



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

THE FOOD STAMP PROGRAM AND LOW-INCOME HOUSEHOLDS' FOOD PURCHASES

By Larry E. Salathe*

The Food Stamp Program is intended to supplement the food budgets of low-income households. The purpose of this article is to analyze how food stamp recipients use their increased buying power—the types of food items they buy and the types they avoid—as compared with low-income households who do not participate in the program. The study provides a base for assessing the impact of eliminating the purchase requirement (as of January 1, 1979) when new data on food purchases by food stamp households become available.

The latest period for which data are available for this analysis is 1972-74. Since that period, the Food Stamp Program has undergone major change. During 1972-74, qualified households received an allotment of food coupons based on the number of persons in the household; the recipient paid an amount (the purchase requirement) for the allotment based on the net total income of the household. The difference between the purchase requirement and the value of the food coupon allotment was referred to as the "bonus" or the value of "free" coupons received. On January 1, 1979, the purchase requirement was eliminated.¹ Now, qualified households receive an allotment of food coupons equal

Households participating in the Food Stamp Program increased their food expenditures an average of 10 percent. Their food-at-home expenditures rose 19 percent while food-away-from-home expenditures declined 36 percent. Increases occurred for cereal and dairy products, eggs, nonalcoholic beverages, pork, poultry, and processed vegetables. The Food Stamp Program was estimated to be nearly three times as effective as a cash transfer program in expanding food purchases. These conclusions are based on an analysis of the 1972-74 Bureau of Labor Statistics Consumer Expenditure Survey, when the purchase requirement was in effect.

Keywords

*Food expenditures
Food Stamp Program
Household income*

in value to the bonus. Economic theory indicates that this change has reduced the program's ability to expand food purchases per dollar distributed as it permits participants to spend more of their income on nonfood items (3).²

DATA SOURCE

Data for this analysis are from the 1972-74 Bureau of Labor Statistics (BLS) Consumer Expenditure Diary Survey (CEDS). The CEDS data were collected in two 12-month periods (6). Data on

participation in the Food Stamp Program were collected only in the second of these periods. In that second survey, 10,650 households provided complete information on income and food purchases. A total of 610 of these households (5.7 percent) participated in the Food Stamp Program.³ Of those, 53 households were eliminated from the study because (1) the household did not provide information on the value of food coupons received or on the (purchase requirement) amount paid to obtain the food coupons, or (2) the household's recorded before-tax income for the previous year exceeded twice the maximum income eligibility standard in effect during 1973-74. The second criterion was used to eliminate households whose income status seemed to have changed dramatically between the previous year and the time they were surveyed.

Food stamp recipients had an average before-tax household income of \$3,424, whereas all households in the survey had an average before-tax income of \$11,295. As past studies have indicated that income influences food purchases, a subsample of nonparticipants was selected with incomes similar to those of Food Stamp Program participants. Income eligibility standards for the Food Stamp Pro-

*The author is an agricultural economist with the National Economics Division, ESS.

¹The impact of eliminating the purchase requirement on participants' food purchases is beyond the scope of this article, and the results presented do not apply directly to the current Food Stamp Program.

²Italicized numbers in parentheses refer to References at the end of this article.

³A disproportionate number of food stamp households did not provide data on their incomes. In the original sample, there were a total of 12,121 households, of which 826 participated in the Food Stamp Program. In 1974, about 9 percent of all U.S. households participated in the Food Stamp Program.

gram in effect from July through December 1973 for the 48 contiguous States and the District of Columbia were used as the selection criteria

| Household size | Monthly income |
|------------------------|----------------|
| | <i>Dollars</i> |
| 1 | 183 |
| 2 | 240 |
| 3 | 313 |
| 4 | 387 |
| 5 | 460 |
| 6 | 533 |
| 7 | 600 |
| 8 | 667 |
| Each additional member | 53 |

The income eligibility standards were raised 20 percent to account for deductions (such as excessive housing and medical costs) that are subtracted from a household's income when determining eligibility for Food Stamp Program benefits (see (7), Title XIII).⁴ Using these income criteria, 1,697 households could have participated in the Food Stamp Program, but did not.

The average weekly per capita (before-tax) income of eligible nonparticipants was \$27.23, while that of participants averaged \$24.20. In addition, participants received, on average, a net transfer of \$4 per person per week from the Food Stamp Program.

