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Rising Food Prices Take a Bite Out of Food Stamp Benefits

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Rising Food Prices Take a Bite Out of Food Stamp Benefits

Kenneth Hanson and Margaret Andrews

Abstract

The Food Stamp Program is designed to provide low-income families with increased food purchasing power to obtain a nutritionally adequate diet. As in most other Federal Government assistance programs, benefits are adjusted in response to rising prices—in this case, rising food prices. The current method of adjustment results in a shortfall between the maximum food stamp benefit and the cost of a nutritionally adequate diet as specified by USDA's Thrifty Food Plan. During fiscal year (FY) 2007, the food purchasing shortfall in the caseload-weighted maximum benefit for the program grew from $7 in October 2006 to $19 in September 2007. In FY 2008, the amount grew from almost $8 in October 2007 to $34 in July 2008 and to $38 in September 2008. In an average month, food stamp households faced shortfalls of over $2 in FY 2003, $12 in FY 2007, and $22 in FY 2008. These losses in food purchasing power account for 1 percent, 4 percent, and 7 percent of the maximum benefit in each respective year. Alternative adjustment methods can reduce the shortfall but will raise program costs.

Keywords: Rising food prices, food price inflation, food stamp benefits, Supplemental Nutrition Assistance Program, Food Stamp Program, food purchasing power, cost of the Thrifty Food Plan.

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Summary

The Food Stamp Program is designed to provide low-income families with increased food purchasing power to obtain a nutritionally adequate diet. Maximum benefit amounts are tied to the cost of a diet as specified in USDA's Thrifty Food Plan. Since the early 1970s, the program has used various mechanisms to adjust benefits in response to rising food prices. Under the current method of adjustment, the maximum benefit falls short of the cost of a diet in the Thrifty Food Plan.

What Is the Issue?

Food stamp benefits are adjusted annually at the beginning of the fiscal year (October to September) to stabilize the purchasing power of program participants. In October, the maximum benefit is set equal to the cost of the Thrifty Food Plan in the previous June. So, by October, when the new benefits schedule takes effect, the food stamp benefit adjustment fails to correct for nearly 4 months of price changes (mid-June to the end of September). And, since the adjustment is made only once a year, nearly 16 months will pass before benefits are adjusted again.

This report estimates the reduced purchasing power of the maximum food stamp benefit for fiscal years (FY) 1997-2008 and the first month of FY 2009 (October 2008). It then compares those estimates with estimates from two alternative approaches to adjusting benefit levels, along with associated increases in program costs.

What Did the Study Find?

The shortfall between a household's food stamp benefits and the cost of a nutritional diet as characterized by the cost of the Thrifty Food Plan grows with the rate of food price inflation. Alternative methods of adjusting the maximum food stamp benefit may reduce the shortfall but can raise program costs. Specifically, the study found that:

- Under the current method of adjusting food stamp benefits, the average monthly loss of food purchasing power for households receiving the maximum benefit ranged from $2.60 in FY 2003 to $12 in FY 2007, and to $22 in FY 2008. These losses in food purchasing power account for 1 percent, 4 percent, and 7 percent of the average maximum benefit, respectively.
- The FY 2009 maximum food stamp benefit has been set at $588 per month for the reference family of four, based on the June 2008 cost of the Thrifty Food Plan. Between June and October 2008, the cost of the Thrifty Food Plan rose to $606, 3.1 percent more than the maximum benefit in the first month of FY 2009.
- An alternative method of adjusting benefit levels is to set the maximum food stamp benefit to 103 percent of the cost of the Thrifty Food Plan. In this case, the loss in food purchasing power would have been reduced by 73 percent in FY 2007 and 43 percent in FY 2008. Per household,

the average monthly loss would have been reduced from $12 to $3.30 in FY 2007 and from $22 to $12.40 in FY 2008. For years in which food price inflation is less than 3 percent, this alternative method of adjustment results in an average monthly gain in food purchasing power for households receiving the maximum benefit. In FY 2007, use of this alternative would have added $1.2 billion in Federal costs of benefits issued, or 4.2 percent of total benefits issued. The costs of additional benefits are estimated at $1.35 billion in FY 2008.

- A second alternative of adjusting benefit levels is to make semi-annual adjustments to the maximum benefit. In this case, the loss in food purchasing power would have been reduced by 20 percent in FY 2007 and 26 percent in FY 2008. Per household, the average monthly loss would have been reduced from $12 to $9.70 in FY 2007 and from $22 to $16.20 in FY 2008. In FY 2007, use of this alternative would have added $0.33 billion in Federal costs of benefits issued, or 1.1 percent of total benefits issued. The costs of additional benefits are estimated at $0.79 billion in FY 2008.

