications for Food Stamps by State in Fiscal Years 1983-86

State	1983	1984	1985	1986	Applications max-to-min ratio
Alabama	658,671	515,343	484,893	468,685	1 41
Alaska	25,936	29,142	23,833	24,969	1 93
Arizona	282,660	262,548	209,678	247,136	1 35
Arkansas	365,688	256,952	276,980	247,139	1 48
California	1,822,887	1,524,501	1,307,784	1,290,830	1 41
Colorado	274,933	305,763	285,084	384,396	1 40
Connecticut	216,707	204,350	171,692	154,567	1 40
Delaware	45,508	51,238	37,320	34,944	1 47
District of Columbia	85,199	88,840	92,744	70,636	1 31
Florida	968,888	883,384	458,442	767,892	2 11
Georgia	270,264	207,992	495,876	481,829	2 38
Hawaii	50,953	45,678	42,283	46,899	1 21
Idaho	95,377	77,622	58,805	53,074	1 80
Illinois	725,929	661,450	615,115	608,476	1 19
Indiana	508,962	448,203	376,674	347,716	1 47

[2]As we proceeded with the analysis, we discovered discrepancies in the applications data which will be discussed later in detail.

State	1983	1984	1985	1986	Applications max-to-min ratio
Iowa	115,119	91,264	97,312	101,574	1 26
Kansas	161,138	122,811	116,791	55,919	2 88
Kentucky	231,137	233,961	224,030	199,670	1 17
Louisiana	258,647	218,747	196,580	211,468	1 32
Maine	83,438	118,112	92,266	86,313	1 42
Maryland	473,450	189,442	176,603	141,261	3 35
Massachusetts	194,042	147,972	131,895	131,568	1 47
Michigan	878,502	641,216	386,509	346,500	2 54
Minnesota	156,190	160,561	141,020	278,528	1 98
Mississippi	436,207	356,638	298,252	292,616	1 49
Missouri	500,360	425,517	302,665	298,616	1 68
Montana	264,582	262,098	273,935	273,549	1 05
Nebraska	121,314	121,700	100,178	92,305	1 32
Nevada	103,567	65,745	47,599	47,581	2 18
New Hampshire	31,868	28,279	26,119	25,741	1 24
New Jersey	255,268	232,771	196,629	190,463	1 34
New Mexico	181,416	145,252	126,410	92,901	1 95
New York	724,198	648,455	648,455	529,853	1 37
North Carolina	554,262	446,375	213,274	481,114	2 60
North Dakota	51,090	33,778	36,828	31,411	1 63
Ohio	1,288,382	1,214,296	1,077,498	1,053,529	1 22
Oklahoma	349,877	295,765	239,752	181,016	1 93
Oregon	226,318	125,064	101,172	93,338	2 42
Pennsylvania	693,335	726,523	605,622	542,684	1 34
Rhode Island	80,026	60,274	51,676	55,319	1 55
South Carolina	404,698	383,715	328,897	309,079	1 31
South Dakota	46,071	30,430	29,767	28,707	1 60
Tennessee	146,488	219,567	202,374	201,728	1 50
Texas	638,946	582,957	501,625	553,557	1 27
Utah	55,330	39,275	56,060	53,589	1 43
Vermont	23,120	19,546	18,000	17,218	1 34
Virginia	177,239	148,147	141,661	147,593	1 25
Washington	189,242	186,630	180,428	192,440	1 07
West Virginia	163,770	134,086	141,280	128,753	1 27
Wisconsin	155,297	155,297	139,201	143,145	1 12
Wyoming	3,484	45,113	33,246	Not available	12 95
Total ●	**16,835,980**	**14,620,385**	**12,618,812**	**12,839,834**	

Source: Food and Nutrition Service Activity Reports.

Table 3.2: Number of Monthly Food Stamp Participants by State in Fiscal Years 1983-86

State	1983	1984	1985	1986	Participant max-to-min ratio
Alabama	220,476	215,629	207,502	181,098	1.22
Alaska	8,350	7,270	7,107	9,182	1.30
Arizona	75,440	73,609	68,110	63,761	1.18
Arkansas	107,119	101,689	89,557	85,902	1.25
California	625,445	574,848	550,626	557,691	1.14
Colorado	70,394	67,038	63,326	66,780	1.11
Connecticut	64,038	59,758	54,667	48,714	1.31
Delaware	19,058	16,739	14,843	12,054	1.58
District of Columbia	35,658	32,507	30,055	28,139	1.27
Florida	305,432	261,365	238,715	231,493	1.32
Georgia	214,447	205,582	195,735	183,640	1.17
Hawaii	38,488	37,778	37,132	35,110	1.10
Idaho	23,624	21,538	20,399	20,016	1.18
Illinois	424,897	431,539	430,246	431,171	1.02
Indiana	160,412	149,770	136,369	124,831	1.29
Iowa	78,312	77,906	76,432	79,362	1.04
Kansas	52,356	49,169	45,232	44,517	1.18
Kentucky	192,537	198,805	191,401	184,408	1.08
Louisiana	191,168	198,507	210,821	219,772	1.15
Maine	51,056	47,769	46,326	45,462	1.12
Maryland	126,011	119,987	114,950	110,571	1.14
Massachusetts	164,562	148,819	140,726	135,794	1.21
Michigan	433,422	441,385	408,070	381,997	1.16
Minnesota	88,631	89,659	89,941	89,843	1.01
Mississippi	166,778	161,458	158,750	160,351	1.05
Missouri	148,136	142,361	127,887	138,137	1.16
Montana	19,815	20,842	21,484	21,754	1.10
Nebraska	33,072	33,064	33,942	36,146	1.09
Nevada	14,931	14,838	14,474	15,272	1.06
New Hampshire	18,732	14,666	12,175	10,619	1.76
New Jersey	199,810	185,546	170,366	161,151	1.24
New Mexico	56,083	51,221	49,984	48,983	1.14
New York	758,757	764,515	754,006	721,889	1.06
North Carolina	193,393	179,360	171,618	167,128	1.16
North Dakota	11,162	10,849	11,411	12,390	1.14
Ohio	441,386	453,006	445,240	449,911	1.03
Oklahoma	91,508	99,485	99,979	100,218	1.10
Oregon	107,806	97,027	94,223	93,476	1.15

State	1983	1984	1985	1986	Participant max-to-min ratio
Pennsylvania	439,832	421,420	410,900	406,087	1 08
Rhode Island	33,692	31,476	29,161	27 906	1 21
South Carolina	145,125	134,470	126,854	115,183	1 26
South Dakota	16,713	15,471	15,487	16,771	1 08
Tennessee	221,778	200,529	186,518	184,060	1 20
Texas	395,404	383,984	392,728	417,341	1 09
Utah	29,066	26,541	25,484	26,528	1 14
Vermont	20,521	19,835	17,650	16,137	1 27
Virginia	159,875	147,046	136,964	133,052	1 20
Washington	118,048	110,799	111,348	116,695	1.07
West Virginia	90,754	93,384	92,959	93,553	1.03
Wisconsin	125,286	128,963	129,023	129,852	1 04
Wyoming	8,532	9,304	9,653	9,953	1 17
Total	**7,837,328**	**7,580,125**	**7,318,556**	**7,201,851**	

Source: Food and Nutrition Service

may suggest the degree of variation within states over time, our summary statistic, presented in the fifth column, is much more helpful. If a state reported 4 years of equal numbers of applications, then the maximum would equal the minimum, and the ratio would be unity (1.00). Any variation over time would yield a ratio greater than 1, and the more variation the greater the ratio. To illustrate how within-state variation might be used, we grouped the states by their ratios and contacted officials in states with extreme ratios to learn what might account for the figures.

Beginning with application ratios, we formed three groups of states—those with ratios between 1.00 and 1.24, those between 1.25 and 1.50, and those over 1.50. The cutoffs are judgmental and served only to define the states that should be contacted for follow-up work. We then repeated the grouping process using participation ratios. Table 3.3 presents the results. Three groups of states were marked for follow-up—those listed in table 3.3. Because of overlaps, two states are listed twice, so officials in 27 states were contacted. The results of our interviews are described in the next two sections.

Table 3.3: Max-to-Min Ratios for Applications and Participants

Ratio	Application	Participant
1.00-1.24	8	41
1.25-1.50	24	8
more than 1.50	19[c]	2

[a]Arkansas, South Carolina, District of Columbia, Vermont, Indiana, Alaska, Connecticut, Florida

[b]Tennessee, Rhode Island, South Dakota, North Dakota, Missouri, Idaho, Alaska, Oklahoma, New Mexico, Minnesota, Florida, Nevada, Georgia, Oregon, Michigan, North Carolina, Kansas, Maryland, Wyoming.

[c]Delaware and New Hampshire

Applications

Of the 19 states that showed the greatest variation in numbers of applications, 15 reported a "decrease" in applications over 4 years (that is, their maximum application number predated their minimum measure) and 4 states (Georgia, Minnesota, Tennessee, and Wyoming) reported an "increase." States in this group represented all geographic regions and economic situations, and there are no obvious similarities among them that would help explain the large within-state variations.

The total number of applications reported by each state (including both approved and denied applications) is recorded on FNS form 366-B and submitted annually to USDA. The form includes five sections; in our follow-up work, we focused only on the section labeled "Certifications."[3] We explored the possible reasons for variation in the reported figures by interviewing state officials.

The following examples illustrate the types of responses we received to our questions about state-reported counts of applications:

- A food stamp official in Georgia told us that in 1985 they asked the FNS regional official to clarify the definition of "approvals" for reporting purposes. The state official said that at that time they were verbally

[3]The certification section has three columns: approvals, denials, and the sum, called applications. Instructions for completing the certification section are "This section is used to identify the totals of food stamp case activity for the reporting period. The data reflects the numbers of approvals and denials of nonassistance and public assistance households as defined under Section 271.1 of the Food Stamp Program Regulations. Initial and subsequent actions on the same household within the same report period will be reflected as two or more actions. The number of uncompleted applications that have been in process over 30 days should also be reported. The State agency may wish to differentiate in a narrative statement, between those pending over 30 days which were caused by State agency inability to complete the determination process from those tended to accommodate the households submittal of necessary information."

instructed to begin to include recertifications in this category. They previously had not included recertifications in their data summaries and, as a consequence, Georgia reported a substantial increase in applications.

- In contrast, a Food Stamp official in North Carolina (which had reported a remarkable decrease in applications) told us that in 1985 they began to exclude recertifications from their count of approved applications. The North Carolina official told us that if they had included recertifications in 1985, their application count would have been more than double what they reported, from 213,274 to 499,842.
- Officials in Florida explained that the wrong figures were transmitted to USDA in 1983 and 1985 and that the number of applications, when corrected, changed from 968,888 to 473,497 in 1983 and from 458,442 to 470,889 in 1985.
- The state with the largest max-to-min ratio (12.95) was Wyoming. When we contacted Wyoming Food Stamp officials, they said they did not know why the change was so great. However, looking at the number of applicants reported for 1983 (3,484), it seems possible that the reported number could simply be a data entry error, since the number of applications in 1984 and 1985 were 45,113 and 33,246. Wyoming's count in 1983 might have been closer to 35,000 than 3,500.

In asking state officials for their opinions about variation in the number of reported applications, we did not ask them to provide supporting evidence, nor did we try to verify their explanations or do further data analysis after interviewing them.[4]

USDA has recently modified FNS Form 366-B to request specific application information but has not specifically defined instructions on how to report, and the effect of a revised format is unknown. In our future work, we intend to focus on the validity of state-reported application counts.

Participation

For the 10 states that had max-to-min ratios of at least 1.25, we sought explanations for the within-state variations in the number of participants. One factor could be the favorable economic conditions experienced since 1981, which logically should result in reduced

[4]The examples are consistent with our earlier finding that FNS does not verify the accuracy of the reported number of applications. See our report entitled Food Stamp Program: Trends in Program Applications, Participation, and Denials, GAO-RCED-87-80BR (Washington, D.C.: April 1987

participation. A second possibility could be the Omnibus Budget Reconciliation Act of 1981, which narrowed the scope of the Food Stamp program. The act followed the elimination of the purchase requirement (which added millions of people to the rolls of the Food Stamp program in 1979-80) and would be expected to cause a decline in participation.

In 1983, certain states saw another rise in participation, possibly because of a downswing in the national economy early in the year, although other reasons may have come into play.

In order to see if these 10 states were similar in participation trends, we compared their trends. Nine of the 10 states showed a decline in participation after 1981, consistent with the change in economic conditions and the implementation of the 1981 act. One state (Alaska) showed a decrease from 1983 to 1985, followed by an increase in 1986.

We called the Food Stamp office in Alaska to find out why the number of participants had increased. State officials could not explain the variation, except to note that it could have been caused by unfavorable economic conditions and increased immigration.

Conclusions

Data problems restricted our ability to fully address the evaluation question discussed in this chapter. Lack of data or flaws in the data from FNS made it impossible or inappropriate to compare application, participation, and termination numbers and rates among the states.

Available data can be used to analyze within-state variations in the numbers of applications and participants. We believe that a measure like the max-to-min ratio could be used to identify states where the reported data warrant examination of state operations because of extreme fluctuations in reported figures.

From our analysis of the 1983-86 data, we conclude that the data problems in the numbers of applications account for important parts of the within-state variation. In the case of the numbers of participants, economic conditions or changes in the program probably account for the within-state variation.

Reasons for Nonparticipation in the Food Stamp Program

In this chapter, we respond to the third evaluation question: What does the existing research indicate about the reasons for nonparticipation in the Food Stamp program?

The answers we provide in this report are based upon available research studies. Because the data are fairly old, we are also conducting a survey to determine the reasons a nationally representative sample of potentially eligible but not participating individuals currently give for nonparticipation in the program. The results will be presented in a subsequent report. More detail on the methodology used in developing the information used in this chapter can be found in appendixes VI and VII.

Results From Selected Studies of Nonparticipation

Three of the nine studies report the results of asking persons who were probably eligible for food stamps why they chose not to participate.[1] We refer to that approach as the "direct" method of determining the reasons for nonparticipation. All nine studies included statistical analyses of the relationship between participation status (that is, participating or not) and household characteristics such as age, education, or employment status of the head of the household. We refer to this approach as the "indirect" method because the household characteristics are not themselves reasons but may be connected to the reasons.

The strength of the direct method is that nonparticipants, the only people who really know why they do not use food stamps, are invited to tell the reasons why they do not take part in the program. The weakness of the method is that people may not give the real reasons. For example, they may have forgotten the reason or they may give what they perceive to be a socially acceptable reason. Another potential problem is that something about the data gathering process may lead respondents to give the wrong answer. The way the question is asked or the setting in which an interview takes place may influence the answer, for example.

The strength of the indirect method is that it avoids the measurement problems that tend to occur when asking people what they may regard as intrusive questions about their personal affairs. The weakness of the method is that the household characteristics that are determined to be statistically related to participation status may indicate an opinion for

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[1] In all studies, the determination of eligibility is not exact and, thus, only approximates the true Food Stamp eligibility.

or against participation but they are not really reasons in the usual meaning of that word. In this approach, the actual reasons may be inferred but they are not expressed directly by the nonparticipants, and it may be hard to build an unassailable argument. Underlying such arguments is the assumption that certain measurable socioeconomic and demographic characteristics explain the needs and motivations of households with respect to program participation. For example, if the data were to show that poor persons with a lower educational level are less likely, from a statistical point of view, to use food stamps than their counterparts with a higher educational level, it might be inferred that some poor people do not possess the literacy and documentation skills necessary for successful negotiation of the application process.[2] However, starting with the same observation about educational level, it might be argued that persons with greater education are more inclined to use stamps because they are more aware of nutritional needs or that they are less inclined to use stamps because of what they may perceive as stigmatizing.

Nevertheless, we believe that the two kinds of knowledge—direct and indirect—are important for policymakers. Direct reporting by persons eligible but not participating in the Food Stamp program would provide policymakers evidence of program characteristics that could be modified to ensure more comprehensive coverage for the needy. Given a knowledge of how household characteristics are associated with program participation may suggest ways to improve program operations so that all persons for whom the Food Stamp program is intended can participate in it on an equal basis. For example, if it could be shown that the educational level of potential participants probably kept some people from successfully applying for enrollment in the program, steps can be taken to deal with the problem. Although the statistical results we report here cannot by themselves be used to draw such a conclusion, they may, in conjunction with other direct evidence, support the need for changes in the program.

Studies That Directly Sought Reasons for Nonparticipation

This section describes the three studies that attempted to directly measure reasons for nonparticipation in the Food Stamp program. A study entitled "Nonparticipation in Welfare Programs by Eligible Households: The Case of the Food Stamp Program" (Coe 1983) used the panel study

[2]This hypothetical example begins with a premise that is at variance with the actual empirical evidence.

of income dynamics data base. PSID is part of a longitudinal survey con-
ducted by the Survey Research Center at the University of Michigan.
Beginning in 1968, a nationally representative sample of approximately
5,000 families were contacted and asked a series of questions about
income, employment, housing, food consumption, and transportation.
These families and their offshoots have been tracked through each sub-
sequent year.

In 1980, using a special supplement to the PSID questionnaire that asked
about food stamps, 993 of 6,752 households were judged eligible for the
Food Stamp program.[3] Of these 993 households, 54 percent did not par-
ticipate in the Food Stamp program. Respondents in these households
were asked their reasons for nonparticipation.

The Food Stamps and Supplemental Security Income (FS/SSI) demonstra-
tion (Blanchard et al. 1982) had several objectives and focused only in
part on the participation rates of elderly (65+) households. Contracted
for by FNS, this project attempted to evaluate the merits of providing
checks to SSI recipients who also participated in the Food Stamp pro-
gram in lieu of coupons in 1980 and 1981. Authorized under the Food
Stamp Act of 1977 (Public Law 95-113), the program used experimental
projects to test program changes designed to increase the effectiveness
and delivery of food stamp benefits to elderly or SSI households.

Between June and October 1981, data were collected from three demon-
stration sites and three comparison sites in three states (New York. Ore-
gon, and North Carolina). The six sites had between 830 and 2.830 Food
Stamp enrollees and an estimated eligible population that ranged from
1,400 to 6,400 persons. Eligible elderly households were identified from
Social Security Administration data bases and 482 households that had
never applied for food stamps were asked why they (and members of
their households) had not. The question was open-ended and answers
were coded by interviewers into specified categories.

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[3]The following households were excluded from Coe's analysis: those residing outside the contiguous
United States, those including an adult household member other than the household head or wife who
earned more than $3,000 during the reference year, those who had taken part in a demonstration
project to receive checks rather than food stamp coupons, those with food expenditures of less than
$100 per year, those with a change in household composition affecting the head or the wife These
exclusions resulted in a conservative estimate of the number of eligible households from PSID

The nationwide food consumption survey was conducted through the
Consumer and Nutrition Center of USDA in 1977 and again in 1979, pri-
marily to examine the food and other nutrient intake of the U.S. popula-
tion. In 1979, when over 3,000 households were surveyed, specific
questions were asked about participation in the Food Stamp program
and about reasons for nonparticipation. Respondents for households
that had not applied for food stamps were asked why their household
was not using food stamps. Respondents were then shown a card listing
choices and asked to select only one. The results of the 1979 survey
were reported in an article entitled "Reasons for Nonparticipation in the
Food Stamp Program" (Blaylock and Smallwood 1984).

Results From Studies Using the Direct Method

The results from the three studies are presented in table 4.1, and the
individual questions that were asked of respondents in each study are
listed in appendix VIII. We have grouped responses into four subtotals
to illustrate the emergence of a framework of commonly cited reasons
for nonparticipation. Respondents to all three interviews cited lack of
information, difficulties in dealing with the program, and negative atti-
tudes toward need for the benefits or toward the program itself.
Although the three studies did not pose questions about nonparticipa-
tion in identical ways, a comparison of responses shows the degree to
which reasons for nonparticipation were similar across the studies.

The consistency among the estimates is substantial but it should be
noted that the various methods used in the three studies are likely to
underestimate the true values. For instance, some underreporting may

Table 4.1: Reasons for Nonparticipation in the Food Stamp Program[a]

	PSID (1979)[b]		NFCS 1979-80[c]		FS/SSI 1981[d]	
Number in group		424		1,193		482
Subgroup						
Lack of information	Knew nothing about eligibility or how to apply	5%	Income too high	35%[e]	Believed ineligible	25%
	Thought income or assets too high	18	Did not know how to apply	6[e]	Did not know how to apply	2
	Thought ineligible for some other reason	20	—		—	
Subtotal		**43**		**41**		**27**
Problems with program	Told ineligible by welfare officials	12	Application turned down	16	—	
	Administrative hassles	8	—		—	
	Benefits too low	1	Cost too much	6	Benefits did not seem worth the trouble	21
	—		Stores do not accept	5	Stamps cost too much	1
	Physical access difficult	6	Too much trouble or time	0	Could not get to office	3
Subtotal		**27**		**27**		**25**
Perception of need and of program	Did not need	12	Someone else needed it more	27	Did not need the benefits	37
	Personal attitude	8	Did not like the idea	6	Too proud to apply or would be embarrassed if other people knew	14
Subtotal		**20**		**33**		**51**
Other		10	—		Never thought about it	12

[a]Because of methodological differences, results may not be comparable across studies.