Generally, eligible nonparticipant households were smaller and had older members than did partici-

pant households. The average household size was 2.87 members for eligible nonparticipants and 3.4 members for participants. Of all eligible nonparticipant household members, 14 percent were under 10 years of age, while 32 percent were over 65 years of age.⁵ In comparison, 24 percent of all participant household members were under 10 years of age, and only 19 percent were over 65 years of age. One-fifth of all eligible nonparticipant households were black, while two-fifths of all participant households were black.

METHODOLOGY

Differences in food purchasing behavior between participants and eligible nonparticipants may be attributable to differences in racial mix, household size and composition, and other socioeconomic and demographic characteristics. Traditionally, researchers have attempted to isolate the impact of the Food Stamp Program by specifying a functional relationship among household food expenditures, household characteristics, and the bonus value of food stamps received. In this traditional approach, the relationship between food expenditures and income for participant households is assumed continuous. Alternatively, the impact of a dollar of bonus food stamps on household food purchases is assumed either as not varying as income rises or as declining monotonically as income increases.

⁵ Asset criteria may have eliminated the eligibility of some households with members over 65 years of age.

A theoretical model developed by the author (3) indicates that this relationship is discontinuous, which could lead to inaccurate estimates of the program's impacts. Accounting for the discontinuity statistically requires identifying participant households who spend no more than the value of food stamps received on food at home. Existing household survey data, however, do not contain the information required to identify these households. Therefore, an alternative procedure was used to isolate the impact of the Food Stamp Program on household food expenditure behavior (see (3)).

The first step consisted of estimating the functional relationship between the food expenditures and household characteristics of eligible nonparticipant households. The second step used the estimated relationships in the first step to derive estimates of eligible nonparticipants' food expenditures, assuming they possess the same characteristics as participant households. The difference between food expenditures of participants and eligible nonparticipants after adjusting for differences in household characteristics can then be used to measure the impact of the Food Stamp Program on food expenditure behavior.

ECONOMETRIC MODEL

Least squares regression was used to estimate the functional relationship between household food expenditures and household characteristics for eligible nonparticipants. The general form of the model was

⁴ Survey data were insufficient to determine the actual value of deductions or food stamp eligibility based upon asset criteria.

$$E_{ih} = E_{ih}(URBN_h, NE_h, NC_h, S_h, WHT_h, PY_h, NAG1_h, NAG2_h, NAG4_h, NAG5_h, NAG6_h, LNFMS_h) \quad (1)$$

where

- E_{ih} = per capita weekly household expenditures on food group i by the h th household,
- $URBN_h$ = 1 if the h th household's residence is urban, 0 otherwise,
- NE_h = 1 if the h th household's residence is in the Northeastern region, 0 otherwise,
- NC_h = 1 if the h th household's residence is in the North Central region, 0 otherwise,
- S_h = 1 if the h th household's residence is in the Southern region, 0 otherwise,
- WHT_h = 1 if the h th household's head is not black, 0 otherwise,
- PY_h = per capita weekly before-tax income of the h th household,
- $NAG1_h$ = proportion of members in the h th household under 11 years of age,
- $NAG2_h$ = proportion of members in the h th household between 11 and 20 years of age,
- $NAG4_h$ = proportion of members in the h th household between

- 36 and 50 years of age,
- $NAG5_h$ = proportion of members in the h th household between 51 and 65 years of age,
- $NAG6_h$ = proportion of members in the h th household over 65 years of age, and
- $LNFMS_h$ = natural logarithm of the h th household's size

The specification of this relationship was motivated by previous studies analyzing household expenditure behavior.⁶ The relationship expresses per capita weekly household expenditures as a function of per capita weekly income, race, region, urbanization, and household size and composition. The natural logarithm of household size was included to allow for economies of size in food purchasing.

The matrix of explanatory variables would be singular if all urbanization, race, region, and age categories were included in the specification. The excluded or base categories include in the urbanization category, nonurban, in the region category, the western, in the racial category, black, and in the age category, 21 through 35 years. Thus, the coefficients of the included urbanization, race, region, and age categories denote the change in per capita food expenditures relative to the particular excluded category. For example, the coefficient of $NAG4$ denotes

⁶ Many of these studies are summarized in (1)

the difference in per capita household food purchases if all household members were 36 through 50 years of age rather than 21 through 35 years of age.