- While the 103-percent adjustment alternative will over-adjust the maximum benefit amount in low-inflation years, the semiannual adjustment tends not to.

How Was the Study Conducted?

The analysis is based on food prices from the Bureau of Labor Statistics' Consumer Price Index, and information on the cost of the Thrifty Food Plan from USDA's Center for Nutrition Policy and Promotion. It also reviewed Federal regulations governing the adjustment of the FSP maximum benefit amount. Estimates of the budgetary costs of alternative indexation scenarios were generated using a micro-simulation model developed by Mathematica Policy Research, Inc., for USDA's Food and Nutrition Service.

Introduction

Rising prices can erode the purchasing power of benefits provided through government assistance programs. To help protect program participants from the effects of rising prices, many government benefits are adjusted for inflation. Automatic benefit adjustments became prevalent in the early 1970s, when high inflation rates prompted Congress to take action. Since then, programs have used many adjustment methods involving different price indices, frequencies of adjustment, and lag periods between setting a new benefit level and implementing the change (see box, "Adjusting Government Program Benefits for Inflation").

Policymakers are continually challenged with how best to adjust government program benefits in response to rising prices while moderating increases in program costs. During periods of high inflation, concern centers on whether the adjustment methodology protects low-income households from steep reductions in the buying power of benefits. During periods of lean budgets, concern focuses on maintaining or reducing program expenditures. In the current period of rising food prices, the focus is on the frequency and method used to index food stamp benefits.

The Food Stamp Program (FSP)[1] is designed to provide low-income families with increased purchasing power to obtain foods that make up a low-cost, nutritionally adequate diet. Participating households receive benefits which, together with an expected contribution from their income, should enable them to purchase a diet that meets current dietary guidance. FSP benefits are adjusted annually for rising food prices, but there is a lag of nearly 4 months before the increase takes effect. Thus, even when benefits are adjusted at the beginning of the Federal fiscal year (FY)—October to September—program participants may already be experiencing a shortfall. Rising food prices in subsequent months of the fiscal year widen the shortfall. This effect is a particular concern in periods of high food-price inflation, such as in 2004, 2007, and 2008, and raises questions for policymakers about what can be done to reduce the effects of inflation.[2]

The FSP is a means-tested entitlement program. In most cases, a household is determined to be eligible for food stamps if its monthly gross income is less than 130 percent of the official poverty guidelines ($2,238 per month for a family with four members in FY 2008), its net income is less than 100 percent, and the value of its countable assets is less than specified limits. Benefits depend on net household income, which equals gross income less deductions.[3] An eligible household with zero net income receives the maximum benefit amount, which varies by household size. Households with positive net income receive benefits equal to the maximum benefit for their household size less 30 percent of net income. Households are expected to spend 30 percent of net income on food.

In FY 2008, the program's maximum monthly benefit was set at $162 for a single person, $542 for a four-person household, $975 for an eight-person household, and $122 for each additional member beyond eight (table 1). Nearly one of three food stamp households received the maximum benefit, and, together, these households collected 40 percent of the total benefits issued by the program. The average FSP household's benefit was about two-thirds of the maximum (USDA, FNS, 2007).

[1]In October 2008, the Food Stamp Program was renamed the Supplemental Nutrition Assistance Program (SNAP).

[2]Falling prices are also a possibility and a potential policy concern. With respect to food stamp benefits, food prices have, on occasion, fallen from one year to the next. For example, food price changes from 1992 to 1993 were negative, prompting congressional action to prevent a decrease in food stamp benefits that would have occurred with automatic adjustment.

[3]The deductions include a standard deduction, a 20-percent earnings deduction, a housing expense deduction subject to a cap for households without an elderly or disabled member, a child care deduction for households with members working or going to school, a medical care expense deduction for elderly or disabled household members, and a deduction for child support payments (http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm).

Adjusting Government Program Benefits for Inflation

The adjustment of benefits in response to inflation is common among Federal Government programs. Automatic adjustments became prevalent in the early 1970s when high inflation rates prompted a legislative response. Since that time, it is estimated that between one-third and one-half of Federal budget outlays are automatically escalated each year by the change in living costs (see CBO, 1981; and Boskin et al., 1997).

Social Security is the most important of the indexed Federal outlays, but indexing is also applied to Supplementary Security Income and military, civil service, and other Federal retirement programs. Food and agricultural programs as well as medical insurance payments are among current programs that are adjusted for inflation. The major indexed provisions are benefit levels, eligibility criteria, and ceilings or floors on payments and deductions. On the revenue side, social security taxes, individual income tax brackets, and personal exemptions are also indexed.