[b]Richard D. Coe, "Participation in the Food Stamp Program, 1979," in Greg Duncan and James N Morgan (eds.), Five Thousand American Families—Patterns of Economic Progress, vol. 10. Analyses of the First Thirteen Years of the Panel Study of Income Dynamics (Ann Arbor: Survey Research Center, University of Michigan, 1983).

[c]James R. Blaylock and David M. Smallwood, "Reasons for Nonparticipation in the Food Stamp Program," Western Journal of Agricultural Economics, 9:1 (1984), 117-26.

[d]L. Blanchard et al., Final Report: Food Stamp SSI/Elderly Cashout Demonstration Evaluation (Princeton, N.J: Mathematica Policy Research, Inc., 1982). Percentages add to more than 100 because multiple responses were allowed.

[e]Our calculation.

be likely in the panel study of income dynamics, because the data collection methods did not use "aided recall" procedures; that is, the respondents were not exposed to a structured format of probable and mutually exclusive choice categories. "Unaided recall" methods tend to produce underreporting and reporting category overlap.[4]

While the national food consumption survey did not have limitations of "unaided recall," it had other shortcomings that very likely induced underreporting. For example, multiple responses were not permitted. That is, the subject was allowed to give only one reason for nonparticipation. For any household with multiple reasons, there would necessarily be underreporting.

Of the three studies, underreporting was perhaps most likely in the FS/SSI study for at least two reasons. First, the data collection did not use "aided recall" methods. Second, the responses, which were categorized by the interviewers in the field, may contain a systematic error. This suspicion is based on the analysis of the distribution of responses. Unlike the PSID and NFCS studies, nearly all the field-coded responses are associated with the respondent's attitude or circumstances rather than attributes of the program or the system, as in the two other studies.

The most important point of agreement is that a lack of adequate and accurate information about the program emerges as one of the dominant reasons for nonparticipation. In this grouping, we include not just knowledge of the program's existence but also the lack of information on the eligibility criteria. Either situation could affect a household's decision to apply for benefits. When the response categories relating to this problem are grouped as they are in table 4.1, the significance of the information category is striking. Among PSID respondents, 43 percent did not know anything about eligibility and how to apply, erroneously believed their incomes or assets made them ineligible, or believed they were ineligible for some other reason. Similarly, 41 percent of NFCS respondents either did not know about the program or erroneously believed their incomes were too high. Furthermore, from 25 to 27 percent of the eligible nonparticipants in the FS/SSI study reported that they believed they were ineligible or did not know how to apply.[5] These three

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[4]Elizabeth Martin et al., "Report on the Development of Alternative Screening Procedures for the National Crime Survey," Bureau of Social Science Research, Washington, D.C., 1986, and Seymour Sudman and Norman Bradburn, Response Effects in Surveys (Chicago: Aldine Publishing, 1974).

[5]Results from the FS/SSI study are presented as a range because multiple responses were allowed while the other studies permitted only a single response.

studies indicate that while some eligible nonparticipants are aware of the program's existence, they may lack information about eligibility criteria and how it applies to them.

There is also agreement among the three studies in the proportion of respondents who cited issues with the program itself as a reason for nonparticipation. In the PSID study, 27 percent of the respondents said they had been told they were ineligible by program officials, experienced administrative hassles, were eligible only for small benefits, or had physical-access problems. Twenty-seven percent of the respondents in the NFCS cited similar difficulties: their applications had been denied, the benefits "cost too much," it was too much trouble to apply, or the stores where they shopped did not accept food stamps. And from 21 to 25 percent responded in the same fashion in the FS/SSI study; they thought the benefits were not worth the trouble or cost too much, or they were unable to get to the Food Stamp office.[6] However, for the reasons cited above, these results are also likely to be underreported.

Despite the degree of consistency in the findings, table 4.1 also shows some divergence in results across studies. In particular, perception of need and assessment of the program showed wide discrepancies. For example, 20 percent of nonparticipants reported in the PSID study that they either did not need the stamps or felt negatively about the program. Among NFCS respondents, 33 percent reported that they did not like the idea of the program or that someone else needed the benefits more. And in the FS/SSI survey, from 37 to 51 percent of nonparticipants told interviewers that they did not need the benefits or would be embarrassed about receiving them.

Among the dissimilarities displayed is a divergent set of findings regarding potential recipients' perceived need for food stamps. Depending on the study, 12, 27, or 37 percent of the respondents reported that "someone else needs it more" or that they themselves did not need food stamps. This disparity is likely to result from weaknesses in the various data collection instruments and study designs rather than from actual or true value differences among the populations. The PSID study estimate of 12 percent may be a somewhat underreported estimate because "aided recall" methods were not used. The 27 percent figure reported by NFCS is probably less of an underestimate than the 12 percent figure, because

[6]In 1983, almost 20 percent of the elderly food stamp households received $10 or less in food stamp benefits, compared to almost 2 percent of the nonelderly food stamp households that received $10 or less in food stamp benefits.

while this study limited multiple responses, it did use "aided recall."
However, the 37-percent estimate reported by the FS/SSI study could be
higher than the true value, as explained below. This higher estimate
may offset the tendency to underreport to "nonaided recall" queries.
First, there appeared to be an interviewer or question response bias in
the FS/SSI study, a bias favoring the "don't need" response. Second, the
respondent population was nonrepresentative and may indeed have con-
tained fewer people in need than the general population (the FS/SSI study
sampled persons over 65 years of age in nonrepresentative locations).
Other research has consistently shown that the elderly have specific
participation patterns; they may therefore have specific reasons for
nonparticipation that differ from those of younger people. Distaste for
"welfare," for example, tends to be more prevalent among the elderly
poor.

While dissimilarities are apparent in the findings regarding perception
of need and attitude toward the program, it seems that these can be
attributed to different methodological approaches and different institu-
tional concerns. Despite the divergent findings, however, we believe that
one implication of the research is clear: if not already connected with
another public assistance program such as Aid to Families With Depen-
dent Children, potential participants appear uninformed about program
regulations and application procedures and may mistakenly believe that
they cannot get the benefits for which they are eligible. It should be
noted that even if informed of their eligibility for food stamps, we can-
not be certain that rates of participation would substantially change,
since potential beneficiaries may have other reasons for not participat-
ing. However, the data certainly substantiate the argument that igno-
rance about eligibility is widespread and suggest that increased
outreach efforts might be warranted.

Studies of the Characteristics of Households That Do and Do Not Participate in the Food Stamp Program

We analyzed results from nine studies that examined nonparticipation
by relating it to household characteristics. The studies show which
household characteristics seem to be the most associated with participa-
tion status and may thereby be linked to some underlying reason for
nonparticipation. This section summarizes our results and appendix IX
provides more detail.

Nineteen household characteristics, displayed in table 4.2, were identified across the nine studies.[7] The studies used a variety of statistical methods (or models) to determine whether household characteristics and program participation were associated in statistically significant ways. (See appendix IX for more details.)

Table 4.2: Summary of Effects of Associated Models by Study[a]

Variable	Akin, Guilkey, and Popkin (1985)	Bick (1981)	Blanchard et al. (1982)	Burt, Johnson, and Morgan (1984)	Coe (1983)	Czajka (1981)	Kim (1983)	Lane, Kushman, and Ranney (1983)	Phillips (1982)
Age	–	–	–		–	–	–	–	–
Education	–	NS	–		–	–	S	S	–
Ethnicity			NS	NS				+	
Marital status	S		NS	S		S			
Location	S		NS	S	S		S	S	
Household size	S	S	NS	–	+	+	+	+	NS
Race	NS		NS	S	NS	+	NS	NS	
Sex	S	NS	S	S	S	S		NS	
Employment	NS	S			S	NS	S	S	
Food expenditure					NS		NS		
Income	S	S	–	S	S	S	NS	S	NS
Public assistance	+			+	+	+	+	+	
Value of food stamps			NS	S	–		S	NS	–
Attitude			S				S		
Information							+	NS	
Transportation			S		NS		NS		
Other									
Socioeconomic	S			S	NS	S		S	S
Nutrition and health	S							NS	S
Mobility	S	S	S		NS				

[a]Plus sign (+) = results are positive; minus sign (–) = results are negative. S = significant at .10 NS = not significant at .10. (When at least one of the effects was significant for multiple models of the same study, we summarized the effect as significant. Because of the complex sampling designs, sampling errors and their associated statistical tests are approximate.) When studies do not include a particular variable, the corresponding cell is left blank.

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[7]When studies used specific characteristics that were not included in other studies, we had the choice of excluding these "other" characteristics from our review or keeping them in our review and grouping them under general headings. For completeness we grouped these characteristics into an other category. The "other" category includes socioeconomic measures, nutrition and health measures and mobility measures.

Because the household characteristics that are associated with partici-
pation status are usually also associated with one another, it is difficult
to judge the degree of association for any individual characteristic by
simple inspection of the data. For example, household income may be
associated with participation but also with employment and education,
which must also be analyzed for their association with participation.
The statistical models, however, make it possible to estimate the extent
to which each characteristic is associated with participation in the Food
Stamp program, independent of the associations of other characteristics.
Those estimates must be treated with caution, however, because it is not
appropriate to use the results we present by themselves to infer causal
connections between the household characteristics and program
participation.

Table 4.2 illustrates whether (1) a statistical association between certain
household characteristics and participation in the Food Stamp program
was tested and (2) the association was found to be statistically signifi-
cant or not.[8] When a variable was found to be statistically significant at
the .10 level and the variable was not recoded into discrete categories, it
is indicated in the table with a plus or a minus sign.[9] If the variable was
found to be statistically significant and the variable was recoded into
discrete categories, it is indicated with an "S" and explained in the dis-
cussion below. A blank indicates that the association between a house-
hold characteristic and program participation was not analyzed in that
particular study. If the variable was not statistically significant at the
.10 level, it is designated "NS," not significant.

Our synthesis of the results for each household characteristic is pre-
sented in the subsequent sections. In some cases we also provide plausi-
ble interpretations of the results that may suggest the need for program
changes.

Age

The age of the head of the household was negatively associated with
participation consistently. In other words, as age increased, program

[8]Because of the complex sampling designs used in the studies reviewed, the statistical tests are con-
sidered approximate. Also, we do not present the correlations or other derived coefficients, because
different models were used in each study and the differences can affect the correlations and coeffi-
cients. Consequently, cross-study comparisons of the strength of relationships are precluded and we
present only the results of significance tests.

[9]For example, Czajka's results with household size show that only 1 time in 10 would an analyst
encounter a sample of eligible households in which larger households were less likely to participate in
the program than smaller ones, once the influence of related characteristics had been controlled for.

participation tended to decrease. This finding is important, for unlike other variables that are negatively associated with participation, increasing age does not necessarily indicate decreasing need. Although we cannot be certain why eligible elderly people are less likely to participate than younger people, we can give some reasons why advancing age might deter program participation. First, increasing age ultimately corresponds to declining health and mobility, both of which make the physical process of applying for food stamps more difficult. Second, it has been suggested that elderly people show a greater distaste for welfare than younger people and feel more stigmatized by applying for and using food stamps. Third, because elderly households tend to have more assets than nonelderly households, many eligible older people may believe that they are actually ineligible and fail to apply. They may be unaware that the elderly are allowed greater assets under Food Stamp program eligibility regulations.

Education

Education is defined as the highest educational level attained by the head of the household. With the exception of two studies (Bick 1981 and Lane 1983), education, too, displayed a consistently negative relationship with participation. That is, as the education level goes up the likelihood of participation goes down. The converse of this would be that as the education level goes down, participation in the Food Stamp program increases. This is to be expected, for unlike age, increasing levels of education may imply lesser degrees of need. It has also been suggested that household heads who have attained higher educational levels assess their future prospects more optimistically and assume that their economic circumstances will improve in the relatively near term.

Ethnicity

Ethnicity is defined as being either of Hispanic origin or not. Hispanic ethnic origin does not appear to be associated with participation. In the three studies that tested for ethnic origin, the participation status of Hispanic households was contrasted with that of other ethnic groups. Although households of Hispanic origin are generally associated with poverty in the United States, and therefore greater need for food stamps, when income is statistically controlled for, Hispanic origin alone does not appear to be associated with participation.

Marital Status

When it was analyzed, the marital status of the head of household showed inconsistent associations with participation in the Food Stamp program. These results may be because of the combined effects of some

interrelated characteristics, such as marital status, age, and sex. In one study (Czajka 1981), for example, single female heads of household were significantly more likely to be program participants than married couples were. In the same study (Czajka 1981), single male heads of household were significantly less likely to be program participants than married couples were. A second study (Burt 1984) showed that single heads of household of either sex were less likely to be program participants than married, middle-aged couples were. Another study (Akin 1985) showed that among the elderly, single-person urban households were less likely to participate than larger households. Finally, a fourth study (Blanchard 1982) showed no significant differences between single-person elderly households and multiperson elderly households. No study examined the association between participation and marital status alone, independent of either sex or age.

Location

The association between location of residence and participation status was found to be statistically significant in five studies. Akin et al. (1985) found that urban Southern and Western households were less likely to participate than households in the central United States. Burt (1984) found that households in the northeastern region were more likely to participate than southern and western households, and Kim (1983) showed that households in urban California, urban Ohio, and urban Indiana were all more likely to be program participants than urban Virginia households. Coe (1983) used a measure of urban-rural residence to demonstrate that rural households are significantly less likely to be enrolled in the program than urban households (in cities of over 500,000 residents).

These results suggest that distinctions do exist between participation behavior in the states studied and, to some degree, among regions. The lack of participation found by Coe (1983) among rural residents may be because of different attitudes among the rural population toward public assistance, or it may reflect something more straightforward, such as distance to the Food Stamp office.

Household Size

Household size tended to be associated with participation status. As household size increased, participation became more likely, except in one anomalous case (Burt et al. 1984). Larger households are, of course, likely to be needier than smaller ones at the same income level. The finding may also indicate that because larger households can buy food in larger quantities, which are cheaper per unit, the value of the stamps is

greater for these households and is therefore more of an inducement to participate. A large household also indicates the presence of children, which may affect participation decisions. For example, while adults may be willing to forgo food expenditures for themselves in order to meet other financial obligations or avoid perceived stigma, they may be less likely to do so if their children must also suffer the consequences.

Race

In seven studies, the relationship between the race of the head of the household and program participation was analyzed. In one substudy (Burt 1984) and one overall analysis (Czajka 1981), blacks were found to be more likely to participate than other racial categories.[10] Based on the statistical evidence from the remaining five studies, however, we conclude that race alone is not associated with participation status.

Sex

The sex of the household head did not display a consistent and discernible pattern when compared to participation. Recent discussions of the "feminization" of poverty suggest that households headed by women might be expected to be more likely to participate in the Food Stamp program. When the effects of income, marital status, and household size are statistically controlled for, however, this characteristic does not demonstrate a consistent association with participation status.

Employment

Households with an employed head are consistently less likely to participate than eligible households where the head is not employed. This could be because of either people's perception of need or eligibility or because of how the program operates. For example, employed persons may expect to have higher incomes in the relative near term and therefore decide not to apply for food stamps, or they may believe they are ineligible because they are working. However, it appears that households with earnings are subject to greater administrative scrutiny than households without them during the application process, the recertification process, and while participating in the program (known as monthly reporting). These procedures may discourage participation.

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[10]See appendix IX for more details.

Food Expenditures

Food expenditures were not associated with participation behavior in the two studies that analyzed them (Coe 1983, Kim 1983). In both studies, the variable was constructed as a "food-needs" ratio, food expenditures expressed as a proportion of income (both from food stamps and other sources), but no significant association with participation status was detected.

Income

Participation in the Food Stamp program tended to decrease as income increased, as expected. These results, corroborated by findings for employment and education, may indicate that among eligible households, participants are likely to be the most impoverished with the fewest prospects for improving their economic circumstances. Those households with reason to expect that their straits are only temporary or with earnings at or near the official poverty line are likely not to participate. These families, having a positive income flow for some portion of the year, may also perceive their income as being too high to make them eligible for food stamp benefits, even if this is not the case.

Public Assistance

The receipt of public assistance displays a clear association with participation. As receipt of other assistance increases, so does receipt of food stamps. This may be because enrollment in other assistance programs probably indicates degree of need, access to information about food stamps, or less distaste for welfare.

Value of Food Stamps

The value of the food stamp benefit for a particular household is a function of income, expenditures, and household size. In four of six studies that considered this characteristic, it had no statistically significant association with participation, possibly because of the statistical controls applied for income and household size. The two remaining studies found that as the value of the benefit increased, so did participation. Viewed as a whole, however, the six studies failed to demonstrate clear evidence that the value of the benefit influenced program participation.

Attitude

Attitude toward food stamps was clearly associated with participation in the two studies (Blanchard 1982 and Kim 1983) in which it was analyzed. Those who reported a positive assessment of food stamps were significantly more likely to be enrolled than those who reported that they would feel stigmatized if recognized as program participants

Information	Information about the program was analyzed in two studies (Kim 1983 and Lane 1983) and found to be associated with program participation in one of them. Those who reported that they had information about the program were significantly more likely to be program participants. This confirms one of the major findings of the studies that attempted to measure reasons for nonparticipation directly.
Transportation	Transportation variables were included in three studies (Blanchard 1982, Coe 1983, Kim 1983), and one study (Blanchard 1982) indicated that relatively large distances to the Food Stamp office were a deterrent to participation for the elderly. This association further illuminates the result discussed earlier that rural residence tends to be associated with lack of participation.
Miscellaneous Socioeconomic Reasons	As mentioned earlier, each of the studies chose some variables that were unique or present in only a few other studies. For comparative purposes, we have included these "other" variables in our review. Among the other socioeconomic variables included in the studies analyzed, tenancy appeared to be most consistently related to participation status (Akin 1985, Burt 1984, Lane 1983). Specifically, those who owned their own homes were less likely to participate, when contrasted with renters or nonpaying occupiers. This may indicate less need or it may imply that homeowners believe they are ineligible because of their assets.
Nutrition and Health	Indicators of nutrition and health showed a measure of relationship with program participation. One study of the urban elderly (Akin 1985) found that households with members cited as in good health and households with members on a special diet were more likely to participate in the program. One additional study (Phillips 1982) indicated that households with access to gardening or canning facilities were less inclined to enroll in the program than those with no access to unpurchased food.
Mobility	Households with at least one member who shopped every week were less inclined to participate (Akin 1985) while households with a handicapped person present were more inclined to be enrolled (Bick 1981). These results may be the result of limited physical capabilities, but they may also reflect other factors such as morale and sociability in the households.

Conclusions

Three studies have been conducted in which persons in households potentially eligible for the Food Stamp program but not participating in it were asked why they did not. Because of methodological weaknesses in each of the studies and procedural differences among them, the detailed results from the studies are not uniform. For example, one study indicated that 37 percent of the respondents reported that they did not need food stamps but another said the figure was 12 percent. However, after reviewing the methodologies used in the studies, we conclude that lack of information about how the Food Stamp program works and perceived problems with the program are two of the more important factors accounting for nonparticipation in the Food Stamp program.

In two of the three studies, some form of informational problem accounted for over 40 percent of the responses. In the third study, 27 percent claimed that they lacked information about food stamps, but this smaller figure may arise from the characteristics of the population sampled, which probably had more knowledge of assistance programs than the general population eligible for food stamps.

About 25 to 27 percent of the respondents cited reasons, which we categorized as "problems with the program," for nonparticipation in the Food Stamp program (see table 4.1).

A caveat about our conclusions stems from the fact that they are based upon data collected between 1979 and 1981. We do not know whether the reasons given for not participating in the Food Stamp program in those years would have been the same in more recent times, and we are currently conducting a new study to examine that question.

Our synthesis of studies that used statistical analysis to examine the association of participation status with household characteristics identified a number of factors that may shed further light, though not definitive conclusions, about why some persons do not participate. The household characteristics most clearly associated, either positively or negatively, with participation are participation in other public assistance programs, age, education, marital status, sex, income, and employment. These results suggest that certain kinds of households are less likely to participate than others. If the differences are by choice, there is no problem, but if the differences are caused by artificial impediments (that is, they are not by choice) some program changes may be called for. The detailed statistical results, if supported by other evidence, may suggest a variety of means for increasing the likelihood that all eligible

households have an equal opportunity to participate in the Food Stamp
program.

The current state of knowledge about why households do not partici-
pate in the Food Stamp program is unsatisfactory. Yet for routine opera-
tion of the program, we believe the Food and Nutrition Service needs to
know, and to be able to document, the current reasons why eligible peo-
ple do not participate in the program. Participation rates are important
indicators of program effectiveness, and knowledge about what they are
and how they are changing should affect not only how the program is
administered but also how program policy decisions are made by the
Congress. Because the studies that asked why households did not partic-
ipate in the Food Stamp program were conducted 6 to 8 years ago, we
are presently analyzing data from the 1987 panel study of income
dynamics to learn the reasons that persons currently give for not partic-
ipating in the program. Any recommendations we may make regarding
reasons for nonparticipation in the Food Stamp program await comple-
tion of our analysis of the newer data.

Agency Comments and Our Response

We obtained comments from the Department of Agriculture's Food and Nutrition Service on a draft of our report. (See appendix XI for the full text of the letter.) We have carefully considered each comment. Where we agree with the comments and where it is appropriate, we have modified the text of our report, often for additional clarification. In other instances, where FNS has misinterpreted our report or in our opinion is incorrect in its comments, we have not made any changes. Rather than respond to each and every one of the numerous specific remarks provided by FNS, this chapter presents our responses to its more general remarks.