Table 1 presents the estimated expenditure relationships. These relationships indicate that household characteristics are important in explaining household food purchase behavior. For example, rural eligible nonparticipants spent significantly less on beef and veal, fish, fresh vegetables, and food away from home, but significantly more on cereal products, fats and oils, and sugar and other sweeteners than similar urban eligible nonparticipant households. Households located in the Northeast spent more on total food, food at home, bakery products, beef and veal, other red meats, poultry, fish, dairy products, and non-alcoholic beverages than similar eligible nonparticipants residing outside the Northeastern region.

The data in table 1 also suggest that race and household composition influence household food purchase behavior. White eligible nonparticipant households spent significantly less on pork, poultry, and fish, but significantly more on bakery products, dairy products, nonalcoholic beverages, miscellaneous prepared foods, and food away from home than similar black households. Households with children tended to spend less on food than households of the same size with only adults. Households with members over 65 years generally spent more on food at home and considerably less on food away from home than similar households with middle-aged adults. These

Table 1—Estimated weekly per capita food expenditure equations, eligible nonparticipant households

| Independent variable | Total food | Food at home | Cereal products | Bakery products | Beef and veal | Pork | Other red meats | Poultry | Fish | Eggs |
|----------------------|--------------------|--------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <i>Dollars</i> | | | | | | | | | | |
| Intercept | 8 8664 (7 74) | 5 3374 (5 23) | 0 3234 (4 39) | 0 1858 (1 63) | 0 5909 (2 61) | 0 7580 (4 22) | 0 3046 (3 13) | 0 4145 (3 10) | 0 1938 (2 43) | 0 1974 (3 09) |
| URBN | 6354 (1 43) | 0127 (03) | - 1137 (-3 98) | - 0290 (- 66) | 1773 (2 02) | - 0536 (- 77) | 0512 (1 35) | 0855 (1 65) | 0828 (2 67) | - 0030 (- 12) |
| NE | 2 2486 (3 69) | 1 7838 (3 29) | - 0569 (-1 45) | 2513 (4 15) | 2472 (2 05) | 0142 (15) | 2656 (5 12) | 2280 (3 21) | 1370 (3 07) | 0119 (35) |
| NC | -1 0786 (-1 93) | - 6521 (-1 31) | - 1012 (-2 82) | 0791 (1 42) | - 2117 (-1 92) | - 0154 (- 18) | 0401 (84) | - 0274 (- 42) | - 0298 (- 77) | - 0228 (- 73) |
| S | - 5295 (- 99) | - 2713 (- 57) | - 0398 (-1 16) | 0445 (84) | - 0833 (- 79) | 1091 (1 30) | - 0055 (- 12) | 1081 (1 74) | - 0435 (-1 17) | - 0061 (- 21) |
| WHT | 4556 (92) | - 2206 (- 50) | - 0210 (- 66) | 1394 (2 82) | 0004 (01) | - 4425 (-5 67) | - 0697 (-1 65) | - 3021 (-5 22) | - 1381 (-3 99) | - 0295 (-1 06) |
| PY | 08285 (4 47) | 06135 (3 72) | 00275 (2 31) | 00614 (3 33) | 00849 (2 32) | 00520 (1 79) | 00138 (87) | 00248 (1 15) | 00068 (52) | 00061 (59) |
| NAG1 | -3 4844 (-2 30) | - 8080 (- 60) | - 1137 (-1 17) | 1042 (69) | - 4554 (-1 53) | - 3384 (-1 43) | - 1254 (- 98) | - 1276 (- 72) | - 0754 (- 72) | 0468 (55) |
| NAG2 | -1 9375 (-1 90) | -1 2266 (-1 35) | - 0711 (-1 09) | 1041 (1 03) | - 4146 (-2 06) | - 1615 (-1 01) | - 1470 (-1 70) | - 1516 (-1 28) | 0204 (29) | - 0244 (- 43) |
| NAG4 | 7964 (68) | 1 5173 (1 46) | 1012 (1 35) | 1576 (1 36) | 1622 (70) | 3395 (1 86) | 0929 (94) | 2445 (1 80) | 0402 (50) | 1195 (1 84) |
| NAG5 | 1 7453 (2 06) | 3 8475 (5 11) | 1503 (2 76) | 3705 (4 41) | 4502 (2 69) | 4988 (3 76) | 0566 (79) | 3228 (3 28) | 1204 (2 04) | 1971 (4 17) |
| NAG6 | - 9454 (-1 25) | 2 9135 (4 33) | 1351 (2 78) | 3529 (4 69) | 3098 (2 07) | 3081 (2 59) | 0138 (22) | 1876 (2 13) | 1017 (1 93) | 1713 (4 06) |
| LNFM5 | -1 3084 (-3 19) | 0729 (20) | 0555 (2 11) | - 0236 (- 58) | 0842 (1 04) | 0902 (1 40) | 0064 (19) | 0154 (32) | 0150 (53) | - 0056 (- 25) |
| R ²² | 12 | 10 | 04 | 08 | 05 | 06 | 04 | 06 | 04 | 04 |
| SEE ³ | 7 41 | 6 59 | 48 | 74 | 1 46 | 1 16 | 63 | 86 | 52 | 41 |