Government assistance programs serving low-income households adjust eligibility thresholds based on poverty guidelines that are constructed annually by the U.S. Department of Health and Human Services. Those guidelines use the calendar year change in the Consumer Price Index-all urban consumers (CPI-U) to set poverty guidelines for the subsequent year. Since most of these programs operate on a fiscal year (FY) basis, which starts in October, the eligibility criteria depend on price change in the previous year. For example, the FY 2008 eligibility criteria for the Food Stamp Program (FSP) were based on the 2007 poverty guidelines, which reflect price change through calendar year 2006.

In addition to adjusting eligibility thresholds to account for inflation, many government assistance programs adjust benefits for inflation, with the adjustment methodology varying across programs by index, frequency, and lag period. Most programs use the CPI, but some choose other indices to account for the different rates of inflation that occur in various consumer goods and services targeted by the programs. The frequency of adjustment is annual for most programs, though some, including the Food Stamp Program, have used more frequent adjustments at some time in their history. The lag period for indexing depends on how the program is administered. FSP adjustments are discussed in detail throughout this report. Other programs that use inflation-adjustment methodologies include the following:

- *National School Lunch Program and School Breakfast Program:* School meal reimbursements are automatically adjusted for inflation with the CPI-U for food away from home. The May-to-May change in the price index is used to set the reimbursement rates for the upcoming school year, which officially starts in July.

- *Special Supplemental Nutrition Program for Women, Infants, and Children* (WIC): Starting in FY 2009, WIC will automatically adjust the monthly cash value of the fruit and vegetable voucher for inflation. The March-to-March change in the CPI-U for fresh fruits and vegetables will be used to adjust the cash value of the voucher for the upcoming fiscal year starting in October. The WIC quantity-based voucher for other program foods enables participants to purchase a specific quantity of food items. Inflation could affect the number of clients States can afford to serve given the federally legislated budget. Federal legislation can adjust the program budget for inflation when setting the next year's budget.

- S*ocial Security and Supplemental Security Income*: These programs base adjustments on the percentage change in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) from the third quarter (July-August-September) of one year to the third quarter of the next. The adjusted benefits start with the payment received in January.

Some Federal Government assistance programs do not automatically adjust benefits in response to inflation. In general, these are not entitlement programs. Instead, these programs provide States with Federal funds through block grants. States then determine how many clients to serve, who to serve, and how much cash assistance to provide, given program regulations. Funding can be adjusted for inflation through Federal legislation in the budget process. Examples of programs in this category include Temporary Assistance for Needy Families and the Low-Income Home Energy Assistance Program.

Table 1
Food Stamp Program (FSP) maximum benefit and estimated Thrifty Food Plan (TFP) cost by household size

Household size	FSP maximum benefit FY 2008	Estimated cost of TFP June 2008
	Dollars	
1	162	176
2	298	323
3	426	463
4	542	588
5	643	698
6	772	838
7	853	926
8	975	1,058

Source: USDA, Economic Research Service calculations (TFP costs) and USDA, Food and Nutrition Service, http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm (FSP benefit).

Since 1977, the level of the maximum benefit has been tied to the cost of USDA's Thrifty Food Plan (TFP). The TFP is a market basket of foods which, if prepared and consumed at home, would provide a complete, nutritious diet at minimal cost. Between 1997 and 2007, the FSP maximum benefit fell short of the cost of the TFP over most of the period. To examine how such shortfalls might have been mitigated, this study compares the shortfall in buying power under existing policy with simulated shortfalls from two alternative adjustment methods. Micro-simulation analysis is used to simulate the additional program costs under the alternative methods.

A goal of this study is to determine whether alternative methods of adjustment can reduce the loss in purchasing power of food stamp benefits when food prices rise. Meeting this goal requires measuring the monthly shortfall between the maximum FSP benefit and the cost of the TFP. The shortfall measure reveals that the maximum benefit is set using cost data that lag nearly 4 months behind the start of the fiscal year and that the benefit amount stays fixed for the entire fiscal year regardless of changes in the cost of the TFP.

This study does not focus on inflation adjustment issues addressed in the 2008 Farm Act. These include re-introduction of an inflationary adjustment for the standard deduction; removal of the cap on the maximum child care deduction; and an increase and indexation of the minimum benefit amount (Rosenbaum, 2007; USDA, ERS, 2008a). The maximum excess shelter cost deduction was already adjusted for inflation with the Consumer Price Index (CPI) for all items.