The general remarks of FNS fall into two categories—(1) concern about the policy relevance and adequacy of the six measures of program operations we chose to report on and (2) concern about our data analysis, what we stressed, and in some cases the conclusions we drew.

Policy Relevance and Adequacy

First, with regard to the issue of whether the measures discussed in our evaluation have policy relevance, FNS states that "Some of the concepts . . . are fundamentally flawed and meaningless. . . . Others . . . serve no clearly identified policy purpose." We believe, on the contrary, that our evaluation focused on the types of information needed to effectively operate and oversee the Food Stamp program.

What information is needed by FNS managers and administrators for setting food stamp policy? First, it is clearly essential to know how many people in the population apply for food stamps. This can be determined by estimating the number of applications. Second, it is clearly essential to know how many of the people who apply are in fact eligible for the program. This information, thus, also has direct policy relevance. Third, administrators need data on the number and characteristics of participants actually in the program. Some of these people turn out to have been eligible and some not. Fourth, after having been in the program for a while, some people leave or are terminated from the program. Finally, it is also essential to know why eligible people do not apply for food stamps, how noneligible people succeed in entering the program, and why people terminate from the program. These are all basic data necessary for understanding the Food Stamp program and for operating and monitoring it.

In addition to needing information on the number of people in each category, FNS and program administrators need a way to compare across states, project areas, or other geographic and political

boundaries to determine which areas are discrepant and which warrant a closer examination. FNS should be able to know which states had the lowest and highest rates of applications by eligible nonparticipants and should make an effort to determine the reasons. Similarly, participation rates should be used to identify states or project areas whose values for these measures are substantially different from the norm or whose values have changed sizably over time. Once these locations are identified, they can be examined in more detail to determine why they differ from the norm or from their usual patterns. The Food Stamp program's purpose is to help the needy. If, for example, some jurisdictions have high application rates but low participation rates with respect to the eligible population, then the program may be failing to meet its objectives in these jurisdictions.

On the same general point, it is important to note that FNS already collects data on applications, participation, and terminations. In fact, in its most recent appropriations process, FNS cited the numbers of participants in the Food Stamp program to justify its budget request. It is true that, as we stipulated in our report, the data do have certain problems associated with them. But the fact is that problematic as they are, FNS continues to collect data on these measures. Indeed, our choice of measures was partly based on the data's evident policy relevance, as shown by FNS' own use of those measures.

Another reason for choosing these measures is, of course, that flawless measures do not currently exist in the Food Stamp program or any other program. This is not unusual in the evaluation of public programs. But the fact that perfect measures of how the program is performing do not exist should lead to the development of improved measures rather than the adoption of a position that more or better information is not needed about the program.

We also note that in its own work, FNS has taken a much more positive view of these measures. In the FNS publication entitled Food Stamp Research: Results from the Income Survey Development Program and the Promise of the Survey on Income and Program Participation (1986), reference is made to two measures of turnover in the Food Stamp program. The publication says,

"The most important of these (two indicators of turnover in program eligibility and participation) were the entry rate and the exit rate. For program participation, these are defined as the proportion of all households who did not receive food

stamps in one month who were receiving food stamps in the next month. and simi-
larly. the proportion of all households who did receive food stamps one month who
were not receiving them in the next month."[1] (Long, Beebout. and Skidmore 1986. p.
25)

Thus, as recently as 1986, an FNS publication has found the termination
rate to be an important measure.

In sum, we have little doubt of the policy relevance of our report.
Although some problems are indeed associated with the data behind the
measures we examined, they are nonetheless essential measures in wide-
spread use among agencies (including FNS) generating information that
is critical for program management and oversight. In response to com-
ments by FNS, we have modified our report to make the policy relevance
of the measures we used more clear.

Second, we believe that FNS has confused the issue of which measures to
use with the issue of which data are available. For example, FNS criti-
cizes the use of applications as a measure because uniform data are not
available across states and cannot be aggregated. We do, of course. agree
that these data are not uniformly available and cannot be aggregated.
This is one of the major messages our report attempts to convey. But
bad data do not make bad measures. The criterion for a valid measure is
whether it represents what it purports to represent. We believe the
measures we have used are valid. The data in support of these meas-
ures, however, are in need of major review and improvement. The good
news is that such review and improvement are well within FNS' power to
accomplish.

Data Analysis

FNS expressed some concern over our approach and data analysis. In this
section, we discuss six substantive issues raised in FNS' response: (1) the
effects of economic versus program changes, (2) our lack of use of cur-
rent population survey data, (3) problems with how the studies we
reviewed estimated eligibility, (4) the use of the max-to-min statistic. (5)
the analysis and discussion of the effect of lack of information on food
stamp nonparticipation, and (6) statistical issues relative to the inter-
pretation of survey results.

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[1] An exit rate is the same as a termination rate.

First, FNS says that we ignored or understated the effects of the economy in our analysis of what caused changes in the measures and attributed all changes to modifications in the Food Stamp program. This is not true. Our report addresses possible economic effects on pages 20 and 36.

In the draft report, we considered two possible explanations for the decline. One explanation is based on changing program regulations. The second explanation attributed the decrease for the economic recovery that began in 1983 and continued through the following years. Both arguments have some merit. During the period of decreasing participation, there have been changes in the program that can be viewed as increasingly restrictive, and an economic recovery has been sustained.

We said above

"True volatility in case activity may be a consequence of factors internal to the program, such as changed legislation or administrative practices, or external factors, such as changes in the local economy." (See page 29.)

Consequently, one would expect a decline in participation following favorable economic conditions. In 1983, certain states saw another rise in participation, possibly because of a downswing in the national economy early in the year, although other reasons may have come into play. Further, although the economic upturn did reduce some economic indicators such as the unemployment rate, conversely there were increases during 1979-83 in the number of unemployed individuals, the number of families in poverty, and other measures that do not directly predict expected changes in the Food Stamp program but should mirror the changes in food stamp participation to some degree. Between 1980 and 1983, the number of people below the poverty level increased from 29.3 million to 35.3 million. In 1984 and 1985, the number was approximately 33.5 million each year. Similarly, the number of unemployed people rose from 6.1 million in 1979 to 10.7 million in 1983, with a drop to about 8.3 million in the subsequent years.

These changes somewhat parallel the movements in food stamp participation but do not match them identically. Therefore, it is not certain that the economic changes caused all the changes in Food Stamp program participation. Rather, the economic changes are one of several possible reasons why changes in program participation could have occurred. Another surely must be changes in the program itself. It is for this very reason that we discussed both economic conditions and

changes in the program regulations and legislation when considering reasons for changes in food stamp participation.

FNS cites a study by Michael and others as evidence that economic, perhaps more than program, changes were responsible for shifts in food stamp use.[2] We reviewed this study during our evaluation work and found it to be interesting but not directly responsive to our questions. Several points about this study, considered together, make its direct use somewhat questionable. The study used regression analysis, including a net flow model with a series of dummy variables. Like other statistical techniques, regression has strengths and weaknesses, as we pointed out in chapter 4, where we discussed other studies that use this technique. Regression does not prove causation but, rather, only shows association (or correlation) between variables. We were very careful in our own analysis to keep this distinction clear.

Also, the model used in the Michael study produced a large unexplained effect on the number of expected participation. In the study's words, "conclusive evidence on the source of this effect is not available from this study" (Michael, Barnes, and Zedlewski 1985, pp. xi). There could be limitless explanations of the large unexplained variation in this model; until they are determined, the results of the study must be used cautiously. However, the Michael study hypothesized two general possible explanations for the variation. One of these, according to the study, is that there may have been some changes in the administration of the program, making it difficult for applications to be processed as easily as they were prior to 1979. Possible explanations for such an administrative change, again according to Michael, could be the volume of inquiries and applications or the difficulty in adjusting procedures to conform with the large number of legislative and regulatory changes since 1979. The point is that these explanations clearly deal with <u>program and behavioral, not economic</u>, effects.

Second, FNS criticized our report for failure to present participation rates estimated from current population survey data. We sought the information from FNS officials but they told us that the estimates were not available in documented form.

Third, FNS is concerned about how the studies we reviewed determined eligibility. We discussed this point directly in the text of our report. We

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[2]The Effects of Legislative Changes in 1981 and 1982 on the Food Stamp Program (Washington, D.C.: Urban Institute, 1985).

stated in chapter 4 that each study attempted to approximate the eligible food stamp population. Two kinds of error can occur in making eligibility determinations for the Food Stamp program. Either a household may be defined as eligible when it is not or a household may be classified as ineligible when the household is in fact eligible. There is no clear evidence as to how precisely each study's approximation coincides with reality; as FNS itself notes in its comments, the difficulty of ascertaining eligibility precisely is so great that a precise correlation probably cannot be made. Each study, however, attempted in various ways to screen the study population to identify "eligible" participation. We discussed the difficulties in estimating participation rates in chapter 2. Given the time and money constraints, we still believe that it is possible to have reasonable and useful estimates of participation rates.

While we recognize the imprecision of not using all available deductions and applying the assets test when attempting to compute the number of eligible households, such an approach may yield some useful estimates. We agree with the point made by FNS that the relevant information, which is collected in one or more waves over the life of an SIPP panel, should be used whenever it is available. We recognize that problems with using state samples of negative cases to adjust SIPP estimates exist. We encourage USDA's use of SIPP information to simulate eligibility. We were not trying to rule out approaches; rather, we were trying to stimulate activity in this area on the part of FNS.

As for FNS' concern regarding the adjustment of eligible counts, we agree that an estimate of the number of ineligible households is useful for adjusting the estimated participation rates. We note that FNS does not find it necessary to adjust counts of participants in its semiannual publication of participation counts entitled Statistical Summary of Project Area Operations Report.

Fourth, regarding FNS' questioning our summary measure of variation—we used the max-to-min ratio. We continue to consider it the most informative statistic. We also computed the standard statistical measure known as the coefficient of variation. The correlation between this and the max-to-min measure was very high (.99 compared to the maximum possible of 1.00) for participation data. We believe that one use of the max-to-min measure is to isolate the states that have markedly higher or lower variation rates for possible follow-up work.

FNS says that our max-to-min ratio ignores the direction and timing of changes and does not distinguish the year of the peak. These points are

correct. The ratio is just one number that can be used to do follow-up work, such as finding the direction of a change. The ratio is intended only to help program managers identify extreme situations and. thereby, to trigger a search for the reasons behind yearly changes. However, all details about the direction and timing of changes as well as peak years can be determined from table 3.2.

Any change in administrative practice or definition of terms that could affect the number of applicants or the number of participants would affect the max-to-min ratio. It does not matter whether the change is at the federal, state, or local project level. We gave examples of just such changes, which we discovered because the max-to-min ratio was large. We have included appendix X to describe the other possible measures we could have chosen, what the potential effects of selecting other measures would have been, and the rationale for selecting the max-to-min measure.

Fifth, we think that FNS has missed one of our major points, which is the effect of the lack of information on the program. The issue of whether people may or may not eventually be ruled ineligible is irrelevant to this particular discussion. What is important is that many potentially eligible people may be failing to participate in the program because of uncertainty, ignorance, or misinformation about the program. FNS criticized us for the manner in which we handled the analysis and discussion of lack of information as a dominant factor determining nonparticipation in the program. We say that lack of information is one of the major factors and that there are numerous reasons for nonparticipation. That is exactly why we present and discuss the wide range of possible reasons for nonparticipation gleaned from various studies using various data collection methods.

Finally, we believe that USDA misunderstands the statistical issues involved in our discussion of the results from the three studies summarized in table 4.1. Our point was that there is reason to believe that the percentage of respondents who chose not to participate in the Food Stamp program, for any given reason, may have been underestimated. The technical description of this condition is that the estimates have a systematic error or are biased. This statistical use of the term "bias" does not carry with it any notion that the data collectors willfully violated any ethical standards as FNS seems to think. In statistical terms, to say that an estimate is biased simply means that the respondents' answers, which make up the estimate, tend to err in one direction more than the other. It is the aim of good data collection to reduce such errors

to a minimum, subject to resource constraints. But some systematic
error will always remain. Our reasons for believing that systematic
error is something to be concerned about in the three studies are (1) the
use of unaided recall in the FS/SSI study, (2) the restriction to a single
response in the nationwide food consumption survey study, (3) biased
coding, and (4) the nonrepresentativeness of the FS/SSI study. We have
altered the text for clarity and to provide evidence.

The underreporting of certain response choices when unaided rather
than aided recall methods are used is a generally accepted principle in
questionnaire design. This principle has both theoretical and empirical
support. It is cited in, among other sources, Elizabeth Martin et al.
(1986) and Seymour Sudman and Norman Bradburn (1974). Similar
results from other fields include those reported in the health care use
studies cited by Sudman and the crime underreporting studies cited by
Biderman (Biderman et al. 1967 and Biderman and Moore 1980). Our
own experience in conducting thousands of surveys over the last 15
years has shown that people remember better when the questions are
structured so as to refresh their memory.

Underreporting is also caused by limiting applicable responses in multi-
ple choice questions. Simply put, if one prevents people from selecting
choices, they will underreport those choices.

Underreporting can also be caused by an implied negative connotation:
wording questions to focus on the respondent, rather than the program,
can cause underreporting. For example, questions implying that the
respondents are not intelligent enough to know how to apply or infer-
ring that they cannot get to the office have different connotations from
questions discussing the complexity of the program rules or the distance
program offices are from main population centers. The former type of
question infers that the respondent is deficient.

Since the respondents from special populations and specific areas may
be different from the target population throughout the nation, the infer-
ence drawn from that population may be nonrepresentative—that is, it
may be biased when generalized to the total target population.

In sum, FNS raised a great many points about our report. While we have
modified our report regarding some points, in most instances FNS either
failed to understand our report or put forward concerns that do not
focus specifically on the issue at hand. We believe that FNS should
acknowledge the importance and policy relevance of the basic measures

discussed in this report—food stamp application, participation, and termination counts and rates—and the reasons why some eligible households do not participate in the program.

Request Letter

U.S. House of Representatives

Committee on Agriculture

Subcommittee on Domestic Marketing,

Consumer Relations, and Nutrition

Room 1301, Longworth House Office Building

Washington, DC 20515

April 30, 1986

Mr. Charles A. Bowsher
Comptroller General of the United States
General Accounting Office
Washington, D.C. 20548

Dear Mr. Bowsher:

The food stamp program is the major food program authorized by
the Congress and designed to permit low income households to
obtain a more nutritious diet by increasing the purchasing power
of eligible households. The eligibility criteria established by
the Congress sets forth the income, assets and other provisions
by which eligibility is determined. All persons meeting that
criteria should be able to participate in the food stamp
program. However, I am aware that there are persons who do meet
this criteria and yet do not participate in the food stamp
program. It is this issue that I am requesting that the General
Accounting Office review, as a follow-up to the work already
accomplished in their review entitled Methodological Review of a
Report by the Physician Task Force on Hunger.

It is likely that the reasons for nonparticipation in the food
stamp program are many and varied, ranging from insufficient
knowledge of the program and its rules to difficulty in
completing the application process. Therefore, I am requesting
that the GAO closely examine the issue of nonparticipation and to
report upon those matters which deter eligible persons from
seeking or obtaining food stamps. This issue has been discussed
with staff members from your Program Evaluation and Methodology
Division, and I would like them to answer the following
questions:
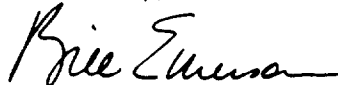
* What does existing research evidence indicate about the
  reasons for non-participation in or withdrawal from the
  food stamp program?

* What are the current inquiry, participation and
  withdrawal rates in the food stamp program and what has
  been the trend in recent years?

* To what extent are there state and local variations in
  these rates?

-2-

* To what extent are there state and local variations in
  the administration of the food stamp program?

* What reasons do eligible persons currently give for
  non-participation in or withdrawal from the food stamp
  program and how do these correspond with existing
  research?

* What are the possible barriers to participation in the
  food stamp program which might be removed without
  altering the basic principles embodied in the authorizing
  legislation?

Thank you for your attention to this matter. I will appreciate
being kept informed of the progress made. With kind regards.

Sincerely,

Bill Emerson
Ranking Minority Member

Modification to Original Congressional Request

The original congressional request sought information about inquiries, which in the Food Stamp program can take a number of different forms. They can range from a phone call from an individual attempting to determine whether he or she is eligible to an individual entering the Food Stamp program office and completing a formal application. FNS does not collect data on inquiries, but in 1981, states began to record the number of applications, and in 1983 states began to report to FNS the number of applications received during the fiscal year. After discussions with the congressional office, we decided to look at applications for expressions of interest in obtaining food stamps. Although this is a narrow definition of inquiries about the program, it yields the most consistent and defensible data across states and across years.

We also looked at terminations rather than the original congressional request of withdrawals. Withdrawals is only one category within the FNS definition of terminations. After discussions with the congressional office, we decided to look at the broader category of terminations.

Changes in the Food Stamp Program Over Time

Comparing and analyzing inquiry, participation, and termination data over time is difficult because the features of the Food Stamp program have changed rapidly in the recent past. Regulation changes cause either some of those currently eligible for food stamps to no longer meet eligibility qualifications or some individuals previously not eligible to become eligible.

A short history of food stamps reveals the volatility of the program over the course of the last few years. In less than one decade, income eligibility criteria, the amount of allowable deductions, purchase requirements, and asset levels have changed. These changes have, of course, immediate effect on program participation.[1] The following lists highlight selected program changes.

Food Stamp Act of 1977
- Purchase requirement eliminated (phased out by January 1979)
- Simplification of deduction determination
- Work registration system established for able-bodied recipients without dependent children
- Categorical eligibility for public assistance recipients eliminated
- Net income eligibility ceiling lowered to poverty level
- Allowable deductions reduced to three
- Asset limit increased to $1,750 for nonelderly households

Food Stamp Act Amendments of 1979
- Deductions for the elderly liberalized
- Fraud provisions tightened

Food Stamp Act Amendments of 1980
- Asset limit lowered to $1,500 for nonelderly households
- Quality-control system tightened
- Deduction updates modified
- Indexing of benefits changed from semiannual to annual

Omnibus Budget Reconciliation Act of 1981
- Initial-month benefits prorated
- Annual indexing changed and delayed
- Consumer price index revised for calculation of allotments
- Gross income eligibility capped at 130 percent of poverty
- Strikers disqualified

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[1] Although we focus attention here on program participation. we expect that applications and term. nations would also be affected by some of the changes in program regulations.

- Retrospective accounting and periodic reporting implemented
- Federal funding for outreach prohibited
- Fraud and misrepresentation measures tightened

Omnibus Budget Reconciliation Act of 1982

- Adjustment of standard deduction and excess shelter deduction delayed
- Civil money penalties for fraud and misrepresentation increased and disqualification periods lengthened

Deficit Reduction Act of 1984

- Comprehensive income and eligibility verification system mandated

Food Security Act of 1985

- Monthly reporting and retrospective budgeting limited to households with earnings or a recent work history
- Asset limit raised from $1,500 to $2,000 for nonelderly households
- Households in which all members receive Aid to Families With Dependent Children, Supplemental Security Income, or other disability payments made categorically eligible for food stamps

Many of the program amendments have had a direct effect on participation because they redefine eligibility. For example, changed formulas for deductions, reduced or increased ceilings on assets, and categorical eligibility of participants in other public assistance programs (Aid to Families With Dependent Children, and Supplemental Security Income) all have an immediate effect. For research efforts designed to assess the degree and causes of nonparticipation in the program, these changes mean that the program, and correspondingly the population, studied is extremely fluid and difficult to compare over time.

FORM APPROVED OMB, NO, 0584-0083

U.S. DEPARTMENT OF AGRICULTURE
FOOD AND NUTRITION SERVICE

PROGRAM AND BUDGET SUMMARY STATEMENT
PART B - PROGRAM ACTIVITY STATEMENT

A. STATE

B. REPORTING PERIOD *(State's FY)*

	Mo.	Yr.	TO	Mo.	Yr.