See footnotes at end of table

Continued—

Table 1—Estimated weekly per capita food expenditure equations, eligible nonparticipant households—Continued

| Independent variable | Dairy products | Fresh fruits | Fresh vegetables | Processed fruits | Processed vegetables | Sugar and other sweeteners | Fats and oils | Non-alcoholic beverages | Miscellaneous prepared foods | Food away from home |
|----------------------|-------------------|-------------------|-------------------|-------------------|----------------------|----------------------------|-------------------|-------------------------|------------------------------|----------------------|
| | <i>Dollars</i> | | | | | | | | | |
| Intercept | 0 5541 (3 51) | 0 2099 (2 36) | 0 2214 (2 28) | 0 2226 (2 95) | 0 2204 (2 89) | 0 2415 (2 91) | 0 2202 (3 24) | 0 2603 (2 31) | 0 2300 (1 66) | 3 5309 (6 06) |
| URBN | - 0035 (- 06) | 0226 (65) | 0922 (2 45) | 0069 (24) | 0074 (25) | - 1152 (-3 57) | - 1254 (-4 74) | - 0323 (- 74) | - 0361 (- 67) | 6228 (2 75) |
| NE | 3055 (3 63) | 0282 (59) | 0922 (1 79) | 0274 (68) | - 0319 (- 79) | - 0349 (- 79) | - 0108 (- 30) | 1886 (3 15) | 1350 (1 83) | 4647 (1 50) |
| NC | - 0406 (- 53) | - 1258 (-2 89) | - 0483 (-1 02) | - 0140 (- 38) | - 0594 (-1 60) | - 0288 (- 71) | - 0450 (-1 36) | - 0024 (- 04) | 0013 (02) | - 4268 (-1 50) |
| S | - 0655 (- 89) | - 1679 (-4 04) | - 0451 (-1 00) | - 0495 (-1 41) | - 0074 (- 21) | - 0708 (-1 83) | - 0256 (- 81) | 0534 (1 02) | 0253 (39) | - 2583 (- 95) |
| WHT | 2419 (3 53) | 0422 (1 09) | - 0055 (- 13) | - 0286 (- 88) | - 0188 (- 57) | 0700 (1 94) | 0499 (1 69) | 1179 (2 42) | 1743 (2 91) | 6762 (2 68) |
| PY | 00665 (2 60) | 00267 (1 85) | 00280 (1 79) | 00351 (2 87) | 00290 (2 35) | 00010 (07) | 00326 (2 97) | 00497 (2 73) | 00699 (3 12) | 00215 (2 28) |
| NAG1 | - 0017 (- 01) | - 0396 (- 34) | - 1517 (-1 19) | - 1326 (-1 33) | - 0580 (- 58) | 0967 (88) | - 0119 (- 13) | 1224 (82) | 4570 (2 50) | - 2 6769 (-3 48) |
| NAG2 | - 1746 (-1 25) | - 0786 (- 99) | - 1551 (-1 80) | - 1108 (-1 66) | - 0372 (- 55) | 0438 (59) | - 0283 (- 47) | - 0623 (- 62) | 2221 (1 81) | - 7108 (-1 37) |
| NAG4 | 1588 (99) | - 0228 (- 25) | 1032 (1 05) | - 0400 (- 52) | - 0262 (- 34) | 0519 (61) | 0220 (32) | 1234 (1 08) | - 1098 (- 78) | - 7218 (-1 22) |
| NAG5 | 4437 (3 81) | 2629 (4 00) | 2096 (2 93) | - 0267 (- 48) | 0580 (1 03) | 2443 (3 98) | 1920 (3 82) | 2813 (3 39) | 0235 (23) | - 2 1034 (-4 89) |
| NAG6 | 3773 (3 62) | 2447 (4 16) | 1877 (2 93) | 1027 (2 06) | 0672 (1 34) | 1719 (3 13) | 0993 (2 21) | 0972 (1 31) | - 0056 (- 06) | - 3 8600 (-10 04) |
| LNFM5 | 0116 (21) | - 0013 (- 04) | 0114 (33) | - 0243 (- 90) | 0010 (04) | - 0231 (- 77) | - 0067 (- 28) | - 0379 (- 94) | - 1022 (-2 06) | - 1 3820 (-6 63) |
| R ² | 08 | 08 | 06 | 05 | 02 | 03 | 05 | 04 | 02 | 12 |
| SEE ³ | 1 02 | 58 | 63 | 49 | 49 | 54 | 44 | 73 | 89 | 3 77 |

