

Understanding the Food Stamp Benefit Formula

A Tool for Measuring the Component Effects

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Introduction

The food stamp benefit formula is the set of rules that the Federal Government uses to determine the amount of program benefits available to each household participating in the Food Stamp Program (FSP), based on income and other characteristics. Choosing this formula is a major policy decision: \$16 billion in food stamp benefits were distributed according to this formula in 1999, providing food assistance to more than 18 million low-income Americans (USDA, Food and Nutrition Service, 2000). The U.S. Congress signals the policy importance of the benefit formula by deciding every parameter itself, rather than delegating any aspect of the formula to the State and Federal agencies that administer the FSP.¹

The benefit formula is complex in its details, but the main thrust is simple: the Federal Government chooses a benefit level such that benefits plus a proportion of cash resources suffice to purchase a certain bundle of foods, defined in the Government's Thrifty Food Plan (USDA, Center for Nutrition Policy and Promotion, 2000). In addition to food stamp benefits, the Government expects participant households to spend 30 percent of their "net" cash income on food, after making allowances for certain expenses (see USDA, Food and Nutrition Service, 2000 and the discussion below for further detail on the benefit regulations).

The complexity arises in translating this general principle into a concrete formula for implementation. The benefit formula is stated precisely in the next section, but some of the difficulties are mentioned here. There

are maximum benefit levels for each household size, and minimum benefits for some household sizes. Benefits are based on cash income minus several types of deductions. The deductions include certain medical expenses, child support payments, child care expenses, shelter expenses, work expenses, and a standard deduction. The shelter deduction is based in part on the cash income remaining after the other deductions are taken, so the deductions must be computed in a particular order. These details of the benefit rules have complicated the analysis of food stamp policy by increasing the level of expertise required to understand precisely why different types of households get particular benefit amounts.

This report asks several questions about the benefit formula's main components:

- How much is the average benefit affected by the reduction that accompanies increased cash income?
- How much is the average benefit raised by each of the deductions permitted in calculating net cash income?
- To what extent is the average benefit limited by the maximum benefit amount?
- To what extent is the average benefit increased by the minimum benefit amount?

The report also examines how each component of the benefit formula affects food stamp units² with different characteristics along several dimensions:

¹By contrast, the main Federal cash welfare program (Temporary Assistance for Needy Families) is structured as a block grant to the States, which are given much leeway in determining cash welfare policies.

²The food stamp unit is the official household definition for the Food Stamp Program. Technically, a food stamp unit is one or more individuals who live in a residential unit and purchase and prepare food together. This report uses food stamp unit and household synonymously.

Table 1—Monthly food stamp benefits for two-person households in the continental United States

Symbol	Component name	Deduction
		<i>Percent</i>
M	Maximum benefit	224.00
E1	Income effect	-157.12
E2	Deductions effect	86.80
E3	Maximum benefit effect	-9.86
E4	Minimum benefit effect	2.04
Food stamp benefits		145.87

Note: Column entries are rounded to two significant digits after the decimal

Source: Author's calculations from 1998 Quality Control Data.

- Poverty status;
- Demographic composition;
- Household size;
- Region of residence.

To answer these research questions, the report develops a new tool for measuring each component of the benefit formula in the same metric—the effect in dollars on the mean food stamp benefit amount. For example, two-person food stamp units in the continental United States had a maximum benefit amount of \$224 in 1998 (table 1). However, most of these food stamp units had some cash income, which usually reduced their benefit amount.

The extent of this reduction depended on the extent to which the units were eligible for deductions from gross income. In all, the mean food stamp benefit for two-person households (\$145.87) is the sum of the maximum benefit amount plus four main effects (labeled E1 through E4 in table 1). These effects, which may be positive or negative, are defined formally and studied in the remainder of this report. This analysis shows at a glance how each effect contributes to the average benefit level.

This report summarizes complicated quantitative information about income, program rules, and benefit amounts in a consistent and intuitive format. However,

this approach is limited for some purposes. For example, microsimulation methods are superior to this report's approach for the purpose of assessing policy-relevant counterfactual scenarios (see Jacobson et al., 2000).

Likewise, the annual Characteristics reports from the Food and Nutrition Service contain many useful tabulations of participant characteristics beyond the impact of the benefit formula (Castner and Rosso, 2000). The analytic tool presented here is most useful for transparently describing how much each feature of the benefit formula contributes to the average benefit amount and for comparing these contributions across different types of food stamp participants.

In the authorizing legislation for the Food Stamp Program, Congress instructed the Secretary of Agriculture:

to develop and implement measures for evaluating, on an annual or more frequent basis, the effectiveness of the food stamp program in achieving its stated objectives, including, but not limited to, . . . the program's relative fairness to households of different income levels, different age composition, different size, and different regions of residence (Food Stamp Act of 1977, p. 1-89).

To assess the program's fairness requires, first, an understanding of how program regulations affect different types of households and, second, some criteria for determining what distribution of effects would be fair. This report compares food stamp participants along the same classifications mentioned by Congress: poverty status, demographic composition, household size, and region of residence. These comparisons do not on their own reflect a judgment about the fairness of the benefit formula.

This report first describes the food stamp benefit formula and explains how the benefit level may be decomposed into its respective parts. That description is followed by an empirical analysis, using Food Stamp Program Quality Control data for 1998. The final section discusses limitations and advantages of this approach.