

EVALUATION OF THE FOOD STAMP PROGRAM

Stephen J. Hiemstra, U. S. Department of Agriculture

Program evaluation involves the systematic study of costs and benefits received from a program within the constraints of achieving the objectives as specified for the program. Any such evaluation must begin by laying out the pertinent objectives and measuring the extent to which they are being achieved. That in itself is often no small task. Program objectives tend to be conflicting and subject to evolution over time as legislation is amended and interpreted.

This paper outlines my concept of the primary objectives of the Food Stamp Program, indicates the extent to which the program has been evaluated in light of those objectives, and discusses the specifications for a new major evaluation of the program that is needed.

I. Program Objectives

The objectives of the Food Stamp Program are legislatively two-fold: (1) to increase the demand for farm products, and (2) to increase the nutritional levels of low income people. These two objectives were intended to be largely complementary, or at least compatible. However, that isn't necessarily the case. The program in its construction allows freedom of choice to recipients to purchase the kinds of foods that meet their personal preferences. Increased expenditures for food don't necessarily mean that the foods are any more nutritious.

There has been considerable shift in emphasis given to these two objectives since the original Act was passed in 1964. Initially, a great deal of emphasis was placed on expanding the demand for farm products. But there has been considerable shift in emphasis since then toward increasing nutritional levels of low income people. To some extent the program itself has been redesigned to give this second objective more emphasis. Also, there has been little need to stimulate artificially the demand for food in recent years of rising food prices and large foreign demands.

A third implicit objective of the program has also been getting increased attention in recent years and to a considerable extent overshadows the other two objectives in the recent debate on Food Stamp Program reform. I am speaking of the transfer of resources that takes place as a result of participation in the program. There is much concern about the equity considerations surrounding the redistribution of income brought about by the program. This is expressed in the policy debate concerned with (1) the appropriate level of eligibility for the program, (2) the amount and size of the contributions, if any, required of participants in the Program (purchase requirement), (3) the appropriate definition of income and income exclusions to allow in determining eligibility and benefit levels, (4) the levels of participation in the program in relation to the number eligible, and the outreach efforts that have been conducted.

Rather surprisingly, these concerns for equity and redistribution of resources have tended to overshadow concerns about meeting the food and nutrition objectives of the program. One of the emerging policy issues, however, highlights the conflict in this implicit objective of income redistribution with the food and nutritional objectives. That issue is whether or not the program should continue to have a purchase requirement or whether the benefits should simply be given to the recipient at no cash outlay to him. At issue is the importance of providing the opportunity for the recipient to purchase a nutritionally adequate diet vis-a-vis the importance of increasing participation.

The purchase requirement is designed to insure that the program has impacts at the margin of previous levels of food spending and thereby raise food consumption and nutritional levels of recipients, and in aggregate expand the demand for farm products.

II. Existing Data and Past Research Efforts

Over the years a number of surveys and studies of effectiveness of the Food Stamp Program have been conducted. These include the following:

1. There have been two Nationwide surveys of the profile of participants in the program. The first one, with data as of November, 1973, was conducted under contract as a household survey. The second survey was an in-house activity by our own field staff based on information in case files of households certified for the program as of September, 1975. It was gratifying to see that the results of these surveys were compatible even though they utilized different methodologies.

2. There have been several pilot studies of food and nutrient consumption by program participants in a given county or locality, but no such studies have been National in scope. Most of them involved obtaining a sample of households participating in the Food Distribution Program just before it was terminated, and a similar number of households eligible for that Program but not participating. Then, about six months after the area had transferred to the Food Stamp Program surveyors went back and reinterviewed as many of the original households as could be found. Four-way comparisons of food consumption patterns of the households were analyzed.

Such studies were conducted in the early years of the program in Detroit, Michigan, and Fayette County, Pennsylvania; Detroit, Michigan; and Sunflower County, Mississippi. More recently, studies have been made in two counties of Southern Pennsylvania; Kern County, California; and Bullock County, Alabama. The earlier studies utilized 7-day recall of food use, patterned after the Nationwide Food Consumption Surveys of the Agricultural Research Service conducted most recently in 1965-66. The recent studies in Pennsylvania, Alabama and California, however, involved 24-hour

recall of food use.

These studies all contained a large number of data and methodological problems. With only two points in time spanned, cross-sectional comparisons of a relatively small number of households, and a myriad of foods used, there obviously were more variables affecting the data than could be explained statistically by the degrees of freedom present. Variability in consumption of many food items due to the uncontrollable variables appeared in many cases to outweigh the differences in consumption attributable to the introduction of the Food Stamp Program. At best, only tentative conclusions could be drawn from these pilot studies.