¹Numbers in parentheses denote *t* values²Coefficient of determination³Standard error of regression

results suggest that to measure the Food Stamp Program's impact on household food purchase behavior accurately requires controlling for differences in characteristics between participants and nonparticipants

IMPACT OF THE FOOD STAMP PROGRAM ON FOOD PURCHASES

To control for differences in characteristics between participants and eligible nonparticipants, I used the estimated relationships to predict food purchases by eligible nonparticipants assuming they possess the same (average) characteristics as Food Stamp Program participants. Table 2 gives the mean values for these characteristics (independent variables). Thus, the predicted average per capita weekly total food expenditures by eligible nonparticipants possessing the same characteristics as participants are

$$\begin{aligned} E = \$9.28 = & 8.8664 + (.6354) \\ & (.8079) + (.2486) (.1688) \\ & - (.10786) (.2316) - (.5295) \\ & (.4129) + (.4556) (.5943) \quad (2) \\ & + (.0828) (.241952) - (.34844) \\ & (.2432) - (.19375) (.1669) \\ & + (.7964) (.0973) + (.17453) \\ & (.1540) - (.9454) (.1942) \\ & - (.13084) (.9730) \end{aligned}$$

Similarly, average per capita weekly expenditures on food-away-from-home, food-at-home, and selected food-at-home categories were estimated for eligible nonparticipants possessing the same characteristics as Food Stamp Program participants. Table 3 presents these esti-

mates plus the actual food purchases by Food Stamp Program participants and eligible nonparticipants

If we assume participants have the same purchasing patterns as similar nonparticipants, they would have spent \$9.28 per person per week on food if they had not participated in the Food Stamp Program. However, they actually spent \$10.16 per person per week on food, which implies that the per capita bonus of \$4 per week increased per capita food expenditures by 88 cents per week (9.5 percent). Per capita food-at-home expenditures were increased by an average of \$1.45 per week (19 percent), whereas per capita food-away-from-home expenditures were reduced by 57 cents per week (36 percent).

The large estimated decline in food-away-from-home purchases is surprising. Food stamps cannot be used to purchase food away from home. But by participating in the Food Stamp Program, the household can use a portion of the income formerly spent on food at home to purchase food away from

home and nonfood items. The above results suggest however, that Food Stamp Program participant households not only do not allocate any of these savings to food away from home, but that they actually reduce such expenditures. One explanation may be that low-income households view at-home and away-from-home food purchases as substitute sources of food. And since the Food Stamp Program subsidizes food-at-home purchases, thus causing an increase in such purchases, Food Stamp Program participants react by partially substituting increases in food-at-home purchases for food purchased away from home.

Participation in the Food Stamp Program increased purchases in all at-home food expenditure groups (table 3). Per capita total at-home food expenditures rose an average 19 percent. Food-at-home categories with large increases included cereal products (42 percent), processed vegetables (35 percent), pork (33 percent), nonalcoholic beverages (30 percent), eggs (23 percent), dairy products (22 percent), and poultry (22 percent).