C. CERTIFICATIONS	(a) APPROVALS		(b) DENIALS		(c) OVERDUES *(State Agency Caused)*	
	NA	PA	NA	PA	NA	PA
1. Initial Applications						
2. Expedited Service Applications						
3. Recertifications						

D. FAIR HEARINGS	(a) HEARINGS REQUESTED	(b) HEARINGS HELD	(c) DECISIONS UPHELD	(d) DECISIONS REVERSED	(e) DECISIONS OVERDUE
1. Activity					

E. FRAUD INVESTIGATIONS	(a) REFERRED FOR INVESTIGATION	INVESTIGATIONS COMPLETED		(d) PROGRAM DOLLARS	(e) INVESTIGATIONS PENDING	(f) INVESTIGATIONS CANCELED
		(b) NEGATIVE	(c) POSITIVE			
1. Pre-Certification						
2. Post-Certification						

F. DISQUALIFICATION HEARINGS AND PROSECUTIONS	(a) CASES (PERSONS) REFERRED	(b) CASES PURSUED	(c) WAIVERS Disqualifica- tion Consent Agreement	(d) UPHELD Convictions	(e) ACTUALLY ACQUITTED	(f) PROGRAM DOLLARS	(g) PENDING DECISIONS	(h) DECISIONS OVERDUE
1. Administrative Disqualification Hearings								
2. Prosecutions								■

DATE	SIGNATURE	TITLE

FORM APPROVED OMB NO. 40-R 5018

U.S. DEPARTMENT OF AGRICULTURE FOOD AND NUTRITION SERVICE **PROGRAM AND BUDGET SUMMARY STATEMENT** **PART B — PROGRAM ACTIVITY STATEMENT**	1. STATE
	2. REPORTING PERIOD TO 19

3. CERTIFICATION

	APPROVALS	DENIALS	TOTAL APPLICATIONS
NON-ASSISTANCE			
PUBLIC ASSISTANCE			
TOTALS			

NUMBER PENDING OVER 30 DAYS AT THE END OF THE PERIOD

4. ISSUANCE

	TRANSACTIONS
MAIL	
CONTRACTED OVER-THE-COUNTER	
OTHER OVER-THE-COUNTER	
TOTAL	

5. PERFORMANCE REPORTING SYSTEM

	REVIEWS
QUALITY CONTROL	
MANAGEMENT EVALUATIONS	

6. FAIR HEARINGS COMPLETED

	DECISION	
	UPHELD	REVERSED
LOCAL		
STATE		
TOTAL		

7. FRAUD CONTROL

FRAUD HEARINGS	UPHELD	DECISION REVERSED	PERSONS DISQUALIFIED
LOCAL			
STATE			
TOTAL			

	COMPLETED	DOLLARS INVOLVED
INVESTIGATIONS COMPLETED		$

	REFERRED	COMPLETED	DOLLARS INVOLVED	PERSONS DISQUALIFIED
PROSECUTIONS			$	

8. SIGNATURE OF AUTHORIZED OFFICIAL	9 NAME AND TITLE	10. DATE

FORM FNS — 366B (1-81)

Attempts at Estimating Termination Counts

In chapter 4, we defined "termination." Despite our attempts in an earlier report and our current efforts to estimate the annual number of terminations for fiscal year 1983-86 with state-reported data, it proved impossible to produce an accurate count of terminations.[1] We attempted two approaches to compiling counts of terminations. The first approach is based on combining information from the FNS quality-control system, which estimates the monthly sum of denials and terminations, and state-supplied annual information from FNS Form 366-B. The second approach estimates terminations solely from the FNS quality-control system.

Approach 1

States do not report monthly terminations as a separate category, but they do report negative cases monthly. Negative cases include both applications denied and terminations; they are reported using state samples from FNS' quality control system. Applications denied are reported by the states annually. To obtain an annual termination figure, the monthly average of negative cases for the reference period of 1 year could be multiplied by 12 and the number of annual denials subtracted from the product—that is, annual number of terminations = [12 months x (denials + terminations)] - annual denials. Data for negative cases are available for fiscal years 1980-86. But because annual counts of denials were available for fiscal years 1983-86 only, we confined our computations to these 4 years. In pursuing this course, however, we discovered that 6 states had missing data for annual denials in 1 or more of these years. Further, we discovered for the computations we could perform that 13 states had negative values, implying that the number of terminations in these states was less than zero. This, of course, was an impossibility. In investigating this phenomenon, we discovered that the universe used by the states to report negative cases was smaller than the universe used to report denials. While the number of denials reported annually from FNS Form 366-B should include all denials, the reported figure for negative cases contains only cases that are subject to review for procedural irregularities. From the figure for negative cases reported, the following types of household are excluded by FNS directions:[2]

- households that have withdrawn an application prior to the agency's determination,

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[1] Food Stamp Program: Trends in Program Applications, Participation, and Denials, GAO/RCED-87-80BR (Washington, D.C.: April 1987).

[2] FNS Handbook 310, Quality Control Review Handbook (Washington, D.C.: U.S. Department of Agriculture, August 1986), pp. 13-1 and 13-2.

- households under investigation for intentional violation of program guidelines,
- households with expired certification periods,
- households sent a notice of pending status that have not actually been denied participation,
- households for which a decision to deny or terminate was made and reversed in time for initial benefits to be issued or for an interruption in participation to be avoided,
- households denied food stamps under a disaster certification,
- households dropped as a result of oversampling,
- households listed in error,
- households terminated for failure to complete a monthly report but reinstated when the completed report was subsequently filed,
- households terminated but continuing to receive benefits for reasons other than appeal, and
- households that experienced an interruption in benefits because of computer malfunction or error.

The number of terminated households excluded from the reported figure is considerable, and the result is such that in 26 percent of the states, the number of denials reported was larger than the sum of denials and terminations imputed from the reported number of negative cases. When denials were subtracted from negative cases to yield the annual count of terminations, the result was a termination count of less than zero for these states. As a result, we could not compute terminations using this method.

Approach 2

Using this approach, we attempted to analyze data from the program's quality-control system in order to avoid the problems of incomparable universes described above. The quality-control system of the Food Stamp program includes a state review of a sample of case files and may include a rereview of a subsample of the same case files by the FNS regional offices.

The states are required to submit information to FNS on their sample of negative cases.[3] This information includes the reason for denial or termination. The possible reasons listed by FNS include

[3]There are two kinds of case files: active (participants) and negative (denials and terminations). In both active and negative case files, the entire pool of potential case files is reduced to an to only cases "subject to review." Samples of negative cases that have been reviewed by the states are to be rereviewed by the regional offices when and if the states are eligible for enhanced funding they meet certain criteria for overissuances on the active case file.

- resident of institution unauthorized by FNS,
- outside the project area,
- refusal to cooperate,
- ineligible alien,
- ineligible student,
- exceeds resource standards (assets),
- missed two scheduled interviews without good cause,
- failed to provide verification,
- failure to comply without good cause with work registration and job search and voluntary quitting requirements,
- net monthly income exceeds maximum allowance,
- ineligible boarder,
- transfer of resources,
- intentional program violation,
- state agency caused delays,
- voluntary withdrawal after certification,
- termination or denial because of public assistance termination or denial,
- refusal to supply Social Security number,
- gross monthly income exceeds maximum allowances,
- ineligible striker,
- failure to submit or complete monthly report, and
- other.

Using the state-reported data, it is possible, in principle, to sum the numbers across various reasons for terminations to obtain a total number of terminations. However, it is unclear whether these data on reasons for denial or terminations can be used directly. A concern is raised by our recent reports that indicate a much higher rate of procedural error than state-reported error rates for improper denials and terminations. In recent years, the average improper denial and termination rate as reported by states has been around 3 percent. In Illinois, for example, we found an improper denial and termination rate of 22.5 percent.[1] A substantial proportion of negative cases may not have been correctly denied or terminated.[5] Given that the percentage of denials and terminations of the state sample of reported negative cases may be in considerable error and that state and caseworker variability may lead to

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[1]Food Stamp Program: Evaluation of Improper Denial and Termination Error Rates, GAO/RCED-88-12 (Washington, D.C.: October 1987).

[5]This means not that the households would ultimately have received food stamps but, rather, that the procedure used to terminate the household or deny the application was improper. Upon subsequent review, the household may or may not have been eligible.

inconsistent results, we chose not to estimate terminations based on state samples of negative cases.

Because there are no accurate measures, either direct or indirect, available for estimating annual or monthly terminations from the Food Stamp program, we could not answer the part of the evaluation question dealing with numbers of terminations.

General Methodological Issues

We considered the extent to which each study addressed methodological concerns associated with empirical analyses in general. The criteria we used to assess the quality of the studies included in the synthesis are listed below. The issues listed below were considered in our summary and evaluation of findings. When we found inconsistent results across studies, they could generally be explained by differences in determining eligibility, variations in the time of participation, sampling limitations, or coding peculiarities. In our evaluation of the studies included in the synthesis, we considered all the issues, but we did not attempt to rank studies for quality, weight different findings, or cumulate results.

Design Issues

- Was the population of interest clearly defined (for example, eligible households)?
- Was the sample size adequate for purpose of study?
- Were the procedures used to draw the sample adequate?

Measurement Issues

- Was the unit of analysis appropriate for answering questions about program participation?
- Were plausible responses (for example, reasons for nonparticipation) included in the data collection instrument, or was it open-ended?
- Were other relevant variables (such as sociodemographic factors) included in the data collection instrument?
- Were any coding peculiarities present that could offset results?

Data Collection Issues

- Was the data collection instrument constructed in such a way as to avoid bias in the answers?
- Were data collection instruments adequately pretested?
- Were data collectors adequately trained?
- Was nonresponse bias tested and adequately resolved?
- Were reliability issues tested and adequately resolved?

Analysis Issues

- Were the estimation procedures adequate for descriptive statistics?
- Were the estimation procedures adequate for analytical statistics?
- Were interaction terms for complex models tested?
- Were missing data potentially problematic to results? Was the percentage of missing data on key variables presented?
- Were sampling errors calculated appropriately?
- Was the predictive strength of the analysis presented?
- Was a sufficient number of cases used in subanalyses?

- Were other statistical techniques used to corroborate results?

Reporting Issues

- Was the definition of the unit of analysis (that is, household) presented?
- Were the conclusions appropriate, given the results and possible limitations?
- Were the limitations of the study included?
- Was crossvalidation of results presented?
- Was the issue of validity presented?

Criteria Used to Screen Studies

To determine what is currently known about reasons for nonparticipation in the Food Stamp program, we synthesized the results of available studies. This approach had three components:

1. identification and critique of all relevant unpublished and published studies,

2. selection of the soundest studies for more detailed review and analysis of results, and

3. integration of results from selected studies and discussion of what is known, unclear, or unknown about the reasons for nonparticipation in the Food Stamp program.

We examined only studies based on data collected after 1978 because the elimination of the purchase requirement in January 1979 constituted a major program change. Prior to that date, households eligible for food stamps were required to buy their monthly allotment with cash. Qualifying households received coupons with a value greater than their cash payment. The difference between the cash outlay and the coupon value represented the "bonus" value of the stamps. Because the change represented a basic program change, reasons for nonparticipation were likely to have been quite different before and after 1978.

In order to identify relevant research and ensure that we had identified the universe of relevant studies, we took four steps. First, we conducted computerized bibliographic searches for all published and unpublished material analyzing food assistance programs in the United States.[1] This yielded over 300 studies. Second, from these studies, we selected only those that focused, directly or indirectly, on reasons for nonparticipation and were based on probability samples of households.[2]

Third, the resulting list of 36 references was sent to approximately 30 researchers and practitioners with expertise in Food Stamp program analysis. They reviewed the list for completeness and we added the two

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[1] The following data bases were searched for keywords, including reasons for nonparticipation, participation, and the Food Stamp program: AGRICOLA, SOCIAL SCISEARCH, AGRIBUSINESS, FAIS ASI, SOCIOLOGICAL ABSTRACTS, PSYCHINFO, ABI/INFORM, ERIC, ECONOMIC LITERATURE INDEX, and NTIS.

[2] Only probability samples were included because they limit the possible effects of bias more effectively than judgmental samples.

additional references they suggested. Fourth, nine studies were identified that met our screening criteria of probability samples that estimated eligibility and measured participation. All studies focused on the household as a unit of analysis, although some also estimated individual participation rates.

Because certain methodological problems are always of concern in this type of analysis, the nine studies that passed the screening were subsequently reviewed to assess the way in which three types of problems were handled. The in-depth review focused on how (1) eligibility was determined, (2) variations in participation over time were dealt with, and (3) methodological issues problematic to empirical studies in general (for example, sampling techniques) were handled. We did not attempt to aggregate results across studies.

First, we examined the manner in which each study determined household eligibility. Before any analysis of reasons for nonparticipation can be done, it is necessary to identify the population actually eligible to participate in the program that does not do so: those households that although program benefits are available to them, either are not able to get them or choose not to receive them. We analyzed the way in which each study identified nonparticipating households, because the inclusion of substantial numbers of ineligible households could make study results invalid.

Two kinds of error can occur in making eligibility determinations for the Food Stamp program. First, a household may be defined as eligible when it is not. Second, a household may be classified as ineligible when, in fact, the household is eligible.

Food Stamp eligibility, in particular, is difficult to measure accurately because eligibility is based on monthly criteria. Ideally, eligibility determinations should be based on monthly income and expenditure data used to calculate deductions for earned income and medical, excess shelter, and dependent and child care expenses. Studies that measure eligibility according to annual income levels may suffer in quality because an annual measure of income is valid only if the household had a consistent income throughout the year or no income at all.[3] For elderly households, many of which live on fixed incomes, an annual measure might

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[3]Data collected in 1979, for example, showed that (1) 7.3 percent of the case load in an average month does not participate in the following month, (2) the case load participating in a given year is 174 percent of the caseload in an average month, and (3) the average length of stay in the program is 7 months.

suffice. But nonelderly poor or near-poor households may have highly variable income streams throughout a year and, for them, an annual measure should not be used, as program caseworkers use monthly criteria in making actual eligibility decisions.

For all households, the requisite assets test must be applied, but assets are difficult to quantify and may not even be captured in surveys. In fact, the asset ceiling for the Food Stamp program has been raised, lowered, and raised again since 1979 and varies according to whether an elderly person resides in the household. As a result, accurate determinations of those eligible for food stamps are difficult to make.

We examined the questionnaires used in each study to determine precisely how eligible households were identified. Only in one study (Blanchard et al. 1982) did the screening questions replicate exactly how eligibility is determined by caseworkers in the Food Stamp program itself. In other studies, for example, allowable deductions for medical care were not calculated. For all nine studies selected for reporting, however, the measures of eligibility were deemed adequate.

Summary of Questions Used to Ask Reasons for Nonparticipation

Three studies asked respondents directly the question regarding why respondents did not participate in the Food Stamp program. These three studies include a panel study of income dynamics, a nationwide food consumption study and a food stamp demonstration project (FS/SSI). For each study, we list the questions asked and the categories used in tabulating reasons for nonparticipation.

Panel Study of Income Dynamics

- Did you think you were eligible for food stamps at any time in 1979?

  If the response was "yes" or "maybe," the following questions were asked:

- Did you try to get the stamps last year (in 1979)?
- Why couldn't you get them? Any other reason why?
- Can you tell me why you didn't try? Any other reason why?

  Responses to this question included

- bonus value problem ("Wasn't worth it for the return"),
- administrative hassle ("Had to wait in line too long," "Went once. didn't have proper documents, didn't go back"),
- physical access problems ("Couldn't get to the food stamp center." "No transportation," "Inconvenient hours"),
- didn't know how to go about it,
- didn't need them ("As long as I can get along without them, I will." "Other people need them worse"),
- personal attitude ("Too embarrassed to use them," "Don't like welfare," "They embarrassed me, so I didn't go back"),
- just never bothered or never thought about it.

  If the response to the question of eligibility was "no" or "don't know," the following question was asked:

- Can you tell me why you thought you weren't eligible? Any other reason?

  Responses to this question included

- told ineligible by welfare officials (income or assets too high. didn't fulfill some other requirement, such as work registration),
- personal belief that income or assets too high,
- didn't need them,

- personal attitudes,
- specific belief that <u>program</u> requirements other than income, assets, or work not met,
- employed or not employed,
- don't know anything about the requirements for eligibility, and
- other.

Cited reasons for nonparticipation derived from all questions included the following categories:

- did not know anything about eligibility or how to apply,
- thought income or assets too high,
- thought ineligible for some other reason,
- told by welfare officials ineligible,
- administrative hassle,
- bonus value too low,
- physical access problems,
- did not need them,
- personal attitude, and
- other, don't know.

Nationwide Food Consumption Survey	What is the main reason this household is not receiving or purchasing food stamps now? Respondents were shown a card listing eight choices and asked to select only one:

- not eligible; income too high;
- did not know about the Food Stamp program;
- applied but application was turned down;
- stamps would cost too much;
- just don't like the idea of a government Food Stamp program;
- too much trouble or the store I prefer to shop at doesn't accept food stamps;
- someone else needs it more than I do;
- some other reason; please explain.

Food Stamps and Supplemental Security Income	• Why haven't you (and members of your household) ever applied for food stamps? Respondents' answers were categorized by the interviewer according to the following possible reasons:

- Don't think I'm eligible,
- Don't need benefits,
- The benefits don't seem worth the trouble,
- Would be embarrassed if other people knew I received them,
- Couldn't get to the office,
- Don't know how to apply,
- Too proud to apply,
- Stamps cost too much,
- Never thought about it,
- Some other reasons (specify).

Characteristics of Households

We examined nine studies that sought to determine the degree of statistical association between participation (or nonparticipation) in the Food Stamp program and certain household characteristics. The main results from these studies are summarized in chapter 4. In this appendix, we present more detailed results of the studies.

Knowledge of nonparticipants' characteristics may have value in three ways. First, knowledge of household characteristics may help validate the studies that directly ask reasons why individuals do not participate in the program. Second, knowledge of the household characteristics associated with nonparticipation may help researchers formulate questions more precisely for further questioning of specific sample populations. Finally, when understanding of the reasons for nonparticipation is limited, knowledge of household characteristics may by itself suggest action by policymakers. For example, research indicates that participation declines as the age of the household head increases. This information may warrant increased attention to elderly households even if the exact reason for their lack of participation is unknown.

The nine studies we review here are those described briefly in table 2.2. Although we sought information about nonparticipation in the Food Stamp program, research available typically refers to the likelihood of participation (rather than nonparticipation) as it relates to selected household characteristics. To simplify the presentation of results, we have adopted the terminology of program participation. This has no statistical implications.

Although the definitions of household characteristics varied among studies, the following descriptions generally apply. More precise definitions are provided in tables IX.1 through IX.19 at the end of this appendix.

- Age, age of household head.
- Education, highest grade level completed by household head.
- Ethnicity, head of household is of Hispanic origin or not.
- Marital status, head of household is single or married.
- Location, geographical location of household; including state, region, urban or rural.
- Household size, number of persons in household.
- Race, race of head of household.
- Sex, sex of head of household.
- Employment, employment status of head of household.
- Food expenditure, monthly food expenditures of the household.

- Income, monthly income of the household from all sources.
- Public assistance, enrollment of household in public assistance programs other than food stamps.
- Value of food stamps, the dollar amount of food stamp benefits to which the household is entitled.
- Attitude, perception of head of household whether there is a negative stigma in receiving food stamps.
- Information, whether or not the household has information about the Food Stamp program.
- Transportation, the household's access to transportation.
- Other. Three other characteristics were analyzed in only a few studies and grouped together for ease of reading. Further, while these characteristics are grouped into general categories, the studies use different measures to represent these characteristics. The three characteristics which are not intrinsically related to one another are (1) socioeconomic status (tenancy, expectation of poverty, contextual poverty, length of time between pay checks), (2) mobility ("gets out" once a week, head of household disabled), and (3) nutrition and health of the household (access to sufficient food, special diet, good health, access to unpurchased food). These three characteristics appear under the column labeled "other."

Reading the Tables

The results for each household characteristic (variable) are presented in separate tables IX.1 to IX.19. Each row of a table corresponds to one of the nine studies or to a "substudy." When a given study analyzed data in several relevant ways, we reported the results at the substudy level. Each table contains the columns described and defined below.

- Author, last name of the primary author.
- Analysis, type of statistical analysis performed, whether probit, logit, or ordinary least squares analyses, which consider the association of several characteristics simultaneously, or unadjusted correlations, which consider only the direct relationship between Food Stamp participation and one other characteristic.[1]
- Group, type of population sampled—for example, over 55 years of age or rural residents. If blank, the data are not stratified by any group (for example, rural versus urban residents).

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[1]Probit, logit, and ordinary least squares analyses estimate the degree of association between a primary characteristic and participation after adjusting for the effects of secondary characteristics. The underlying mathematical models differ to some degree. In general, the different models produce similar results, but it is possible that results from one type of analysis may differ from the other types of analyses.

- Primary characteristic, household characteristic examined for an association with Food Stamp participation. For example, households might have been examined to see if the employment status of the head of the household was systematically related to program participation.
- Statistical significance, whether the relationship between the primary characteristic and participation is statistically significant. We include not the arithmetic value of the relationship but only whether the relationship is statistically significant.[2]
- Characteristic measure, the unit of measurement for the primary characteristic.
- Secondary characteristics, the presence of other characteristics that are included in the study and might affect the estimated relationship between the related characteristic and Food Stamp participation are denoted by bullets in the table. If a study included education as a secondary characteristic, then a bullet would appear under the column for education. The presence of secondary characteristics is important when comparing results across studies. For example, older people may tend to use food stamps less than younger people, because of a secondary characteristic: the relative lack of mobility among the elderly.

Interpreting the Tables

The tables are a visual summary of the direction and type of relationship between household characteristics and participation in the Food Stamp program. Although none of the household characteristics summarized here constitutes a direct reason for nonparticipation, the association of some characteristics with nonparticipation is easier to understand than others. Typically, socioeconomic factors can be interpreted in a straightforward fashion. Characteristics such as household income, food stamp value, and enrollment in other means-tested public assistance programs tell us directly about the costs and benefits of program participation for individual households. Social-psychological characteristics also seem logically related to program participation. For example, assuming that surveyed individuals honestly report their attitude toward public assistance or access to information about the program, the logic of the relationship is fairly easy to understand.

The expected relationships between sociodemographic characteristics and program participation tend to be more oblique; that is, the theory or logic of the relationship is not as evident. For example, education might be hypothesized to be positively related to participation, as those heads

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[2] As noted in chapter 4, the tests applied to determine statistical significance may be considered approximate.

of household with higher levels of education could be expected to cope more efficiently with the application and recertification processes required to enter the program and remain enrolled. The higher the education level, the greater the chance of Food Stamp participation. However, higher levels of education tend to be associated with higher incomes, more consistent employment, and shorter periods of unemployment, all implying lesser degrees of need. The higher the education level, the less likely that the household participates in the Food Stamp program. For most sociodemographic characteristics, there is not a strong argument to logically connect the characteristics intuitively to program participation. When statistical tests are performed and the results analyzed as reported in the nine studies, however, there are patterns of relationship indicating that participation may be consistently and uniformly related to some of these characteristics.