How the Maximum Benefit Is Adjusted for Rising Food Prices

USDA designed the Thrifty, Low-Cost, Moderate-Cost, and Liberal Food Plans to provide models for how a nutritious diet could be obtained at different cost levels (USDA, CNPP, 2007).[4] Each of the plans defines a set of individual market baskets for household members in different age and gender groups. Recommended quantities of foods from 29 categories are specified for each individual group as well as for several representative family types. A family type consisting of four persons (adult female, adult male, one child age 6-8, and one child age 9-11) is used as the reference family for setting FSP benefits.

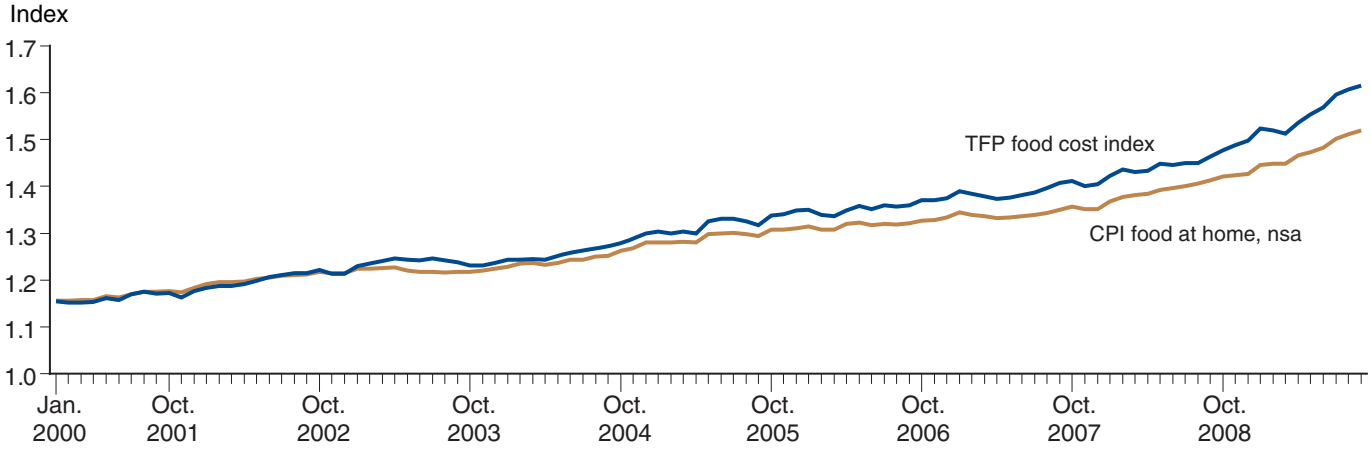
USDA's Center for Nutrition Policy and Promotion (CNPP) updates the costs of these plans on a monthly basis using data that the Bureau of Labor Statistics (BLS) collects to construct the CPI. BLS makes the price data available in a timely manner that allows CNPP to update the costs of all of the food plans with minimal delay. Prior to 2002, the TFP index tracked closely with the CPI for food at home. In the years that followed, however, the TFP index has increased more rapidly (fig. 1). During FY 2008, the CPI for food at home rose by 7.0 percent, while the TFP index rose by 9.3 percent. Given that the maximum FSP benefit for the fiscal year is set with a 4-month lag to the June TFP cost, it is of interest to note that the TFP index rose by 11.8 percent from June 2007 to September 2008, while the CPI for food at home rose by 8.8 percent over the same period.

Lino (2005) provides some explanation for the divergence of the two price indices based on their different weights and uneven rates of change in prices for major food categories. For example, historical data indicate that the most volatile food prices are those for fresh fruits and vegetables and eggs (USDA, ERS (2008b)). Because these categories have larger shares in the TFP index than in the CPI food-at-home index, it is to be expected that changes in the prices of these foods will be more evident in the TFP index. Another factor

[4]The food plans describe an eating pattern that meets nutritional requirements and dietary guidance provided by the 1997-2005 Dietary Reference Intakes, 2005 Dietary Guidelines for Americans, and 2005 MyPyramid food intake recommendations.

Figure 1

Thrifty Food Plan (TFP) food cost index compared with the Consumer Price Index (CPI) for food at home



Note: Monthly data, Jan. 1994=1. TFP is for the reference family of four with children ages 6-8 and 9-10.

Source: USDA, Economic Research Service.

that may affect the indices is the change in food category weights, which were revised in 2006 and incorporated into the TFP index starting in March 2007. The previous revision occurred in July 1999.