Table 2—Mean values of independent variables for Food Stamp Program participants and eligible nonparticipants

| Independent variable | Eligible nonparticipants | Participants |
|----------------------|--------------------------|--------------|
| URBN | 0.7696 | 0.8079 |
| NE | 1721 | 1688 |
| NC | 2481 | 2316 |
| S | 3972 | 4129 |
| WHT | 8185 | 5943 |
| PY (dollars) | 27.2338 | 24.1952 |
| NAG1 | 1380 | 2432 |
| NAG2 | 1515 | 1669 |
| NAG4 | 0793 | 0973 |
| NAG5 | 1617 | 1540 |
| NAG6 | 3227 | 1942 |
| LNFM5 | 7797 | 9730 |

Table 3—Estimated impact of the Food Stamp Program on per capita weekly food purchases of low-income households, 1973-74

| Item | Participants (actual) | Eligible nonparticipants (actual) (adjusted) ¹ | | Impact of Food Stamp Program | |
|--|--------------------------|--|------|---------------------------------|-------|
| | | <i>Dollars</i> | | <i>Percent</i> | |
| Total food | 10 16 | 10 14 | 9 28 | 20 88* | 39 5 |
| Food at home | 9 16 | 8 32 | 7 71 | 1 45* | 18 8 |
| Bakery products | 69 | 72 | 63 | 06** | 9 5 |
| Beef and veal | 1 09 | 1 04 | 95 | 14** | 14 7 |
| Cereal products | 44 | 34 | 31 | 13* | 41 9 |
| Dairy products | 1 23 | 1 14 | 1 01 | 22* | 21 8 |
| Eggs | 32 | 28 | 26 | 06* | 23 1 |
| Fats and oils | 28 | 28 | 24 | 04** | 16 7 |
| Fish | 25 | 22 | 23 | 02 | 8 7 |
| Fresh fruits | 31 | 34 | 29 | 02 | 6 9 |
| Fresh vegetables | 43 | 42 | 37 | 06** | 16 2 |
| Miscellaneous prepared foods, condiments, and seasonings | 58 | 58 | 55 | 03 | 5 5 |
| Nonalcoholic beverages | 69 | 58 | 53 | 16* | 30 2 |
| Other red meats | 38 | 36 | 36 | 02 | 5 6 |
| Pork | 1 02 | 74 | 77 | 25* | 32 5 |
| Poultry | 62 | 48 | 51 | 11* | 21 6 |
| Processed fruits | 24 | 25 | 21 | 03 | 14 3 |
| Processed vegetables | 35 | 28 | 26 | 09* | 34 6 |
| Sugar and other sweeteners | 25 | 27 | 24 | 01 | 4 2 |
| Food away from home | 1 00 | 1 82 | 1 57 | - 57* | -36 3 |

¹ Predicted weekly per capita expenditures of eligible nonparticipant households possessing the same characteristics as Food Stamp Program participants

² Column 1 minus column 3. A * indicates difference is significant at the 0.01 percent level of confidence. A ** indicates difference is significant at the 0.05 level of confidence.

³ Column 4 divided by column 3

on average, each dollar distributed through the Food Stamp Program increased food purchases by 22 cents The Food Stamp Program is 2.7 times more effective in expanding household food purchases per dollar distributed than is a cash transfer program

Food Stamp Program participation also raised household expenditures on beef and veal (15 percent), bakery products (10 percent), fats and oils (17 percent), and fresh vegetables (16 percent). Participation did not, however, expand household expenditures on fish, fresh and processed fruits, sugar and other sweeteners, and miscellaneous prepared foods significantly.

The increase in food purchases per dollar distributed is a measure of the Food Stamp Program's effectiveness. For total food, the estimated effectiveness is 88 cents divided by \$4 (the average bonus received per capita) or 22 cents (table 4). Thus, on average, each dollar distributed through the Food Stamp Program increased food purchases by 22 cents. In comparison, the coefficients of per capita income (PY) in table 2 indicate that a dollar of additional income would increase participants' food purchases 8 cents. The Food Stamp Program, therefore, is 2.7 times more effective in expanding household food purchases per dollar distributed than is a cash transfer program. This finding agrees with those of other studies (2, 5).