3. An overall assessment of the impact of the Food Stamp Program in terms of food expenditures at the retail level was conducted by the Economic Research Service of the Department. It was a synthesis of many of the previous studies that had been conducted. Its basic finding was that somewhere between 50 and 65 percent of the bonus value of the Food Stamp Program likely is reflected in increased food expenditures at the retail level (MPC of .5 to .65).

In going a step further, it pointed out that about two-fifths of that amount likely was reflected in increased value of food as purchased at the farm level. That conclusion, however, was based on average rather than marginal propensities to consume, and based on secondary data. It did not reflect marginal analysis of the Food Stamp Program itself.

4. A fairly comprehensive study of the Food Stamp Program was submitted to the Congress by the Department as a response to Senate Resolution 58, in June 1975. To a large extent this study compiled all of the evaluation studies that had been conducted up to that time. It pulled together data from many secondary sources as well as came up with new estimates on the number of people eligible for the program in relation to the number that were participating. A Supplement to that report also contained, for the first time, five-year projections of program size and cost. In addition to evaluating the program, the report included the first statement of the Department's recommendations for Food Stamp Program reform.

III. Need for Further Research

The very size of the Food Stamp Program (nearly \$6 billion reaching nearly 18 million people) and its recent growth in the past two or three years has raised serious questions as to its effectiveness in meeting objectives. The need is clearly for National data that can be used to answer important questions of policy.

The question about the usefulness of the purchase requirement is a case in point. Cost effectiveness of this in-kind program as opposed to a cash supplement program such as a negative income tax or income security type of program is another issue. Related to these issues are questions about the duplication of benefits of the Food Stamp Program vis-a-vis other in-kind food programs such as School Lunch and the WIC (Women,

Infants and Children) Program as well as various other Federal programs.

Analytical objectives designed to provide information relative to these policy questions include the following:

1. Determination of changes in food expenditures and food consumption of recipients that are attributable to the program, and that can be contrasted with studies of cash supplements.
2. Measurement of the extent to which recipients in fact receive a nutritionally adequate diet.
3. Assessment of the impacts of additional food demand generated by the Program upon aggregate food markets.
4. Examination of the importance of food stamps in relation to total food availability to the household, and in relation to other Federal transfer programs.

IV. Specifications of Needed Survey Data

With these objectives in mind, the Department for the past two years has been working on the study design of a major survey that would collect primary data from a National sample of households with the following specifications:

1. Data must be longitudinal in order to minimize variability due to factors other than Program participation, and to measure the impacts of dynamic variables.
 - a. Cross-sectional analyses that have been conducted in the past have not been successful in isolating the impacts of the many variables affecting food consumption of individual households. Typically, such household studies "explain" only relatively small parts of the total variability in consumption of individual food products.

Compounding this problem is the observation from several studies of factors affecting Program participation that nonparticipating "control" households often appear to have unique reasons for not participating in the Program. The recent Kern County, California, and Bullock County, Alabama, studies each listed about 10 reasons for not participating in the Program. The recent ERS study of participation came up with a different set of factors.

In sum, studies such as conducted in Kern County and Madden's study in two counties in Pennsylvania were not able to sort out statistically all of the factors affecting participation using cross-sectional data. Even though variations in consumption over time are also subject to a large number of exogenous influences, our hypothesis is that more variables would be endogenous to a longitudinal model than to a cross-sectional model. Actually, the intent is to analyze the data utilizing both dimensions of the data.

- b. Longitudinal analysis can assess the impact of program participation, because of the considerable

amount of variability in participation by the same households over a period of time. Consumer Population Survey data and an in-house survey have shown that over a 12 month period, there are somewhere between 40 and 70 percent more unduplicated households participating than participated in any single month of that same 12 months.

c. Similarly, longitudinal data can readily span a number of changes in program design and benefit levels over time because historically such changes have been rather numerous over a one or two year period of time. Price level adjustments are mandated twice a year in both stamp issuance and eligibility levels.

Price level adjustments are quite costly to the Government because the entire cost becomes an added Federal expense if household incomes remain unchanged. Nevertheless, no direct analysis of the impact of these incremental Program changes on food expenditures or food prices has been possible in the past. Such analyses as have been made have relied upon assumptions and secondary data.

2. The length of survey period of data collection for individual households must be long enough to overcome the expected normal variability in household expenditure and consumption levels. Since the assumption is to be made that all food brought into the household is used except for normal waste and loss, the period of observation must be long enough to even out the inventory problem. Major inventory changes, however, would be allowed for.