Age

Table IX.1 presents the summarized findings of the eight studies we evaluated that analyzed the relationship between age and nonparticipation in the Food Stamp program and shows that all eight studies found the relationship statistically significant.[3] Significance levels varied from .10 to .01, and the direction of relationship was uniformly negative.[4] That is, as the age of the household head increases, or the number of people aged 65 or older in the household increases, the likelihood of the household participating in the Food Stamp program decreases. These findings indicate that age is consistently related to participation among potentially eligible households, but they do not tell us the precise economic, social, or psychological characteristics of advancing age that deter participation. They do, however, help identify eligible households more likely to need food stamps but, for one reason or another, not receiving them.

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[3]Tests for significance levels indicate the probability that the observed association is generalizable and not peculiar to a particular sample. A significance level of .10, for example, means that in only 10 samples of every 100 drawn from the same population, the observed association could occur by chance. A significance level of .05 means that in only 5 samples of every 100 the observed association could occur by chance, and so on. Conventionally, a significance level of .05 is accepted as indicating a true relationship not attributable to chance.

[4]In one sub-study (Akin 1985), the relationship was found to be nonsignificant when contrasting the participation status of households in the 65-74 age category with households in the oldest age category.

The estimated relationship between age and program participation may be affected by the secondary characteristics. It is important to note the possible effect of the secondary characteristics. If, for example, age is found to be significantly related to participation in an analysis that incorporates secondary characteristics that may also be related to age, then we can assume that the identified statistical association is truly related to age and is not an artifact of that particular secondary characteristic. If the secondary characteristic is not included in the analysis, we cannot be as confident that the observed relationship between age and program participation has been fully explained.

In analyzing the relationship between participation and age, five studies (Akin 1985, Blanchard 1982, Coe 1983, Czajka 1981, and Lane 1983) also took account of the effects of education, household size, sex, and income.[5] Intuitively, these secondary characteristics may be associated with age. For example, mean educational levels are typically lower for the elderly, particularly the elderly poor, than for younger age groups. And, in general, household size tends to decrease with advancing age, as older people are more likely to be widowed and grown children are likely to have left home. Sex is also associated with age because male mortality rates are higher than female rates consequently, the elderly population tends to be predominantly female. Income, too, may be related to age, as many elderly people are retired, living on fixed incomes that are typically lower than wages and salaries they earned while employed.

In four studies (Akin 1985, Blanchard 1982, Coe 1983, Czajka 1981) marital status was also included in the analyses; its possible association with income (particularly for women) and household size and its corresponding indirect relationship to age and nonparticipation are worth noting.

Other secondary characteristics possibly associated with both age and program participation and included in selected analyses are also identified in table IX.1. Attitude, for example, was included in two studies (Blanchard 1982 and Kim 1983), as the elderly are thought to be more likely to feel stigmatized by participation in public welfare programs. Whether the household had information about the program was also

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[5]In Coe's study of food stamp participation, he used data from PSID. From the PSID sample, he excluded households not resident in the contiguous United States, households that had changed in composition over the reference period, households that included a member other that husband or wife with an income in excess of $3,000, and households with expenditures of less than $100 for food eaten at home.

Table IX.1: Association of Participation With Age

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	74+ and 55-64	+ *	55-64 (yes. no)
	Probit	Urban	74+ and 55-64	+ *	55-64 (yes. no)
	Probit	Rural	74+ and 65-74	NS	65-74 (yes. no)
	Probit	Urban	74+ and 65-74	NS	65-74 (yes. no)
Bick (1981)	Unadjusted		60+	– **	
Blanchard et al. (1982)[i]	Probit		65-69 and 70-74	– ***	70-74 (yes. no)
	Probit		65-69 and 74+	– ***	74+ (yes. no)
Burt, Johnson, and Morgan (1984)[g]					
Coe (1983)	Regression		3-way variable		Combined variable for age. sex. marital status
Czajka (1981)	Regression		70+ and <20	NS	< 20 years (yes. no)
	Regression		70+ and 20-29	+ ***	20-29 years (yes. no)
	Regression		70+ and 30-39	+ *	30-39 years (yes. no)
	Regression		70+ and 40-49	+ ***	40-49 years (yes. no)
	Regression		70+ and 50-59	NS	50-59 years (yes. no)
Kim (1983)	Probit		Continuous	– ***	
Lane, Kushman, and Ranney (1983)	Probit		Continuous	– *	Number 65+ in the household
Phillips (1982)[n]	Logit		Continuous	– ***	

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
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included in two studies (Lane 1983 and Kim 1983). It, too, may be associated with age because the elderly may tend to be more isolated from both formal and informal sources of information about public assistance. A secondary characteristic representing ease of access to the program through a measure of transportation was included in two studies (Coe 1983 and Blanchard 1982); lack of mobility in general and transportation in particular are thought to be associated with advancing age but may independently affect participation.

Education

Educational levels were included in eight studies (Akin 1985, Bick 1981, Blanchard 1982, Coe 1983, Czajka 1981, Kim 1983, Phillips 1982, and Lane 1983). In general, it appears that as education levels go up, participation in the Food Stamp program goes down, although the results of all studies are not in complete agreement. In four studies (Blanchard 1982, Coe 1983, Czajka 1981, and Phillips 1982), a negative relationship between education and participation was found for the population as a whole. In one other study (Akin 1985), a negative relationship between education and program participation existed only for one group analyzed: those located in urban areas. No relationship between education and participation was found for residents of rural areas. In another study (Lane 1983), however, a positive association was detected: that is, as the educational achievements of the head of the household increased, so did Food Stamp program participation. The findings of this study may, however, be a function of the unique way the variable was coded.[6] The reported relationships between education and program participation are summarized in table IX.2.

[6]The comparison category in the coding scheme was an intermediate educational level rather than a lower or upper extreme. The participation status of respondents with a high school education was compared to that of respondents with less than high school and that of those with more than high school. This type of coding would not yield as clear a picture as continuous values or contrasts between upper and lower categories and might obscure differences in participation behavior or reverse the effects.

As with age, education may be related to secondary characteristics such as employment, income, attitude toward public assistance programs, and participation in public assistance programs other than the Food Stamp program. When assessing the possible relationship between education and participation in the Food Stamp program, it is, therefore, helpful to account for these characteristics in the analyses.

A measure of income was included in six analyses (Akin 1985, Blanchard 1982, Coe 1983, Czajka 1981, Phillips 1982, and Lane 1983); in four studies, an indicator of receipt of other types of public assistance as well as employment were included (Akin 1985, Coe 1983, Czajka 1981, and Lane, 1983). Attitude toward public assistance figured in only one analysis (Blanchard, 1982); receipt of information was also included in one analysis (Lane 1983). The use of varying types of secondary characteristics in the analyses helps explain the lack of complete agreement in the findings across studies.

Table IX.2: Association of Participation With Education

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Continuous	NS	
		Urban	Continuous	— *	
Bick (1981)	Unadjusted		Interval categories	NS	Less than complete grammar school, some high school, finished high school, post-high school
Blanchard et al. (1982)[f]	Probit		< 8 years, 8-11 years, 12+ years	— ***	12+ years (yes, no)
Burt, Johnson, and Morgan (1984)[g]					
Coe (1983)	Regression		Continuous	— ***	
Czajka (1981)	Regression		< 6 years and 6-8	— ***	6-8 years of education (yes, no)
	Regression		< 6 years and 9-11	— ***	9-11 years of education (yes, no)
	Regression		< 6 years and 12	— ***	Grade 12 completed (yes, no)
	Regression		< 6 years and 1-3 of college	— ***	1-3 years of college (yes, no)
	Regression		< 6 years and 4+ years of college	— ***	4+ years of college (yes, no)
Kim (1983)	Unadjusted		High school and less	S	Less than high school education (yes, no)
	Unadjusted		High school and more	*	More than high school education (yes, no)
Lane, Kushman, and Ranney (1983)	Probit		High school and less	NS	Less than high school education (yes, no)
			High school and more	S	More than high school education (yes, no)
Phillips (1982)[h]	Logit		Continuous	— **	

	Secondary characteristics[d]															
AG	**ED**	**ET**	**MS**	**LC**	**HS**	**RC**	**SX**	**EM**	**FX**	**IN**	**PA**	**VS**	**AT**	**IF**	**TR**	**OT**
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[a]Probit = probit regression; unadjusted = bivariate correlation; regression = ordinary least squares regression; logit = logistic regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; *** = statistically significant at .01 level; NS = not statistically significant; S = statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Included 55+ years.

[f]Included 65+ years.

[g]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[h]Significance levels were not systematically reported.

Table IX.3: Association of Participation With Ethnicity

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)					
Bick (1981)					
Blanchard et al. (1982)[e]	Probit		All other and Hispanic	NS	Hispanic household head (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		All other and "Spanish"	NS	"Spanish" household head (yes, no)
Coe (1983)[f]					
Czajka (1981)[f]					
Kim (1983)[f]					
Lane, Kushman, and Ranney (1983)	Probit		All other and Mexican American	+ **	Mexican American
Phillips (1982)[f]					

Ethnicity

Ethnicity was included in three studies and contrasts the participation behavior of Hispanic households with all other households (table IX.3). In most cases, there appeared to be no relationship between Hispanic ethnic origin and participation in the Food Stamp program. However, in one study (Lane 1983), Hispanic ethnic origin was statistically significant, perhaps because one of the four states in the sample was California, where, because of its size, the Hispanic population may have better information and more access to public assistance than in the nation as a whole.

Ethnicity may be indirectly related to program participation because Hispanic households have a higher poverty rate (25.5 percent) than non-Hispanic households (9.1 percent) and may, therefore, be more in need of food stamps. To assess the independent effects of ethnicity, therefore, income would also have to be included in the analysis model. All studies we reviewed also included a measure of income.

Secondary characteristics[d]																
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•	•			•		•	•		•	•
			•	•	•	•	•			•	•	•				
•	•			•	•	•	•	•		•	•	•		•		•

[a]Probit = probit regression; logit = logistic regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]•• = statistically significant at .05 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size). RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Included 65+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

•

Marital Status

Five of the studies reviewed included an indicator of marital status in their models (table IX.4). The relationship between marital status and program participation did not demonstrate a consistent trend. A statistically significant relationship showing program participation higher for married couples than for single individuals was found in one study (Burt 1984). However, the exact opposite was found for urban groups in another analysis (Akin 1985), while in still another (Blanchard 1982), there was no statistically significant relationship between marital status and Food Stamp program participation.

Additionally, in two analyses (Akin 1985 and Blanchard 1982) focusing solely on the elderly population, the participation behavior of persons living alone was compared with that of other households. We used this characteristic—living alone or not—as a rough approximation of marital status, indicating loss of a spouse by death, divorce, or separation. In a different analysis (Coe 1983), marital status was combined with the age and sex of the household head in a three-way secondary characteristic. It is therefore not possible to separate the effects of these characteristics.

In one study (Czajka 1981), the combined effects of marital status and age were analyzed. Findings suggest that while no statistically significant differences exist between the participation patterns of households headed by single women and those headed by married couples, households headed by single men are significantly less likely to participate in the Food Stamp program than those headed by married couples.

Marital status tends to be related to income and may therefore be indicative of poverty and program participation. Here, too, income would have to be included in the analysis to determine the relationship between marital status and program participation.

The relationship between marital status and program participation might also be influenced by secondary characteristics—for example, single women with dependent children may be categorically eligible for Aid to Families With Dependent Children, a circumstance that may connect them with the welfare system and information about the Food Stamp program. Consequently, receipt of other types of public assistance should so be considered. Additionally, the variable may indicate some measure of information, as older people living alone may be socially isolated and lack information about the program.

Table IX.4: Association of Participation With Marital Status

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	All other and lives alone	NS	Single-person household (yes, no)
	Probit	Urban	All other and lives alone	− ***	Single-person household (yes, no)
Bick (1981)[f]					
Blanchard et al. (1982)[g]	Probit		All other and lives alone	NS	Household size > 1 (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		Married couple with male head	+ **	Male head (yes, no)
	Logit		Married couple with female head	+ **	Female head (yes, no)
Coe (1983)	Regression		3-way variable: age, sex, marital status		Households headed by an unmarried elderly person or unmarried male of any age were less likely to participate than households headed by young married couples
Czajka (1981)	Regression		Married couple and single females	+ **	Single female household head (yes, no)
	Regression		Married couple and single males	−	Single male household head (yes, no)
Kim (1983)[f]					
Lane, Kushman, and Ranney (1983)[f]					
Phillips (1982)[f]					

Location

In summarizing the relationship between location and program participation, the studies used a variety of measures for location (table IX.5). Measures to identify residence in particular areas of the country, either regions or states, were included in four studies (Akin 1985, Burt 1984, Kim 1983, and Lane 1983). Akin sampled rural and urban groups separately and used the results as a measure of location. In Kim's study, an index using urban residence and residence within different states was constructed, whereas in Lane's analysis the participation status of households resident in metropolitan counties was compared with participation of households in nonmetropolitan counties. In two other studies (Blanchard 1982 and Coe 1983), a measure of rural and urban residence was included.

| | | | | | | Secondary characteristics[d] | | | | | | | | | | |
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•			•	•	•	•	•		•	•				•	
•	•			•	•	•	•	•		•	•				•	
•	•	•		•	•	•	•			•		•	•	•	•	
		•		•	•	•	•			•	•	•			•	
		•		•	•	•	•			•	•	•			•	
		•		•	•	•	•			•	•	•			•	
•	•			•	•	•	•	•	•	•	•	•			•	•
•	•		•		•	•	•	•		•	•	•				•

[a]Probit = probit regression; regression = ordinary least squares regression; logit = logistic regression

[b]When the study did not stratify the analysis, this column is blank.

[c]** = statistically significant at .05 level; *** = statistically significant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance) VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Included 65+ years.

Table IX.5: Association of Participation With Location

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Central and Northeast	NS	Northeast (yes, no)
	Probit	Urban	Central and Northeast	NS	Northeast (yes, no)
	Probit	Rural	Central and South	NS	South (yes, no)
	Probit	Urban	Central and South	− *	South (yes, no)
	Probit	Rural	Central and West	NS	West (yes, no)
Bick (1981)[f]	Probit	Urban	Central and West	− **	West (yes, no)
Blanchard et al. (1982)[g]	Probit		Urban and rural	NS	"Rural location" (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		Northeast and North Central	NS	North Central (yes, no)
	Logit		Northeast and South	S	South (yes, no)
	Logit		Northeast and West	S	West (yes, no)
Coe (1983)	Regression		500,000 and 100,000-499,999	NS	Largest city in county 100,000-499,999 (yes, no)
	Regression		500,000 and 25,000-99,999	NS	Largest city in county 25,000-99,999 (yes, no)
	Regression		500,000 and < 25,000	− ***	Largest city in county < 25,000 (yes, no)
Czajka (1981)[f]					
Kim (1983)	Probit		Urban Virgina and urban California	+ *	Urban California (yes, no)
	Probit		Urban Virginia and Ohio	+ *	Urban Ohio (yes, no)
	Probit		Urban Virginia and Indiana	+ *	Urban Indiana (yes, no)
	Unadjusted		Virginia and California	NS	California
	Unadjusted		Virginia and Ohio	**	Ohio
	Unadjusted		Virginia and Indiana	NS	Indiana
Lane, Kushman, and Ranney (1983)	Probit		California and Ohio	+ ***	Ohio (yes, no)
	Probit		California and Virginia	NS	Virginia (yes, no)
	Probit		California and Indiana	NS	Indiana (yes, no)
	Probit		Metropolitan and nonmetropolitan	NS	Metropolitan (yes, no)
Phillips (1982)[f]					

[a]Probit = probit regression; logit = logistic regression; regression = ordinary least squares regression; unadjusted = bivariate correlation.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; *** = statistically significant at .01 level; NS = not statistically significant; S = statistically significant.

	Secondary characteristics[d]															
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•		•	•	•	•		•	•					•
•	•		•		•	•	•	•		•	•					•
•	•		•		•	•	•	•		•	•					•
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•	•	•			•	•	•	•		•	•	•			•	•

[d] AG (age), ED (education). ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race). SX (sex). EM (employment). FX (food expenditure), IN (income). PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation). OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e] Included 55+ years.

[f] Did not consider a primary characteristic in the analysis; all cells are therefore blank

[g] Included 65+ years.

Table IX.6: Association of Participation With Household Size

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Lives alone and all other	NS	Single-person household (yes, no)
	Probit	Urban	Lives alone and all other	− **	Single-person household (yes, no)
	Probit	Rural	Continuous	+ *	
	Probit	Urban	Continuous	NS	Household size
Bick (1981)	Unadjusted		Continuous	NS + ***	Household size
	Unadjusted		Continuous		Number of children
Blanchard et al. (1982)[f]	Probit		Lives alone and all other	NS	Household size 1 (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		Continuous	− **	Negative sign may be artifact of coding errors of nonparticipant households
Coe (1983)	Regression		Continuous	+ **	Number of children up to 17
Czajka (1981)	Regression		None or one	NS	1 child (yes, no)
	Regression		None or two	+ **	2 children (yes, no)
	Regression		None or three	+ **	3 children (Yes,No)
	Regression		None or four	+ ***	4 children (yes, no)
	Regression		None or five	+ **	5 children (yes, no)
	Regression		None or six +	+ ***	6+ children (yes, no)
Kim (1983)	Unadjusted		Continuous	+ **	
Lane, Kushman, and Ranney (1983)	Probit		Continuous	+***	Number of adult equivalents
Phillips (1982)[g]	Logit		Continuous	NS	Number of persons in household

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•		•	•	•		•	•					•
•	•		•	•		•	•	•		•	•					•
•	•		•	•		•	•	•		•	•					•
•	•		•	•		•	•	•		•	•					•
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•	•				•					•		•				•

[a]Probit = probit regression; unadjusted = bivariate correlation; logit = logistic regression, regression = ordinary least squares regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level, *** = statistically signifi- cant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance) VS value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Included 55+ years.

[f]Included 65+ years.

[g]Significance levels were not systematically reported.

Findings in one study (Akin 1985) indicate that households in the urban South and urban West tend to participate in the program less than urban households in the central region of the country. Another study (Burt 1984) finds that northeastern households are more likely than southern, and western households to participate in the program. Although no significant difference between the participation behavior of rural versus urban (elderly) households was found in one analysis (Blanchard 1982), another study (Coe 1983) showed rural residents participating in the Food Stamp program less than their urban counterparts. This apparent disparity may be explained by difference in regression techniques, differences in populations sampled, or coding differences.

According to one study (Kim 1983), potentially eligible urban California, Indiana, and Ohio households are all more likely to participate than urban Virginia households. Another study (Lane 1983) indicates that Ohio households are more likely to participate than California households.

Household Size

The size of the household was analyzed for its effects on participation in all the studies evaluated (table IX.6). Although household size was coded in different ways among studies, the findings in all but one suggested that larger households participated in the Food Stamp program to a greater extent than households containing fewer people.[7] The size of the household is thought to be related to Food Stamp participation because it is directly related to the size of the benefit (see chapter 1) and the likelihood of greater need. Households are deemed eligible for benefits, in fact, based on income adjusted for household size. It may also be true that the presence of children in the household encourages participation.

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[7] Burt's work yielded the opposite results, with households containing fewer people participating in the program to a greater extent. This is counterintuitive. The authors explain: "One possible explanation for these anomalous results lies in the coding problem for the participation status variable. As reported by Brown and Johnson in 'Alternative Treatments of Food Stamp Program Eligibility for Households Identified as Unknown in Status for the 1979-1980 Survey,' households coded as 'unknown' were, on the average, larger than nonparticipating households and received substantially less income. Since there are four times as many 'unknowns' as eligible nonparticipating households, a miscoding of the 'unknowns' as nonparticipating could have resulted in the perverse signs." (James Burt, S. R. Johnson, and Karen Morgan, "Participation in the Food Stamp Program: A Logit Model Analysis, 1979-1980," mimeo, p. 10).

Race

Seven of the nine studies included in the synthesis considered race in their analyses (table IX.7). Findings with respect to the characteristic of race are not consistent across studies. One overall analysis (Czajka 1981) and one substudy (Burt 1984) found that black households are more likely to participate in the program than households headed by persons of other races. However, the remaining analyses and Burt's (1984) companion substudy detected no significant association between the race of the head of the household and the likelihood of program participation.

Because race is strongly related to poverty in the United States, its program participation must be separated from the effect of poverty. Although the majority of persons below the official poverty line in 1985 were white (approximately 23 million people), blacks have a much higher rate of poverty: 28.7 percent of black households are officially poor compared to 9.1 percent of white households. Accordingly, the studies that considered race controlled for the effects of income as well.

In the one substudy showing a statistically significant relationship (Burt 1984), blacks were found to be more likely to participate in the program than whites. In the companion substudy, however, no significant relationship was detected when the participation status of white households was contrasted with that of all other races. Two studies analyzing populations 55 years and 65 years and older only and two studies based on sample populations from four states found no statistically significant differences in participation behavior among races. One additional study, however, that did find such a difference was based on a national sample (Czajka 1981). Results from this last study suggest that blacks are more likely to participate in the program than whites.