Total at-home food purchases were increased by 36 cents, whereas away-from-home food purchases were reduced by 14 cents—for each dollar distributed through the Food Stamp Program. In comparison, a cash transfer would expand at-home food purchases by 6 cents and away-from-home food purchases by about 2 cents per dollar distributed. Compared with a cash transfer program, the pre-1979 Food Stamp Program seemed to be

substantially more effective in expanding household purchases of food.⁷

IMPLICATIONS

The Food Stamp Program has undergone major change since 1972-74, the study period. The elimination of the purchase requirement on January 1, 1979, likely reduced the program's effectiveness as it enables participants to spend money previously used to purchase

⁷ Related reports the reader may find useful are summarized in (4).

food coupons on items other than food as well as food. Also, because food coupons had to be used to purchase food for consumption at home, elimination of the purchase requirement permits food stamp households to allocate more of their income to food away from home. The results presented likely overstate the increase in food-at-home and the decline in food-away-from-home expenditures resulting from participation in the current Food Stamp Program. However, the current Food Stamp Program is at least as effective as cash transfers in

Table 4—Impact of \$100 distributed through the Food Stamp Program and a cash transfer program

| Item | Food Stamp Program | Cash transfer program ¹ | Relative difference ² |
|--|--------------------|------------------------------------|----------------------------------|
| | Dollars | Percent | |
| Total food | 22 00 | 8 28 | 2 7 |
| Food at home | 36 25 | 6 13 | 5 9 |
| Bakery products | 1 50 | 61 | 2 5 |
| Beef and veal | 3 50 | 85 | 4 1 |
| Cereal products | 3 25 | 28 | 11 6 |
| Dairy products | 5 50 | 66 | 8 3 |
| Eggs | 1 50 | 06 | 25 0 |
| Fats and oils | 1 00 | 33 | 3 3 |
| Fish | 50 | 07 | 7 1 |
| Fresh fruits | 50 | 27 | 1 9 |
| Fresh vegetables | 1 50 | 28 | 5 4 |
| Miscellaneous prepared foods, condiments, and seasonings | 75 | 70 | 1 1 |
| Nonalcoholic beverages | 4 00 | 50 | 8 0 |
| Other red meats | 50 | 14 | 3 6 |
| Pork | 6 25 | 52 | 12 0 |
| Poultry | 2 75 | 25 | 11 0 |
| Processed fruits | 75 | 35 | 2 1 |
| Processed vegetables | 2 25 | 29 | 7 8 |
| Sugar and other sweeteners | 25 | 01 | 25 0 |
| Food away from home | -14 25 | 2 15 | - |

- = Not applicable

¹ Estimated impact of an additional \$100 of income on food purchases by low-income households. The coefficient of PY in table 3 multiplied by 100.

² Column 1 divided by column 2.

expanding participants' food purchases. The results provide both maximum and minimum estimates of the current program's effectiveness. Each dollar distributed through the current Food Stamp Program increases total food expenditures at least as much as a dollar of added income would increase it (83 cents) but less than a dollar's worth of added food stamps would increase it (22 cents).

REFERENCES

- (1) Peterson, Hans P, and Rueben C Buse *A Bibliography on Theory and Research on Household Expenditures* AER-293 U S Dept Agr, Econ Res Serv, July 1975
- (2) Reese, Robert B, J G Feaster, and G B Perkins *Bonus Food Stamps and Cash Income Supplements* MRR-1034, U S Dept Agr, Econ Res Serv, Oct 1974
- (3) Salathe, Larry E "Food Stamp Program Impacts on Household Food Purchases: Theoretical Considerations," *Agricultural Economic Research*, Vol 32, 1980, pp 36-40
- (4) U S. Department of Agriculture, Economics, Statistics, and Cooperatives Service *The Food Stamp Program: A Review of Selected Economic Studies* ESCS-34 Sept 1978
- (5) _____ *Food and Nutrition Service Report on the Food Stamp Program, Response to Senate Resolution 58, Supplement* Sept 1975.
- (6) U S Department of Labor, Bureau of Labor Statistics *Consumer Expenditure Survey Diary Survey, July 1972-June 1974* Bulletin No 1959 U S Govt Print Off, 1977
- (7) U S Congress (95th session) *Food and Agricultural Act of 1977* Public Law 95-113, Sept 29, 1977