Data from the Atlanta Panel survey (1956-1962), which collected continuous data from the same households for six years, and special tabulations of data from the Market Research Corporation of America (MRCA) panel 1973 data provided the basis for specifying that the survey period should be 3 to 4 weeks long. Coefficients of variation were computed for varying time periods up to six week averages based on expenditures for selected food products. Variability decreased greatly as the length of observation increased up to four weeks but relatively little reduction occurred after that time.

The time period covered by sample data should match up with program operational characteristics, or the data must be adjusted to it. Food stamps typically are distributed on a monthly or semi-monthly basis. Food purchases would be submitted on a weekly basis, which is thought to coincide with typical shopping patterns. The analytical adjustment to a monthly basis is complicated because of the varying number of days per month. For that reason, the calendar month perhaps is the best unit of observation.

3. Detailed quantity of food consumption and food expenditure data are needed to determine the nutritional adequacy of the diet of recipient households and to measure impacts upon markets for individual food commodities. Since nutrients vary considerably among foods within the same food group, and even among forms of the same food, careful specification of the data is a requirement for analysis.

a. Standard procedures developed by the Agricultural Research Service in analyzing their decennial household food consumption survey data will be used in converting quantities of food on an "as purchased" basis into nutrients, after allowing for loss of food in storage, conversion to edible basis in preparation, and plate waste.

b. Reliance upon analysis of nutrients in the food used is made in the context of the legislation that specifies the Food Stamp Program to be a food program which is only one--albeit an important one--aspect of a total health or medical program designed to impact upon the total nutritional status of recipients.

The Food Stamp Program is designed to operate through the free marketing system, allowing free choice in the selection of foods. Since objectives are to increase food use and nutrient levels of low-income people, there are implied assumptions that, first, there are food and nutritional problems to solve, and, secondly, that they will be solved by providing increased purchasing power to recipient households.

c. The household is specified as the unit of observation. This decision also reflects program design that provides increased purchasing power to the household and leaves it to that household to maximize internal food use. Nutritional status of individuals within the household would not be assessed. Analysis by individual household sizes--with particular attention given to large and small sizes that weigh heavily among Program participants--is contemplated.

d. If there is in fact no measurable nutrient impacts of the program, it may be due either to the lack of a substantive nutritional problem to be solved, or a poor delivery system for solving it. For example, recipients might be spending additional money on nonnutritious foods, as is often charged by program critics. It is beyond the scope of this study to assess the total nutritional status of the population. That is the job of the HANES Survey and related efforts.

e. Detailed quantity and expenditure data are also needed to relate food purchases to the size of the markets for individual food commodities to assess the impacts of the Program upon U.S. market demand.

4. Diary tabulation by cooperating households is to be specified as the form and method of the data collected. There is limited statistical basis to choose between recall and diary data. A recent methodology study by the Agricultural Research Service of five or six different lengths of recall and diary periods showed that recall data generally tended to show higher rates of food consumption than did diaries. No assessment was possible of the true mean, however. If diary data underreport the mean, there would be a bias introduced in assessing the extent of the program achieving a nutritionally adequate diet. Therefore, every effort will be made to stimulate complete and accurate reporting.

V. Sample Design

The sampled population should consist of all households participating, likely to participate, and eligible to participate over the period of observation in the Nation. Unfortunately, no such listing of households is available nor can one be readily compiled. There are listings of program participants available at the local project level but it would be difficult to add files of potential participants.

For that reason, an area probability sample must be drawn for screening purposes and enough information obtained to determine eligibility status. That will be cumbersome because eligibility is complicated to determine and income normally is subject to verification by the caseworker. Eligibility is complicated by a long list of income disregards that are available.

Nevertheless, there is substantive interest in the file of eligible nonparticipants. There is considerable interest in determining the number, profile and location of this group for purposes of outreach and assessment of the extent to which the program is reaching the intended group.

A complicating factor is the variation that is known to exist in monthly incomes of those potentially eligible to participate and the high rate of movement on and off of the program. It is not known to what extent such movement is due to change in eligibility status versus other reasons.

Sample size has not been determined, but it likely will be in the range of 2,500 to 3,000 households located in 60 to 65 PSU's defined to be SMSA's. Differential sampling rates within SMSA's may be allowed, and area clusters identified for efficiency in data collection.