Table IX.7: Association of Participation With Race

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin	Probit	Rural	All other and white	NS	White (yes, no)
(1985)[e]	Probit	Urban	All other and white	NS	White (yes, no)
Bick (1981)[f]					
Blanchard et al. (1982)[g]	Probit		All other and black	NS	Black (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		White and black	+ **	Black (yes, no)
	Logit		White and other	NS	Other (yes, no)
Coe (1983)	Regression		All other and nonwhite	NS	Nonwhite (yes, no)
Czajka (1981)	Regression		All other and black	+ **	Black head of household (yes, no)
Kim (1983)	Unadjusted		White and nonwhite	NS	Nonwhite (yes, no)
Lane, Kushman, and Ranney (1983)	Probit		All other and black	NS	Black (yes, no)
Phillips (1982)[f]					

Sex

The sex of the household head was considered in seven studies (table IX.8). Like race, this characteristic may constitute an indirect indicator of poverty, since households headed by women are much more likely to be poor than households headed by a married couple or a man. In 1985, 34 percent of households headed by a woman with no husband present were officially categorized poor, while only 6.7 percent of households headed by a married couple or a man had incomes that placed them below poverty.[8] In studies that considered the relationship between sex of the household head and program participation, the possible effects of the secondary characteristic—income—was therefore controlled. Sex may also be associated with enrollment in other public assistance programs, particularly Aid to Families With Dependent Children. After food stamps, it represents the largest and most comprehensive of federal welfare programs, and its benefits are typically confined to women and children. Women are therefore more likely to be connected with the welfare system and informed about the availability of food assistance.

[8]Money Income and Poverty Status of Families and Persons in the United States: 1985 (Washington, D.C.: U.S. Government Printing Office, 1986), p. 21.

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•		•	•		•	•					
•	•		•	•	•		•	•		•	•					
•	•	•	•	•	•		•			•		•	•		•	
			•	•	•		•			•	•	•				
			•	•	•		•			•	•	•				
•	•		•		•	•	•	•		•	•					
•	•	•		•	•		•	•		•	•	•		•		

[a]Probit = probit regression; logit = logistic regression; regression = ordinary least squares regression; unadjusted = bivariate correlation.

[b]When the study did not stratify the analysis, this column is blank.

[c]** = statistically significant at .05 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic the representative cells are blank

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Included 65+ years.

Table IX.8: Association of Participation With Sex

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Female or male	NS	Male household head (yes, no)
	Probit	Urban	Female or male	− *	Male household head (yes, no)
Bick (1981)	Unadjusted		Female or male	NS	
Blanchard et al. (1982)[f]	Probit		Female or male	− **	Male household head (yes, no)
Burt, Johnson, and Morgan (1984)	Logit		Male and female or male	+ **	Male household head (yes, no)
	Logit		Male and female or female	+ **	Female household head (yes, no)
Coe (1983)	Regression		Married couple 30-59 years old or married couple < 30	+ **	Married couple < 30 (yes, no)
	Regression		Married couple 30-59 years old or married couple > 60	NS	Married couple > 60 (yes, no)
	Regression		Married couple 30-59 years old or unmarried female < 30	NS	Unmarried female household head < 30 (yes, no)
	Regression		Married couple 30-59 years old or married female < 30-59	NS	Unmarried female household head 30-59 years old (yes, no)
	Regression		Married couple 30-59 years old or unmarried male < 30-59 years	− **	Unmarried male household head < 30 (yes, no)
	Regression		Married couple 30-59 years old or unmarried male < 30	− *	Unmarried male household head < 30 (yes, no)
	Regression		Married couple 30-59 years old or unmarried male 30-59	− *	Unmarried male household head < 30 (yes, no)
	Regression		Married couple 30-59 years old or unmarried male > 60	− **	Unmarried male household head < 60 (yes, no)
Czajka (1981)	Regression		Married couple or female	+ **	Female household head (yes, no)
	Regression		Married couple or male	NS	Male household head (yes, no)
Kim (1983)[g]					
Lane, Kushman, and Ranney (1983)	Probit		Female or male	NS	Male household head (yes, no)
Phillips (1982)[g]					

[a]Probit = probit regression; unadjusted = bivariate correlation; logit = logistic regression; regression = ordinary least squares regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; NS = not statistically significant.

| | Secondary characteristics[d] | | | | | | | | | | | | | | | |
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•		•		•	•					
•	•		•	•	•	•		•		•	•					
•	•	•	•	•	•	•				•			•	•		•
		•	•	•	•	•				•	•	•	•			
		•	•	•	•	•				•	•	•	•			
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[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Included 65+ years.

[g]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

Table IX.9: Association of Participation With Employment

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	All other including retired or female homemaker	NS	Retired or female homemaker (yes, no)
	Probit	Urban	All other including retired or female homemaker	NS	Retired or female homemaker (yes, no)
Bick (1981)	Unadjusted		Working or not working	S	Employment status
	Unadjusted		Consistency of employment	S	Temporary, permanent, migrant
	Unadjusted		< 50 weeks 50-52 weeks	S	Weeks worked per year
	Unadjusted		+>40 hours	NS	Hours worked per week
Blanchard et al. (1982)[f]					
Burt, Johnson, and Morgan (1984)					
Coe (1983)	Regression		Employed or unemployed	— *	Household head employed 1,500 hours or more in 1979 (yes, no)
Czajka (1981)	Regression		Employed or unemployed	NS	Employment income (yes, no)
	Regression		Employed or unemployed	NS	Unemployed person in the household (yes, no)
Kim (1983)	Probit		Continuous	— **	Number of hours worked per week
	Unadjusted		Continuous	NS	Number of hours worked per week
Lane, Kushman, and Ranney (1983)	Probit		Employed or voluntarily unemployed	— ***	Household head employed (yes, no)
	Probit		Voluntarily or involuntarily unemployed	NS	Household head involuntarily unemployed
Phillips (1982)[f]					

Even after controlling for the effects of the secondary characteristics, the studies do not show uniform results. One study (Akin 1985) found that elderly urban men were less likely to be program beneficiaries than elderly urban women, and another study (Blanchard 1982) indicates that elderly men in general were less likely to participate in the Food Stamp program than elderly women. Still another study (Burt 1984) indicated that households headed by single men and households headed by single women are significantly more likely to participate in the Food Stamp program than households headed by a married couple.

Employment

The employment characteristics of potentially eligible households were examined in six of the nine studies (table IX.9). Because employment status is closely related to income, all studies that included employment also included income as a secondary characteristic in the analysis. Given this association, employment may also be related to the value of the

					Secondary characteristics[d]											
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•	•			•	•					•
•	•		•	•	•	•	•			•	•					•
•	•		•	•	•	•	•			•	•	•	•		•	•
•	•		•	•	•	•				•	•	•				
•	•		•		•	•	•			•	•	•				
•				•					•	•	•	•	•			
•	•	•		•	•	•	•			•	•	•		•		•

aProbit = probit regression; unadjusted = bivariate correlation; regression = ordinary least squares regression.

bWhen the study did not stratify the analysis, this column is blank.

c* = statistically significant at .10 level; ** = statistically significant at .05 level; *** = statistically sign fi cant at .01 level; NS = not statistically significant.

dAG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance) /S /a ue of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation). OT (other) When studies did not include a particular secondary characteristic. the representative cells are blank

eIncluded 55+ years.

fDid not consider a primary characteristic in the analysis; all cells are therefore blank

food stamps for which a household is eligible, because this value is based on income adjusted for household size.

In the six studies, various means of quantifying employment were used. In one sample (Akin 1985), the participation patterns of retired persons

Table IX.10: Association of Participation With Food Expenditures

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]					
Bick (1981)[e]					
Blanchard et al. (1982)[e]					
Burt, Johnson, and Morgan (1984)[e]					
Coe (1983)	Regression		Continuous	NS	Ratio of food needs to income
Czajka (1981)[e]					
Kim (1983)	Probit		Continuous	NS	Ratio of food needs to income
Lane, Kushman, and Ranney (1983)[e]					
Phillips (1982)[e]					

(or women homemakers) were contrasted with those of other employment categories. In another analysis (Bick 1981), measures of consistency of employment were included, while in two others (Coe 1983 and Czajka 1981), a dichotomous variable—employed-unemployed—was used. Kim (1983) included a continuous measure of employment that designated the number of hours worked per week during the reference period. Lane's (1983) measure of employment separated households into two groups: the employed and the involuntarily unemployed and compared them to voluntarily unemployed households.

Results consistently indicate that employment is negatively related to participation in the Food Stamp program. For instance, as the number of hours worked increases, the likelihood of participation in the Food Stamp program decreases. This relationship may be attributable to both social psychological influences and program characteristics. For example, employed persons, although they remain eligible for food stamps, may expect to earn higher incomes in the relatively near term, whereas the unemployed may expect to need the benefits of the program indefinitely. Thus, a subjective assessment of the costs and benefits of the program might lead households with earnings to forgo participation.[9]

___

[9]It also appears that households with earnings may be subject to more administrative scrutiny than households without them during the application process and recertification process and while participating in the program. States, for example, can require households with earnings to report monthly on their income and expenditures, a procedure that may be onerous for the households involved. And, because Food Stamp offices are typically open only during normal business hours, monthly reporting and lengthy application and recertification procedures may also involve higher opportunity costs for employed persons, in terms of time taken from work and wages lost. For the unemployed however, such considerations are not an influence.

Secondary characteristics[d]																
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•			•	•	•	•	•		•	•	•			•	•
•				•				•		•	•	•	•	•		

[a]Regression = ordinary least squares regression; probit = probit regression.

[b]No study stratified the analysis, so this column is blank.

[c]NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance) VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

Food Expenditure

Intuitively, the shortfall between a household's income and food expenditures would seem related to program participation. A food-needs ratio was used in two studies (Kim 1983 and Coe 1983); it was constructed by dividing reported food expenditures by gross income, but neither study found it to be significantly related to enrollment in the Food Stamp program (table IX.10).

Income

All the studies looked at the relationship between income and program participation (table IX.11). It would be expected that as income increases, the likelihood of program participation declines. This relationship would reflect the decreasing value of the food stamps as income rises and the resulting tendency for the costs of participation to outweigh the benefits at the upper end of the eligible income scale. This is, in fact, what the bulk of available research evidence suggests.

Table IX.11: Association of Participation With Income

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)	Probit	Rural	Continuous	− **	Household income
	Probit	Urban	Continuous	− **	Household income
	Probit	Rural	Continuous	+ **	Household income squared
	Probit	Urban	Continuous	+ **	Household income squared
Bick (1981)	Unadjusted		Perception of income	S	Ability to afford basic wants adequately
	Unadjusted		Continuous	NS	Total income
	Unadjusted		In-kind income	NS	Number of sources
	Unadjusted		Regular or not regular	S	Regularity of income
	Unadjusted		Certain or not certain	S	Certainty of amount of income
Blanchard et al. (1982)[f]	Probit		Continuous	− ***	Gross monthly income in units of $100
Burt, Johnson, and Morgan (1984)	Logit		Continuous	+ **	Total weekly income; possible coding errors of nonparticipant households
Coe (1983)	Regression		Continuous	− ***	Monthly household income
Czajka (1981)	Regression		< 25% and 25-49%	+ ***	Prewelfare income 25-49% of poverty (yes, no)
	Regression		< 25% and 50-74%	+ **	Prewelfare income 50-74% of poverty (yes, no)
	Regression		< 25% and 75-99%	+ **	Prewelfare income 75-49% of poverty (yes, no)
	Regression		< 25% and 100-124%+	+ *	Prewelfare income 100-124% of poverty (yes, no)
	Regression		< 25% and 125%+	NS	Prewelfare income 125% of poverty (yes, no)
	Regression		Zero and 1-19%	+ ***	Welfare income 1-19% of poverty (yes, no)
	Regression		Zero and 20-34%	+ ***	Welfare income 20-34% of poverty (yes, no)
	Regression		Zero and 35-49%	+ ***	Welfare income 35-49% of poverty (yes, no)
	Regression		Zero and 50-74%	+ ***	Welfare income 50-74% of poverty (yes, no)
	Regression		Zero and 75%+	+ ***	Welfare income 75%+ of poverty (yes, no)
	Regression		< 25% and 25-49%	− *	Total income 25-49% of poverty (yes, no)
	Regression		< 25% and 50-74%	−	Total income 50-74% of poverty (yes, no)
	Regression		< 25% and 75%+	−	Total income 75% of poverty (yes, no)
Kim (1983)	Probit		Index	NS	Income from all sources divided by household size
	Unadjusted		Index	NS	Income from all sources divided by household size
Lane, Kushman, and Ranney (1983)	Probit		Continuous	− ***	Monthly household income
	Probit		Earned or unearned income only	+ ***	Unearned household income
	Probit		Earned income or household has no income	+ *	Neither earned nor unearned income
Phillips (1982)[g]	Logit		Index	NS	Income from all sources divided by household size

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
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•	•			•					•							

[a]Probit = probit regression; unadjusted = bivariate correlation; logit = logistic regression; regression = ordinary least squares regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; *** = statistically significant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Included 65+ years.

[g]Significance levels were not systematically reported.

In one study (Lane 1983), a distinction was made between sources of income, whether earned or unearned. Receipt of unearned income may reflect enrollment in other public assistance programs, familiarity with application procedures and eligibility criteria, and therefore a greater likelihood of participation. In exploring this possibility, Lane (1983) found that households with unearned income and households with no income at all were more likely to participate in the program than households with earnings. These results corroborate the results of the studies that examined the effects of employment on participation.

Public Assistance

Enrollment in public assistance programs other than the Food Stamp program may be an indicator of information about assistance and services in general, as well as a willingness to accept "welfare." Under the emerging "all-in-one" application and referral process that the states appear to be adopting, those who receive benefits under AFDC or SSI are more likely to be informed about eligibility and application procedures for food stamps than those unconnected to the welfare system. Because eligibility criteria for both programs are more restrictive than the Food Stamp program, these households may also tend to have lower earned incomes and be eligible for larger benefits than nonrecipient households.

As expected, receipt of other types of public assistance was related to participation in the Food Stamp program (table IX.12). Only receipt of Social Security was unassociated with program participation (Coe 1983), but this is not a means-tested program and would not be expected to imply anything about need for or information about food stamps. Indicators were fairly uniform across studies, and this may have contributed to the consistency of the results.

Receipt of other types of public assistance may also suggest a lack of aversion to welfare, which would imply a greater likelihood to participate in the Food Stamp program. It is thought that the perceived stigma of welfare assistance is a deterrent to participation in many social welfare programs. Because the Food Stamp program is an in-kind transfer program, however, it may be more stigmatizing than AFDC, other public assistance, or SSI. In these programs, beneficiaries receive checks, whereas food stamp recipients are given coupons that are readily recognizable as "welfare" benefits. Consequently, enrollment in other public assistance programs does not necessarily indicate a willingness to apply for food stamps.

Table IX.12: Association of Participation With Public Assistance

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Received SSI or not	+ **	Received SSI check last month (yes, no)
	Probit	Urban	Received SSI or not	+ **	Received SSI check last month (yes, no)
Bick (1981)[f]					
Blanchard et al. (1982)[f]					
Burt, Johnson, and Morgan (1984)	Logit		Continuous	+ **	Weekly amount of government aid
Coe (1983)	Regression		No AFDC, SSI, SS, or received welfare	+ ***	Received AFDC or other welfare 1978 or 1979 (yes, no)
			No AFDC, SSI, SS, or received SSI	+ **	No AFDC or welfare or received SSI 1978-79 (yes, no)
			No AFDC, SSI, SS, or Received SS	NS	No AFDC or SSI or received Social Security 1978-79 (yes, no)
Czajka (1981)	Regression		0 or 1-19%	+ ***	Welfare income 1-19% of poverty (yes, no)
	Regression		0 or 20-34%	+ ***	Welfare income 20-34% of poverty (yes, no)
	Regression		0 or 35-49%	+ ***	Welfare income 35-49% of poverty (yes, no)
	Regression		0 or 50-74%	+ ***	Welfare income 50-74% of poverty (yes, no)
	Regression		0 or 75+%	+ ***	Welfare income 75%+ of poverty (yes, no)
Kim (1983)	Probit		AFDC, General Assistance, or no public assistance	+ *	Received SSI, General Assistance, AFDC (yes, no)
	Unadjusted		AFDC, General Assistance, or no public assistance	+ ***	Received SSI, General Assistance, AFDC (yes, no)
Lane, Kushman, and Ranney (1983)	Probit		AFDC, General Assistance, or no public assistance	+ ***	Household received AFDC or General Assistance
Phillips (1982)[f]					

	Secondary characteristics[d]															
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•	•	•		•						•
•	•		•	•	•	•	•	•		•						•
		•	•	•	•	•	•			•		•				•
•	•		•	•	•	•	•	•	•	•		•			•	•
•	•		•	•	•	•	•	•	•	•		•			•	•
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•	•	•			•				•	•			•			•

Table IX.13: Association of Participation With Value of Food Stamps

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]					
Bick (1981)[f]					
Blanchard et al. (1982)[g]	Probit		Continuous	NS	Amount of food stamps household is entitled to
Burt, Johnson, and Morgan (1984)	Logit		Continuous	+ **	Amount of food stamps household is entitled to
Coe (1983)	Regression		Continuous	– *	Value of monthly food stamps in $10 units
Czajka (1981)[f]					
Kim (1983)	Probit		Index	NS	Value of food stamps by household size
			Index	+ **	Value of food stamps
Lane, Kushman, and Ranney (1983)	Probit		Continuous	NS	Value of food stamps
Phillips (1982)[h]	Logit		Constrained or unconstrained	– **	Constrained households (yes, no)
	Logit		Unconstrained or questionable	NS	Questionable and constrained (yes, no)

Value of Food Stamps

Cost-benefit tradeoffs calculated by informed eligible households may be assessed by comparing the size of the benefit for participants and nonparticipants. Intuitively, the larger the benefit, the greater the inducement to participate in the program. Minimum or relatively small benefits may not outweigh the costs of the trip to the Food Stamp office, required child care, lost wages, inconvenience, or perceived stigma.

With respect to this hypothesis, two studies found the size of the benefit to be positively related to program participation as expected; that is, as the value of the benefit increases, so does the likelihood of program participation (table IX.13).

	Secondary characteristics[d]																
AG	**ED**	**ET**	**MS**	**LC**	**HS**	**RC**	**SX**	**EM**	**FX**	**IN**	**PA**	**VS**	**AT**	**IF**	**TR**	**OT**
•	•	•	•	•	•	•	•			•			•		•	•
	•		•	•	•	•	•			•	•					•
•	•		•	•	•	•	•	•	•	•	•				•	•
•				•				•	•	•	•		•	•		
•	•	•		•	•	•	•	•		•	•			•		•
•	•	•			•	•		•		•						•

[a]Probit = probit regression; regression = ordinary least squares regression; logit = logistic regression

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance) VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Included 65+ years.

[h]Significance levels were not systematically reported.

Table IX.14: Association of Participation With Attitude Toward Food Stamp Program

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]					
Bick (1981)[f]					
Blanchard et al. (1982)[g]	Probit		All other and embarrassed	− ***	Embarrassed for friends to know (yes, no)
Burt, Johnson, and Morgan (1984)[f]					
Coe (1983)[f]					
Czajka (1981)[f]					
Kim (1983)	Probit		All other or positive	+ *	Attitude toward food stamps positive (yes, no)
	Unadjusted		All other or positive	+ ***	Attitude toward food stamps positive (yes, no)
Lane, Kushman, and Ranney (1983)[f]					
Phillips (1982)[f]					

Attitude

Attitudes toward public assistance in general, and food stamps in particular, could be expected to influence participation. Embarrassment about the need for assistance or perceived stigma associated with dependence on public aid could be a powerful deterrent. This characteristic may be particularly relevant to participation in the Food Stamp program because the benefits are distinguishable from cash and must be used in public.

The relationship between attitude and participation were analyzed in two studies (Kim 1983 and Blanchard 1982) and the expected results were found. Results showed that the more a person feels the "stigma" of using food stamps, the less likely that person is to participate in the program. Additionally, these studies suggested, those who regard food stamps favorably are more likely to participate in the program (table IX.14). Analysis of a sample population over 65 years of age (Blanchard 1982) suggests that those who reported that they would be embarrassed to have friends know that they received food stamps were significantly less likely to participate in the program.

Among those who reported on attitude toward food stamps, Kim (1983) found the expected positive relationship between attitude and participation.

| | | | | | Secondary characteristics[d] | | | | | | | | | | | |
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
	•	•	•	•	•	•	•	•			•		•		•	•
•				•				•	•	•	•	•		•		

[a]Probit = probit regression; unadjusted = bivariate correlation.

[b]No study stratified the analysis, so this column is blank.

[c]* = statistically significant at .10 level; *** = statistically significant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size) RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Included 65+ years.

Information

A key variable in determining participation is access to or receipt of information about the program. This is not a simple phenomenon to measure, for it is multidimensional. First, eligible households must be aware of the program's existence. Second, they must be aware that they are at least potentially eligible. Third, they must have some information about where and how to apply, what sorts of criteria must be met, and what kinds of verification materials must be presented. Finally, they must understand how eligibility criteria apply to them: what sorts of deductions are allowed and what kinds of personal expenditures qualify as deductions. Such complexity is difficult to capture.

Two studies (Kim 1983 and Lane 1983) compared the participation behavior of households that were reported to have received information

Table IX.15: Association of Participation With Information

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]					
Bick (1981)[f]					
Blanchard et al. (1982)[f]					
Burt, Johnson, and Morgan (1984)[f]					
Coe (1983)[f]					
Czajka (1981)[f]					
Kim (1983)	Probit		Received information and all other	+ ***	Received information about food stamps (yes, no)
	Unadjusted		Received information and all other	+ ***	Received information about food stamps (yes, no)
Lane, Kushman, and Ranney (1983)	Probit		Received information and all other	NS	Received information about food stamps (yes, no)
Phillips (1982)[f]					

about the program with households that did not (table IX.15). Kim (1983) found a significant positive association between participation and information, while Lane's (1983) results were nonsignificant. Lane (1983), however, defined information in a more restrictive fashion than Kim (1983): she confined "informed" households to those who had received "information from friends or relatives." Presumably, a household could be participating in the program without ever having received information about it from these sources. Kim (1983), however, asked only if the household had received information about the program. Using this broader category, every household participating in the program would report that information about it had been received, resulting in a positive relationship between information and participation.

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•				•				•	•	•	•	•	•			
•	•	•		•	•	•	•	•			•	•			•	

[a]Probit = probit regression; unadjusted = bivariate correlation.

[b]No study stratified the analysis, so this column is blank.

[c]*** = statistically significant at .10 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other) When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; and all cells are therefore blank.

Table IX.16: Association of Participation With Transportation

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]					
Bick (1981)[f]					
Blanchard et al. (1982)[g]	Probit		Access to car and all other	NS	Access to car (yes, no)
	Probit		Distance to office 1 mile or 4+ miles	− ***	Distance to office 1-4 miles (yes, no)
	Probit		Distance to office < 1 mile or 4+ miles	− ***	Distance to office > 4 miles (yes, no)
Burt, Johnson, and Morgan (1984)[f]					
Coe (1983)	Regression		Public transportation and all other	NS	Household has access to public transportation (yes, no)
Czajka (1981)[f]					
Kim (1983)	Unadjusted		Transportation or no transportation	NS	Household member can get to office
Lane, Kushman, and Ranney (1983)[f]					
Phillips (1982)[f]					

Transportation

Easy access to low-cost transportation may be associated with participation because, in most cases, to apply for food stamps and to recertify eligibility, a beneficiary must go in person to the Food Stamp office. In rural areas, distances between offices may be quite large and, for low-income people, lack of transportation may mean lack of participation. Additionally, many eligible households are made up of elderly people, whose mobility may be impaired. For them, transportation may be required even if the office is close by.

The relationship between participation and access to transportation was analyzed in three studies (Blanchard 1982, Coe 1983, and Kim 1983), and in one of these (Blanchard 1982) a distance variable was also considered (table IX.16). Although access to a car or access to public transportation was not associated with participation, distance from the Food Stamp office was. For the elderly, households located more than 4 miles from the Food Stamp office were less likely to participate in the program than households located within a 4-mile radius, as expected. These findings together may indicate that large distances are difficult to negotiate for low-income elderly people, whether transportation is available or not.

	Secondary characteristics[d]																
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•	•	•	•	•	•	•			•		•	•			
•	•	•	•	•	•	•	•			•		•	•			
•	•	•	•	•	•	•	•			•		•	•			
•	•			•	•	•	•	•	•	•	•	•			•	•

[a]Probit = probit regression; regression = ordinary least squares regression; unadjusted = bivariate correlation.

[b]No study stratified the analysis, so this column is blank.

[c]*** = statistically significant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Included 65+ years.

Table IX.17: Association of Participation With Socioeconomic Status

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin 1985[e]	Probit	Rural	Owner and all other	− **	Owns home
	Probit	Urban	Owner and all other	− **	Owns home
Bick (1981)[f]					
Blanchard et al. (1982)[f]					
Burt, Johnson, and Morgan (1984)	Logit		Owner or renter Owner or occupier without payment	+ ** + **	Renter (yes, no) Occupier without payment (yes, no)
Coe (1983)	Regression		Continuous	NS	Number of previous years in poverty
	Regression		Continuous	NS	Level of state basic AFDC ($100's)
Czajka (1981)	Regression		$1,000 or $1,000+	− *	Liquid assets $1,000 (yes, no)
Kim (1983)[f]					
Lane, Kushman, and Ranney (1983)	Probit		Owner and all other	− ***	Owns home (yes, no)
Phillips (1982)[g]	Logit		Expect poverty 1 more year or permanently poor	NS	1 year poor (yes, no)
	Logit		Expect poverty < 1 year or permanently poor	NS	< 1 year poor (yes, no)
	Logit		Paid weekly, semimonthly, or monthly	+ *	Paid by month
	Logit		Paid weekly or semimonthly or paid by job	NS	Paid by job
	Logit		Continuous	NS	Cost of applying for food stamps

•

Secondary characteristics[d]

AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
	•	•		•	•	•	•	•	•		•	•				
	•	•		•	•	•	•	•	•		•	•				
			•	•	•	•	•			•	•	•				
		•	•	•	•	•	•			•	•	•				
	•	•			•	•	•	•	•	•	•	•	•	•		
	•	•			•	•	•	•	•	•	•	•	•	•		
•	•		•		•	•	•	•		•	•	•				•
•	•	•		•	•	•	•	•		•	•		•	•		
•	•			•					•		•	•				
	•	•			•			•		•	•					
	•	•				•				•			•	•		
	•	•			•				•		•	•	•		•	

[a]Probit = probit regression; logit = logistic regression; regression = ordinary least squares regression

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; *** = statistically significant at .01 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Significance levels were not systematically reported.

Miscellaneous Characteristics

Socioeconomic Status

As illustrated in table IX.17, measures of socioeconomic status additional to income were included in six studies. Measures of tenancy for eligible households were analyzed in three studies (Akin 1985, Burt 1984, and Lane 1983) to determine whether those who own their own homes are less likely to participate than those who do not. All three studies showed that homeowners were less likely to be participants than renters or other types of tenants. This may indicate a perception on the part of the homeowner of ineligibility because of assets, or it may indicate temporary economic difficulties resulting in poverty for these households, which the household does not expect to be permanent.

Correspondingly, Coe (1983) tested the relationship between participation and expectations of poverty but found it to be nonsignificant. A measure of contextual poverty (level of state's basic AFDC payment) was also tested but was not found to be significant either.

Phillips (1982) tested measures of pay periods to determine the relationship between type of employment and participation. She found that those paid by the month were more likely to be program participants than those paid weekly or semimonthly. This relationship may be influenced by the effects of enrollment in other public assistance programs, as persons paid weekly or semimonthly are employed, while many who receive income monthly are beneficiaries of social welfare programs.

As seen earlier in the discussion of the effects of income, eligible households that are marginally more affluent seem to be less likely to be enrolled in the Food Stamp program. It is necessary to bear in mind, however, that the income levels discussed here are quite low and that a household at the upper extreme of this income range may not necessarily experience needs far different from households at the lower end of the range, since by absolute terms they all have incomes below the national average. Mistaken perceptions of eligibility, inconveniences in applying and recertifying for employed persons, and more optimistic assessments of one's future prospects are as likely to underlie this phenomenon as lack of perceived need.

Nutrition and Health

A number of studies examined characteristics designed to measure either need for or access to sufficient food (table IX.18). Akin (1985), analyzing an elderly population, investigated the relationship between participation and the number of household members in good health. Respondents were also asked if household members required a special diet and if they felt that they had adequate access to food. Among the urban elderly, there was a positive relationship between the number of household members in good health and program participation; the same relationship was detected between the number of household members in need of a special diet and participation. Among the rural population, the results were the opposite—access to sufficient food was negatively related to program participation. These findings indicate that the program may be attracting the elderly persons who need it the most: those who require a special diet. Moreover, the elderly people who participate are more likely to have adequate access to food and to be in better health than those who do not.

One study (Phillips 1982) used an indirect indicator of access to unpurchased food, and another (Lane 1983) measured access directly. Phillips (1982) found that respondents with gardens or canning facilities were less likely to participate in the program. Lane (1983) did not find that access to food was significantly associated with program participation.

Table IX.18: Association of Participation With Nutrition Health

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Continuous	NS	Number of household members in good health
	Probit	Urban	Continuous	+ *	Number of household members in good health
	Probit	Rural	Continuous	NS	Number in family on special diet
	Probit	Urban	Continuous	+ *	Number in family on special diet
	Probit	Rural	No or yes	− **	Gets sufficient food
	Probit	Urban	No or yes	NS	Gets sufficient food
Bick (1981)[f]					
Blanchard et al. (1982)[f]					
Burt, Johnson, and Morgan (1984)[f]					
Coe (1983)[f]					
Czajka (1981)[f]					
Kim (1983)[f]					
Lane, Kushman, and Ranney (1983)	Probit		No or yes	NS	Household has nonpurchased food available
Phillips (1982)[g]	Logit		Garden and all other	− *	Garden (yes, no); significance level not presented
	Logit		Canning and all other	− *	Household has canning facilities (yes, no)
	Logit		Gardening, canning and all other	− **	

•

						Secondary characteristics[d]											
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•	•		•	•	•	•	•		•	•	•		•		
•	•			•				•		•						
•	•			•				•		•						

[a]Probit = probit regression; logit = logistic regression.

[b]When the study did not stratify the analysis, this column is blank.

[c]* = statistically significant at .10 level; ** = statistically significant at .05 level; NS = not statistically significant.

[d]AG (age), ED (education), ET (ethnicity), MS (marital status), LC (location), HS (household size), RC (race), SX (sex), EM (employment), FX (food expenditure), IN (income), PA (public assistance), VS (value of food stamps), AT (attitude toward food stamps), IF (information), TR (transportation), OT (other). When studies did not include a particular secondary characteristic, the representative cells are blank.

[e]Included 55+ years.

[f]Did not consider a primary characteristic in the analysis; all cells are therefore blank.

[g]Significance levels were not systematically reported.

•

Table IX.19: Association of Participation With Mobility

Study	Analysis[a]	Group[b]	Primary characteristic	Statistical significance[c]	Characteristic measure
Akin, Guilkey, and Popkin (1985)[e]	Probit	Rural	Shops every week and all other	-**	Someone shops once a week (yes, no)
	Probit	Urban	Shops every week and all other	NS	Someone shops once a week (yes, no)
Bick (1981)	Unadjusted		No or yes	S	Handicapped person in household (yes, no)
Blanchard et al. (1982)[f]	Probit	65+	Gets out of house daily and all other	S	Disabled household head (yes, no)
Burt Johnson, and Morgan (1984)[g]					
Coe (1983)	Regression	Disabled	and all other	NS	Household head disabled (yes, no)
Czajka (1981)[g]					
Kim (1983)[g]					
Lane, Kushman, and Ranney (1983)[g]					
Phillips (1982)[g]					

Mobility

Table IX.19 incorporates a number of different measures of the mobility of eligible household members. In the studies reviewed, respondents were asked whether someone in the household shopped every week (Akin 1985), whether a handicapped person resided in the household (Bick 1981), whether a household member was able to "get out" once a week (Blanchard 1982), and whether the head of the household was disabled (Coe 1983). Akin (1985) found that elderly rural households with a member who shopped every week were less likely to be program participants than their less-mobile counterparts, although Blanchard (1982) did not find a relationship between a similar measure of mobility and participation. To some extent, these characteristics may control for morale and sociability, but they may also indicate the effects of functional health capabilities. Bick's (1981) results for a sample of Ohio households are logically consistent with these results. She finds that households that include a handicapped person are significantly more likely to participate in the Food Stamp program than other households. Her results should be interpreted with caution, however, as the results do not consider the possible effects of secondary characteristics such as income, age, participation in SSI, or any other possibly associated variables.

						Secondary characteristics[d]										
AG	ED	ET	MS	LC	HS	RC	SX	EM	FX	IN	PA	VS	AT	IF	TR	OT
•	•		•	•	•	•	•	•		•	•					
•	•		•	•	•	•	•	•		•	•					
•	•	•	•	•	•	•	•			•			•	•		•
•	•		•	•	•	•	•	•	•	•	•	•			•	

Measures of Variation

Although it is possible to study the pattern of household participation between 1983 and 1986 by examining 4 years of data points for each state, it is easier to examine a single summary measure for each state and then identify unusually high or low summary measures. We considered five different summary measures of variation—relative change, slope, constant trend, coefficient of variation, and max-to-min—and ultimately chose the max-to-min measure.

The first summary measure we considered was the relative change between 1983 and 1986, calculated as the ratio of households participating in 1983 to the number of households participating in 1986. Because the relative-change statistic does not include any information regarding the number of households participating in 1984 or 1985, we decided not to use the relative-change statistic.

Second, we considered the slope statistic computed to generate the "best-fitting" line through the 4 years of data points. The slope of the best-fitting line indicates the constant amount of change in participation that is to be expected in each year for each state. The slope statistic does not account for frequent rises or drops in Food Stamp participation. Thus, the slope statistic may not "fit" the data very well and can vary quite considerably, depending upon counts of participants. Therefore, we chose not to use the slope statistic as our summary measure.

The third summary measure we considered was to see if states had a constant trend. Of the 50 states and Washington, D.C., 26 had a constant decrease, 4 had a constant increase, and 21 had a varied pattern of household participation between 1983 and 1986. The constant-trend statistic alone does not tell us how much change occurred. We used this measure as a supplement to the information provided by our principal measure—the max-to-min ratio.

Fourth, we considered using the coefficient of variation as a measure of variability.[1] This indicator measures how much the spread of data varies from the average. Because (1) the correlation between the coefficient of variation and the summary measure we ultimately chose (the max-to-min measure of variation) was high (correlations can never exceed 1.00) and (2) the interpretation of findings is easier with the max-to-min measure, we have not presented the coefficient of variation.

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[1] The coefficient of variation is defined as the standard deviation of a set of scores divided by the arithmetic mean of the same set of scores.

All four summary statistics discussed so far (relative change, slope, constant trend, and coefficient of variation) had disadvantages—from limited use of available information to difficulty of interpretation.

We chose the fifth statistic—the max-to-min measure—as the most informative statistic for illustrating the variation in the number of households. The max-to-min measure is calculated as the maximum number of household participants between 1983 and 1986 divided by the minimum number of household participants between 1983 and 1986. The max-to-min measure can never be less than 1.00 and theoretically can be very large. If a state had no variation in the number of households participating in 1983 through 1986, the max-to-min measure would be 1.00. If the maximum number of participants in a particular state was twice as large as the minimum number of participants for the same state during the same time period, the max-to-min measure would equal 2.00. Once the max-to-min measure was calculated, we determined whether participation increased or decreased. Given the approximately 10-percent decline in participation at the national level, it is to be expected that a decline in participation would occur at the state level. We chose the max-to-min measure of greater than 1.25 as an indicator of strong fluctuation in a given state. While this cutoff is arbitrary, it ultimately reflects the top 20 percent of the states.

Comments From the Department of Agriculture

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON D C 20250

DEC 3 1 1987

Mr. J. Dexter Peach
Assistant Comptroller General
Resources, Community, and
  Economic Development Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Peach:

This letter is in response to the General Accounting Office (GAO) proposed
report to Congress entitled "Food Stamps: Examination of Program Data and
Analysis of Nonparticipation." FNS has serious concerns about the overall
quality, accuracy, relevance and tone of the information presented in the
subject report. We do not believe the conclusions reached in the report are
supported by the data presented.

Participation and nonparticipation of eligible households in the Food Stamp
Program is a topic of continuing concern to FNS and others involved with program
policy and operations. Therefore, we have enclosed extensive general and
specific comments concerning the draft report. Given the nature and volume of
comments prompted by this draft report, we would be happy to review a revised
draft.

Sincerely,

JOHN W. BODE
Assistant Secretary for
  Food and Consumer Services

Enclosures

COMMENTS ON GAO DRAFT REPORT

FOOD STAMPS: EXAMINATION OF PROGRAM DATA AND
ANALYSIS OF NONPARTICIPATION
(December 1987)

GENERAL REMARKS

The issues surrounding participation and nonparticipation in the
Food Stamp Program are important ones that deserve careful
consideration. They are also extraordinarily complex issues that
evade easy answers. Unfortunately, the draft GAO report does
very little to advance our understanding of these issues. It
contains numerous factual errors and unsupported speculations,
obscures important issues, and gives excessive visibility to
trivial issues. We have serious reservations about the report's
attempts to address each of the basic issues raised in the
Congressional request.

o The discussion of current application, participation, and
   termination rates seems to assume that every number and any
   number is meaningful, important, and useful. By implication,
   the absence of any given number represents a serious data gap.
   This presumption is grievously flawed. Some of the concepts
   discussed in the draft (in particular, application rates and
   termination rates) are fundamentally flawed and meaningless.
   Others, while theoretically meaningful, serve no clearly
   identified policy purpose that justifies the effort needed to
   develop and maintain consistent data. The draft report's
   conclusion that major data gaps exist is simply not supported
   by any demonstration of clear, ongoing policy relevance.

o The discussion of trends in applications and participation
   since 1983 displays a disturbing tendency to ignore or
   understate the importance of economic conditions and to
   overstate the importance of recent legislative changes. The
   historically strong economic recovery since 1983 is virtually
   ignored in order to explain recent participation declines as a
   consequence of the Omnibus Budget Reconciliation Act of 1981.
   The draft report fails to even acknowledge the recent work of
   the Urban Institute that concluded that the 1981 and 1982
   legislative changes had far smaller effects than originally
   anticipated (see Michael, R.C., Ruggles, P., Barnes, R., and
   Zedlewski, S.R. (1985). The Effects of Legislative Changes in
   1981 and 1982 on the Food Stamp Program. Washington, DC: The
   Urban Institute). The report also fails to recognize that
   legislative changes since 1983 have tended to expand
   eligibility and increase benefits.

o The draft report's review of past estimates of participation
   rates fails to display a sufficient awareness of the
   difficulties of simulating program eligibility with general
   household surveys and the sensitivity of such estimates to the
   survey procedures and assumptions made by various analysts.

1

The review also fails to include any estimates based on the Current Population Survey. While this survey has its own set of limitations, it is the oldest, largest, and perhaps most widely used survey. None of the other surveys considered (with the possible exception of the 1979 Research Panel of the Income Survey Development Program) have given as much attention to the quality of the income questions.

o   The report's conclusion that lack of adequate and accurate information about the program is a dominant reason for nonparticipation is also questionable. This conclusion is entirely dependent on the debatable presumption that not knowing if one is eligible is qualitatively the same as not knowing that the program exists or how to apply.

Moreover, this presumption offers no indication of why these households don't apply if they are eligible and desire benefits. It seems plausible that there are, in fact, numerous explanations for the same behavior and that none of the attempts to probe for these reasons have yet been fully successful.

SPECIFIC COMMENTS

PAGE

1-1   The introduction of the issue of nonparticipation is unnecessarily simplistic. First, there is no consideration of what an "acceptable" participation rate might be. While social programs might aspire to encourage participation by all eligibles, few, if any, can expect to attain that goal. Second, few households receive only food stamps, so participation rates in the Food Stamp Program are at least partly determined by participation rates in the whole array of programs available to the low-income population. Finally, few reasonable analysts would argue that there is any single factor that can explain nonparticipation. Rather, the variety of reasons for nonparticipation is probably as great as the number of nonparticipants themselves.

We also note that the introduction focuses on reasons for nonparticipation even though it is the last of the three research question raised on the next page and even though the draft defers any recommendations for further action pending completion of other work in progress. Major editorial changes are needed here and throughout the draft to correct similar problems.

1-3   While pilot projects were authorized in 1959, actual implementation did not occur until 1961.

The report's assertion that the program "increased in complexity" as it grew ignores the effects of the Food Stamp Act of 1977. In addition to eliminating the

2

purchase requirement (itself a source of significant
administrative complexity), the 1977 law replaced a
number of itemized deductions with a smaller set of
standards.

The Food Stamp Program does not involve the purchase of
commodities with food stamp coupons. The Program
regulations authorize the purchase of eligible foods
with Food Stamp coupons.

Now page 12.

1-5   The report is not as careful in its use of language as
it should be. The term "inquiries" is introduced here
with no explanation or definition. Throughout the
report, distinctions between inquiries and applications
and between withdrawals and terminations are implied
but not stated explicitly and occasionally ignored.

Now page 12.

1-6   The report indicates that upon occasion interviews with
selected States were conducted to supplement existing
data. The choice of States, however, is not
representative of the nation. In particular, officials
from the six largest States (NY, CA, TX, OH, PA, and IL)
were not interviewed. These States alone account for
more than 40 percent of all program expenditures, and
their exclusion is unfortunate.

Now page 16.

2-1   There seems to be no clear reason to describe
"applications as surrogates for expressions of interest
in obtaining food stamps." A signed application
represents a clear, unambiguous concept that signals the
beginning of the certification process. This
information should be able to stand on its own without
serving as a proxy for a broader, less well-defined idea.

Now page 16.

2-2   The example of an "application rate" given here is
conceptually flawed. As the report will eventually
note, the numerator of this rate will include both
eligible and ineligible households. In the extreme
case, two States could have identical application rates
with one composed entirely of ineligible households and
the other composed entirely of eligible households. The
measure defined here, however, cannot distinguish
between the two. By raising this measure as an example,
the report lends credence to a measure that is
misleading and useless.

Now page 15.
See table on page 19.