Decisions are yet to be made as to the desirability of extending the study to Puerto Rico, Virgin Islands and the other Territories where the Program also operates. Conceptually, it should be extended but the sample would need to be stratified to cover expected additional variability in those areas.

VI. Data Collection Problems

There potentially are serious problems of respondent burden and consequent nonresponse from this type of data collection. For that reason, consideration is being given to limit the length of data collection from each household to the minimum necessary to meet the requirements imposed by expected data variability, analytical needs, and program compatibility.

Dropouts are expected to be a problem due to many factors--family splits, geographic movements, lack of interest, and reaction to the sizable burden imposed by the collection activity itself. Plans are to follow as many households or splits as practical and to subsample nonrespondents. But there would be no replacement of households for those withdrawing from participation. Respondents likely will be compensated for providing data to minimize the dropout problem.

VII. Analytical Problems

The survey will be designed and data collected to minimize analytical problems, but many of them will remain. These include the following:

1. Nutrient content of foods is quite variable. The study will assume average nutrients in specified foods; it will not employ chemical analysis because it would be impracticable in this size and type of data collection.
2. Nutrient needs of people are variable and dietary standards themselves are set at several standard deviations above average needs (which are only imprecisely known). Thus, failure to meet 100 percent of the nutrient standards may not be indicative of failure of meeting nutrient needs of individual households.
3. Length of time period for analysis will be a compromise between the desire for homogeneous data, availability of data, and variability in program participation status. Quarterly data may be desirable for minimizing problems due to lack of inventory control, but participation status changes on a monthly basis. The intent will be to measure the impact of multi-Federal program participation, but such status likely will also change on a monthly basis. Lack of matching time periods is complicated by sample data collected on a weekly basis.
4. Assessment of net impacts of the program will be complicated by the operation of many random influences affecting expenditure and consumption patterns that may not be quantifiable. Individual household data are known to be almost infinitely variable and only the major factors can be quantified. Statistical analysis utilizing the pooling of longitudinal and cross-sectional data is envisioned, since the data represent a time-series of cross-sectional sample points.
5. The time period of overall assessment will be limited to two years of observations--perhaps 6 to 8 sample points of quarterly data. Although considerable variation will be expected in the substantive variables, there may be some dynamic features of the program that will not change sufficiently to allow statistical analysis. For example, some kinds of people on the program will not change program status. Changes in program status are less frequent for public assistance and SSI than for nonpublic assistance households.
6. In addition, the analysis may be complicated by the aggregate income and employment, and food supply and demand picture confronting the program during the period of observation. Inflationary problems are to some extent endogenous to the system being studied, but it is expected that the other factors will be held constant through normal statistical procedures.

VIII. Plans for Related Studies

Aside from the household consumer panel, FNS plans to conduct the following additional studies in the near future:

1. Survey of household assets

This survey, also to be conducted on a National probability basis, is intended to obtain data needed to provide the Administration and the Congress with information regarding the asset holdings of food stamp households and of other low income households eligible for participation. Included would be questions covering both the value of assets currently excluded from consideration in determining eligibility and assets currently included in such determination.

If the household consumer panel discussed above is not approved, this survey would be expanded to provide the basic profile data expected to be generated by the screening survey regarding eligible nonparticipating households.

2. Survey of Level of Understanding of the Program

This survey will focus on determining the level of knowledge of the Program, for purposes of gaining insight into the nature of the reasons for nonparticipation of those households currently eligible for the program. It should provide understanding of the need for outreach and the direction that outreach programs should take in being effective. It will attempt to be more in-depth in scope than previous studies of reasons for nonparticipation have been in the past.

3. Study of Impact of the FSP on Indians

This study will try to provide insight into the

lack of acceptance of the Program by many Indian Reservations. It will study areas where the Program has been implemented and focus on rates of participation; food prices charged, availability of food stores, costs and convenience of program operations, and profile of participants. To the extent possible such data will be matched against previous studies conducted while the Food Distribution Program was in operation, such as the study conducted on the New Mexico portion of the Navaho Reservation.

XI. Summary

Comprehensive evaluation of the Food Stamp Program has not been conducted to the extent that is needed for policy purposes. Several elements of the program have been studied carefully--particularly those issues related to the equity questions of program eligibility, participation, and size of benefits. But cost-benefit analysis has been lacking because of little comprehensive information available on the program impacts upon either recipients or aggregate food markets.

A longitudinal study of the food and nutritional impacts of the program is now being designed to provide the data for such an analysis. There are many statistical questions under study. They have been addressed by a study group which has recently given the Agency a report on this subject. Nevertheless, the methodological problems have not all been resolved at this time.