2-3   This discussion (and the summary of Table 2.1) gives
absolutely no thought to the potential usefulness or
relevance of the various measures under consideration.
The draft report appears to assume that all measures are
equally important, an assumption that is simply
incorrect. How would policymakers use information on
the number of terminations as defined by the draft
report, for example? The interpretation of such a
measure is inherently ambiguous. If the number of

3

terminations is increasing, should it be taken as a good
sign (of improving economic conditions) or bad (as a
indication of unnecessary churning)? Are the figures
reflecting changes in household circumstances so that
the terminations (whether voluntary or not) are all
correct? Or is participation improperly ended for some?

It is no coincidence that the single measure that the
draft report concludes has acceptable quality
(participation counts) is also the measure with the
greatest ongoing policy relevance.

Now page 17.   2-5   Program regulations do not define "application".
However, the regulations refer to the application
process which includes filing and completing an
application form, being interviewed and having certain
information verified.

Now page 18.   2-7   Two pages after reporting and commenting on data on the
number of applications between 1983 and 1986, the report
concludes that "available estimates do not give a true
picture." GAO's reservations about these data are based
on the same concerns FNS pointed out during the course
of GAO's earlier work. If both Agencies agree that the
data are limited, why are the estimates first reported
as fact?

Now page 18.   2-8   In concluding that the calculation of an application
rate "may not be feasible", the report ignores the more
important point that such a rate is neither meaningful
Now page 16.   nor useful (see earlier comment on page 2-2).

Now page 19.   2-9   The inclusion of Puerto Rico before 1982 (or its
See table on page 19.   exclusion after 1982) distorts the data presented in
Table 2.2 and leads the report to some mistaken
assertions. If Puerto Rico is excluded consistently
throughout the time series, the trend looks
significantly different, reaching a peak in 1983 before
declining.

Now page 20.   2-10   The assertion that "subsequent program changes caused
participation to decline" is at best only partially
correct and at worst simply wrong. First, it is based
in part on the distortions introduced by the creation of
the Puerto Rico Nutrition Assistance Grant (see comment
on page 2-9). Second, the assertion totally ignores the
powerful influence of economic conditions on Food Stamp
Program participation, in the midst of one of the
strongest economic recoveries on record. Third, it
ignores an accumulating body of evidence that suggests
that the effects of the legislative changes in 1981 and
1982 were not as large as originally anticipated (see
Michael et al, op cit). Fourth, the report ignores the
provisions enacted since 1983 that expand eligibility
and increase benefits.

4

As a general point, the report returns on several
occasions to the assertion that changes in the program
reduced its availability. In this instance, the report
says, "During the period of decreasing participation,
there have been changes in the program that can be
viewed as increasingly restrictive." To make a general
statement like this and not provide specific examples is
irresponsible. Furthermore, as noted above, it ignores
the fact that more recent changes have expanded
eligibility.

Now page 20.

2-11   The discussion of participation rates does not do
justice to the difficulty of determining eligibility
using data from a general household survey. Given the
constraints of time and money, it is simply impossible
to replicate an eligibility worker's interview.
Numerous analysts have attempted to approximate this
process, but one must always be aware of and sensitive
to the limitations of the data. In this section, the
report too often glosses over important shortcomings and
gives too much credence to specific estimates.

This section entirely ignores the estimates generated by
the Food and Nutrition Service. While these estimates
are subject to their own limitations, they have the
advantage of being available for almost every year since
1977. The trend shows a clear increase after
elimination of the purchase requirement and relative
stability at a level of 60-65% since then.

See page 22.

The footnote is correct that one should not assume that
all participating households are eligible when
calculating participation rates. It fails to note,
however, that an estimate of the number of ineligible
households is routinely available from the Food Stamp
Quality Control system. Counts of participants could
easily be adjusted to account for ineligible
participants.

Deleted.

2-12   The conclusion that food stamp benefits are
underreported in the Current Population Survey is
correct, but the source is wrong. The Bureau of the
Census publishes its own comparisons to independent
benchmarks for a variety of income sources. To our
knowledge, the ISDP is not (and should not) be used as a
benchmark.

Now page 23.

2-13   The report fails to note that neither the Nationwide
Food Consumption Survey (NFCS) nor the Panel Study of
Income Dynamics (PSID) were designed to generate
estimates of the eligible population. While the NFCS
did collect some information on income, its principal
focus was on patterns of food consumption. Considerably
more attention was given to the design and content of

5

consumption-related questions than was given to income-related questions. The PSID suffers from the limitations of relatively small size, an annual reference period for reporting income, and only partial coverage of deductible expenses and assets.

2-14   The data reported in Table 2.3 raise more questions than they answer, none of which are addressed by the report. First, the report offers no commentary on the sensitivity of these estimates to the data source on which they are based and to the assumptions (both implicit and explicit) of the various analysts. Second, the discussion fails to account for the substantial variation in estimates based on the same survey. Estimates based on ISDP range from less than 30% to nearly 50%. Estimates based on the NFCS range from 45% to 60%. Third, it is unclear why some reports merit inclusion in the body of the report and others warrant only a footnote.

2-16   The footnote on this page introduces and discusses, albeit briefly, the meaning of a participation rate of 50%. This issue may be the central one addressed by the study. Surely a discussion of this importance should not be relegated to a footnote, especially when this is the first place the issue is discussed.

2-17   The term "termination" is loaded. It carries the message that the State agency acted consciously to remove a participant from the program. This belies the fact that the circumstances of many recipients change, and some may not make the effort needed to allow the State agency to take action, while others do make the effort and are properly taken off the program. The use of the term termination to refer both to households who withdraw from the program (by failing to appear for recertification, for example) and to households whose participation is ended as the result of a State agency action (stemming from a change in income, for example) blurs the distinction between two important kinds of situations. It seems highly unlikely that many cases are closed involuntarily when they remain eligible.

2-18   The rationale for describing two different approaches to estimating the number of terminations, neither of which works by the report's own admission, is not clear.

The report is incorrect in asserting that negative cases "are reported using state samples from FNS' quality control system." The list (or count) of negative actions is the basis for selecting the quality control sample; the sample is not used to estimate the number of actions.

6

2-22   Footnote 12 should note that the negative action samples
        have been re-reviewed in many more States than reported
        here: MPRO routinely reviews all their States; FNS
        reviewed 21 States for 1985; and all States will be
        reviewed at least once in the next two years. Further,
        some States which appear eligible for enhanced funding
        are subject to negative validation reviews although they
        may not ultimately qualify for enhanced funding

2-23   The assertion that "it is possible, in principle," to
        estimate the number of terminations by aggregating
        reasons for terminations appears to be incorrect. Only
        three of the allowable codes in the list preceding this
        statement are unambiguously related to terminations. In
        every other case, the reason could as easily be used in
        a denial of an application.

        The discussion of GAO's work in validating negative
        action error rates is also misplaced. That work
        suggests that the number of improper decisions (using
        current procedural definitions) is underreported by
        States. This finding is simply irrelevant to the issue
        of determining the total number of actions (both correct
        and incorrect).

2-24   By glossing over the distinction between households that
        withdraw from the program and households whose
        participation is ended as the result of a State agency
        action (see comment on page 2-17) the report again
        introduces a measure--the termination rate--that has no
        policy relevance. Again, in the extreme, this measure
        cannot distinguish between two States with identical
        rates but one composed entirely of households that do
        not return for recertification and the other composed of
        households whose participation is ended as a result of
        State agency action. Moreover, it will not distinguish
        States in which all negative actions were correct from
        those in which all actions were incorrect.

        GAO's statement that an improper denial and termination
        rate of 23 percent was found in Illinois (GAO/RCED-87-51,
        Food Stamps: Restoration of Improperly Denied or
        Terminated Benefits) is inaccurate. In the subject
        report, GAO found that Illinois improperly denied or
        terminated and should determine whether to restore food
        stamp benefits for 26 (23 percent) of the 115 fiscal
        year 1985 cases that GAO reviewed. In a later report
        released October 22, 1987, GAO/RCED-88-12, Food Stamp
        Program: "Evaluation of Improper Denial or Termination
        Error Rates", GAO projected that the improper denial or
        termination error rate was 22.5 percent for Illinois.

7

Now page 69.   2-25   A new term, "undeleted temporary terminations," is
                                            introduced here without adequate explanation.

                                            It is important to note that the 1979 study referenced
                                            on this page did not refer to terminations. The cases
                                            of interest were those participants that reported
                                            leaving the program for whatever reason (including,
                                            unfortunately, recall errors).

See page 23.   The argument used in footnote 15--that the aggregated
                                            survey data did not match administrative data--is one
                                            that could be applied easily to every one of the survey
                                            data sets used in this report. No general household
                                            survey has ever been able to match the Agency's
                                            participation counts. If this criteria is used here, it
                                            should be used throughout, with the resulting conclusion
                                            that all of the data reported are of limited value.

Now page 59.   2-29   The assertion that useful estimates of eligibility can
                                            ignore deductible expenses and assets is implausible and
                                            misguided. First, there is no reason not to simulate
                                            the net income and asset tests using SIPP: most, but
                                            not quite all, of the relevant information is collected
                                            in one or more waves over the life of a panel. Second,
                                            ignoring the asset information that is available can
                                            seriously distort estimates of the size of the eligible
                                            population. Several studies have shown that about 25%
                                            of the persons eligible for food stamps on the basis of
                                            income fail the asset test.

Now page 59.   2-30   The suggestion to use State samples of negative cases to
                                            adjust estimates of the eligible population reflects a
                                            serious lack of understanding of the problem of
                                            estimating eligibility in general and of the Survey of
                                            Income and Program Participation in particular. As
                                            noted above, the SIPP contains almost all of the
                                            information needed to simulate eligibility (the major
                                            exception is the absence of medical expenses). There is
                                            no need, therefore, to incorporate ad hoc adjustments of
                                            the type described in the report.

                                            Moreover, this discussion also reflects a lack of
                                            understanding of the food stamp quality control sampling
                                            process. The report incorrectly states that samples of
See page 26.   negative cases may "underrepresent short-term
                                            participants." Samples of negative cases do not
                                            represent any participants, being by definition a sample
                                            of cases denied or terminated.

Now page 26.   2-31   The conclusion that the previously described adjustments
See page 27.   will "provide a better estimate of the number of
                                            eligible households using existing data than simply
                                            using unadjusted SIPP data" is simply wrong given the
Now page 59.   foundation on which it rests (see comment on page 2-30).

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GAO's suggested alternatives to determining terminations
begs the question of the policy relevance of this
measure. The question is not so much whether or not an
accurate measure of terminations can be developed, but
rather whether the utility of that measure is sufficient
to justify the effort. Moreover, the measure must be
sensitive enough to distinguish between voluntary and
involuntary breaks in participation and between correct
and incorrect State agency actions (see comments on page

Now page 69.

2-17). Until one demonstrates a clear, ongoing need for
such information, it is premature to design alternative
approaches.

Now page 29.

3-1 The empirical basis for this chapter is extremely
flawed. Much of the chapter is spent discussing how
data definitions vary across States and how, as a
result, analyses using cross-State data have important
limitations. Then, the report presents a cross-State
analysis.

Now page 59.

3-3 The rationale for creating a new measure, the "max-to-
min ratio," is extremely weak and lacks any conceptual
justification. First, it is not clear that such a
measure really captures "variation over a four-year
period." (Moreover, standard statistical measures of
variation already exist and new ones need not be
invented.) Second, it is not clear why one should
highlight "states with markedly higher variation rates."
Given the strong influence of the economy on program
participation and the known variations in local economic
conditions, one should expect substantial variations.
Third, it is unclear whether one should value high
ratios more than low ratios. In times of significant
economic change, States with low rates of change are
probably more surprising than States with high ratios.
In times of relative economic stability, the reverse is
true. Fourth, the measure ignores the direction and
timing of any change in caseload or applications. It
does not distinguish between States with caseload peaks
in 1983 from States with caseload peaks in 1986.

Furthermore, the report implies that administrative
practices may result in "volatility." If the
administrative practices referred to are changes in
regulations, there is no basis for the assertion. For
the most part, all parts of the country would be
affected equally by the implementation of a new
regulation. If the reference is meant to be to State or
local application processing requirements, it is hard to
conceive of a change in practice which would result in
major changes in caseload size.

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Now page 59.   3-9   The breaks chosen to categorize States are entirely
                                  arbitrary. The breaks bear little if any relationship
                                  to national averages (1.33 for applications and 1.09 for
                                  participation). Moreover, the characterization of
                                  little, moderate, and strong fluctuation entirely misses
                                  the responsiveness of the program to economic change.

Now page 29.   3-11   The assertion that "each state would not be expected to
                                  vary greatly in the number of applications reported from
                                  year to year" is incorrect. Again, the report ignores
                                  the importance of economic conditions on program
                                  participation. Such variations are entirely plausible
                                  in the light of the substantial economic improvements
                                  seen since 1983.

Now page 29.   3-15   The assertion that "one would expect a decline in
                                  participation in spite of unfavorable economic
                                  conditions" is incorrect. First, the report seems to
                                  ignore one of the strongest economic recoveries in post-
                                  war history. In fact, one would expect a decline in
                                  participation precisely because of the distinctly
                                  improved economic conditions seen between 1983 and 1986.
                                  Second, the most comprehensive examination of the
                                  effects of OBRA (see Michael et al, op cit) concluded
                                  that the changes in participation were much smaller than
                                  anticipated. Third, the report ignores more recent
                                  program changes that expanded eligibility and increased
                                  benefits.

Now page 37.   4-5   The discussion of eligibility requirements misses the
See page 59.   point. The report asserts that "food stamp eligibility
                                  . . . is very difficult to measure accurately because of
                                  the frequency of changes in program regulations and the
                                  dynamic nature of participation." It is not clear what,
                                  if any, relationship exists between eligibility and the
                                  "dynamic nature of participation." More importantly,
                                  the difficulty in measuring eligibility does not reflect
                                  program changes. Rather it reflects the adequacy, or
                                  more accurately the inadequacy of the available data.
                                  The estimation of program eligibility with general
                                  household surveys is not difficult because the program
                                  rules change but rather because the surveys themselves
                                  do not collect sufficient data from the right
                                  respondents with the correct reference period.

                                  For example, an accurate determination of eligibility is
                                  not difficult because asset limits have changed
                                  occasionally (a trivial matter in this age of
                                  automation). The more serious problem is the general
                                  absence of detailed and accurate information on asset
                                  holdings in most surveys.

                                  In any given month, conditions of eligibility are fixed.
                                  Information could be collected for this accounting
                                  period which would enable an analyst to model

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eligibility adequately. This procedure, however, would yield reliable estimates only to the extent that the components of eligibility are reliably reported and the sample is representative.

4-6   The criteria used to deem the measures of eligibility accurate are not laid out in the report. They should be.

Note that the 1979 Research Panel of the Income Survey Development Program offers the same type of data as the SIPP.

4-8   It is important to note that all of the selected studies fall in the narrow range of 1979 to 1981, a period characterized by the transition to a post-EPR Program and implementation of the other requirements of the Food Stamp Act of 1977.

4-12   Strictly speaking, the PSID is a sample of "families," not households.

4-16   In Table 4.1, the report attempts to group reasons for nonparticipation into broad categories. There is little attention paid to the issue of whether or not nonparticipants are indeed eligible. The fact that some respond that they think they are ineligible or were told they were ineligible may reflect the fact that they were, indeed, ineligible. There should be a discussion of the extent to which the respondent population and the eligible nonparticipating population are the same.

4-17   The assertion that the reasons for nonparticipation are "likely to underestimate the true value" appear to be idle speculation unsupported by the discussion that follows. We are not aware of any methodological study that will support the distinctions made between "unaided recall" and "aided recall."

The assertion that "underreporting was perhaps most likely in the FS/SSI study" is unsubstantiated and seriously misleading. First, the intentional focus on the elderly does not necessarily lead to more or less underreporting (although the distribution of the reasons for nonparticipation may be different among this group than among the general non-elderly population). Second, as noted above, there is no clear evidence that the use of "aided recall" would substantially change the responses.

Most seriously, the charge that the categorization of responses is biased is entirely unfounded and most unprofessional. An examination of the allowable responses in the PSID, NFCS, and the FS/SSI study

11

Figure deleted.
See appendix VIII.

See page 61.

Now page 59.

Now page 41.

Now page 61.

Now page 76.

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included in figures 2-4 of the GAO report indicate that
the categories are nearly identical across all three.
Only one category found in the PSID and NFCS (having a
previous application turned down) does not appear as a
separate category in the FS/SSI coding. And of the 10
categories allowed in the FS/SSI coding, 9 appear in the
PSID and 7 appear in the NFCS. We see no rational basis
for the claim that "nearly all of the field coded and
interpreted responses are critical of the respondent
rather than the program or the system . . . ."

4-18   The report's discussion of the reasons for
         nonparticipation fails to consider that some of the
         simulated eligible nonparticipants may be truly
         ineligible (see earlier comment on page 4-16). Given the
         inherent limitations of the data sets on which the
         estimates are based, this is a very real possibility.

         The report's conclusion that lack of adequate and
         accurate information about the program is a dominant
         reason for nonparticipation is entirely dependent on an
         arbitrary grouping of categorical responses. It rests
         on the presumption that not knowing if one is eligible
         is qualitatively the same as not knowing that the
         program exists or how to apply. Given the complexity of
         the legislatively required eligibility rules, it is not
         surprising that many people do not know if they are
         eligible. It is, however, surprising that so few in
         this group choose to apply in order to test their
         eligibility if this is the only reason for not
         participating. Using the more narrow definition, there
         is still remarkable consistency among the three surveys:
         5% or less of the respondents are truly unaware of the
         program's existence or procedures for application.

4-20   The report should note that disparities in reported
         results may also depend on differences in the population
         examined (elderly vs. nonelderly, for example).

         There is no basis for speculating that the figures
         reported in NFCS are less biased than either the PSID or
         the FS/SSI study. Again, the arguments on aided vs.
         unaided recall are unconvincing, and the criticisms of
         the FS/SSI study are unfounded.

4-26   In the discussion of studies which used multivariate
         techniques to analyze the characteristics of
         nonparticipants, there is an uncritical acceptance of
         the models tested. In the Akin model, for example, the
         list of variables cited indicates that there may be
         important endogeneity problems (i.e., income, welfare,
         and employment are functions of education, age, marital
         status, etc.) An uncritical summary of the research
         does little to inform the discussion of an important
         issue.

                                  12

Now page 46.

See table on page 45.

4-28   The report arbitrarily allows the .10 level of significance to determine variables which are important and included in Table 4.2. Using this standard, which is generally recognized as less stringent than desirable for most social science research can lead to rejecting the null hypothesis when, in fact, it should be accepted. Errors of this type are generally considered riskier than the reverse.

Now page 50.

4-36   The report summarizes the research as indicating that the size of the food stamp benefit has little effect on participation. Even if the studies report this, it is highly incredible. Furthermore, if as indicated in Table 4.2 models include variables for both income and food stamp value, there is likely to be specification error resulting in a bias on unknown size and direction.

Now page 50.

4-40   The report carries its speculations on the importance of information to the participation decision to inordinate extremes. Without any evidence for example, the report asserts:

Statement deleted.

o "Characteristics most likely to be indicative of inadequate information about food stamps tend also to demonstrate lack of participation in the program."

Statement deleted.

o "While this finding may be due to less need among these cases [temporarily poor or nearly non-poor], it may also indicate informational problems"

Statement deleted.

The conclusion that "lack of information explains lack of participation" is too simplistic and not supported by the information reported here.

NOTE: The absence of specific comments on the Executive Summary does not reflect an absence of criticism. All of the comments made on specific points in the body of the text apply equally to the summary. We elected to condense this critique by avoiding repetition to the extent possible.

EDITORIAL COMMENTS

The following editorial comments (identified by page number) are suggested to change inaccurate information and to improve the tone of some statements.

Now page 4.

ES-5   First sentence in first paragraph, delete . . . GAO believes that policy inferences should not be drawn . . . Insert . . . GAO could not draw policy inferences . . .

Now page 5.

Now page 37.

ES-6   Reasons for Nonparticipation. Delete paragraph and use language from 4-1. "This evaluation question is answered based on existing data. Therefore, we are conducting a

13

survey on what reasons eligible persons currently give for
nonparticipation in the program, and in a subsequent
report we will present these results."

Now page 10.

1-1   First sentence in first paragraph, delete can.

See page 10.

Footnote 1, delete pilot and insert demonstration.

Now page 10.

1-3   First sentence in first paragraph. Delete 1959 and insert
1961. Delete demonstration and insert pilot.

See page 10.

Fourth sentence in first paragraph. Delete 1975 insert
1974.

Now page 17.

2-6   Footnote 3 reference source Food and Nutrition Activity
Service Reports. Should this read Food and Nutrition
Service Activity Reports?

Now page 19.

2-9   Table 2.2: Average Monthly Participation Reported in the
Food Stamp Program: FY 1979-1986a.

See table on page 19.

Were averages computed by GAO? If not, which source was
used to obtain numbers for the average?

Reference source: Food and Nutrition Service, U.S.
Department of Agriculture, Washington, D.C. Is this
source complete?

Now page 20.

2-10   First, second and third sentences in first paragraph.
This is an inadequate description of the old program.

See page 20.

Second sentence in second paragraph. Delete deterred,
insert reduced participation.

Now page 23.

2-17   Last sentence in second paragraph. Delete most and insert
many. Delete may be and insert are.

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14

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