This study uses a TFP price index as a measure of rising food prices to estimate the loss in food purchasing power of food stamp benefits. The TFP index is used rather than the CPI for food at home because it is the intent of the FSP to provide households with sufficient purchasing power to afford a nutritional diet at the cost specified as the cost of the TFP.

The maximum food stamp benefit amount for households of all sizes is adjusted annually in October, the start of the Federal fiscal year, by USDA's Food and Nutrition Service (FNS). The adjustment for all households is based on the cost of the TFP for the reference family of four in the prior June.[5] Because the FSP is administered in cooperation with State and local agencies, benefits cannot be adjusted as soon as the price data become available. Implementing changes requires modifications to eligibility and benefit determination procedures and software at State and local offices. Thus, as stated earlier, when the adjustments are made in October, the first month of the fiscal year, the maximum benefit amount lags the cost of the TFP by nearly 4 months.[6] By the end of September, the last month of the fiscal year, the cumulative effect from nearly 16 months of changing food prices can noticeably alter the food purchasing power of food stamp benefits.

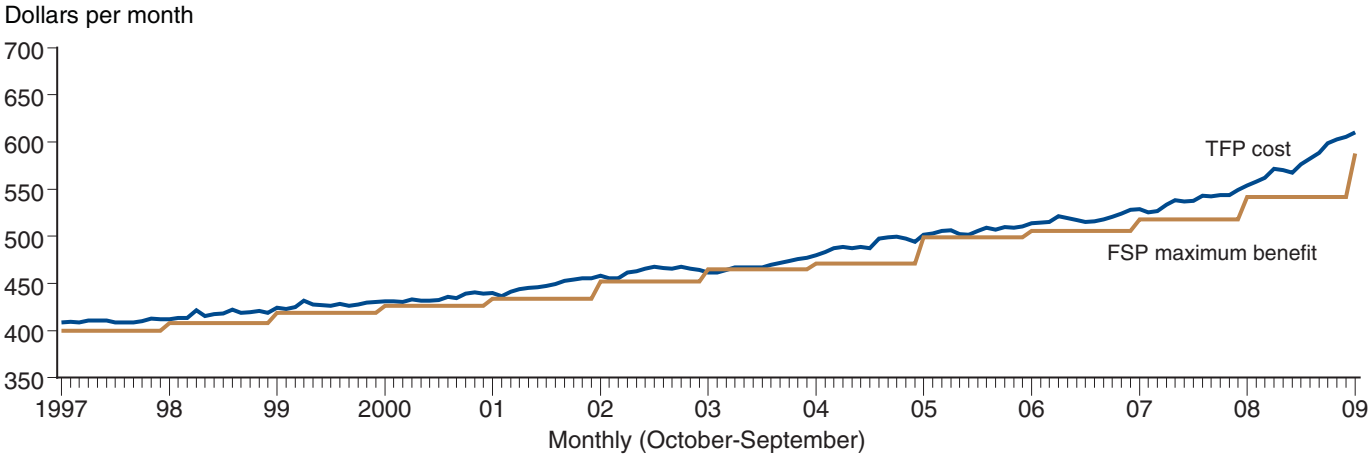
During FY 1997-2008, given the existing method of adjusting the maximum benefit, the cost of the TFP exceeded the nominal value of the food stamp benefit in all but 3 months in FY 2003 (fig. 2). Over the 144-month span, the cumulative shortfall is estimated by subtracting the prevailing maximum benefit from the cost of the TFP in each month and summing over the entire period. This yields an estimated cumulative shortfall of $1,909, which averages to $13.26 a month in nominal (unadjusted for inflation) terms.

[5]See the June 2007 Thrifty Food Plan cost for the reference family of four with children ages 6-8 and 9-11 prepared by USDA, Center for Nutrition Policy and Promotion (www.cnpp.usda.gov/USDA-FoodCost-Home.htm) and the fiscal year 2008 Food Stamp Program maximum allotment for a family of four prepared by USDA, Food and Nutrition Service (www.fns.usda.gov/snap/government/cola.htm). The maximum benefits for other family sizes are derived from the maximum benefit for a family of four using adjustment factors for economies of scale in household food expenditures.

[6]Food prices for a monthly Consumer Price Index are collected throughout the month and a weighted average is taken. So, on average, there is a 3.5-month lag from mid-June to the start of October and a 4-month lag to mid-October.

Figure 2

Thrifty Food Plan (TFP) food cost and Food Stamp Program (FSP) maximum benefit



Note: Amounts are for the reference family of four with children ages 6-8 and 9-10.

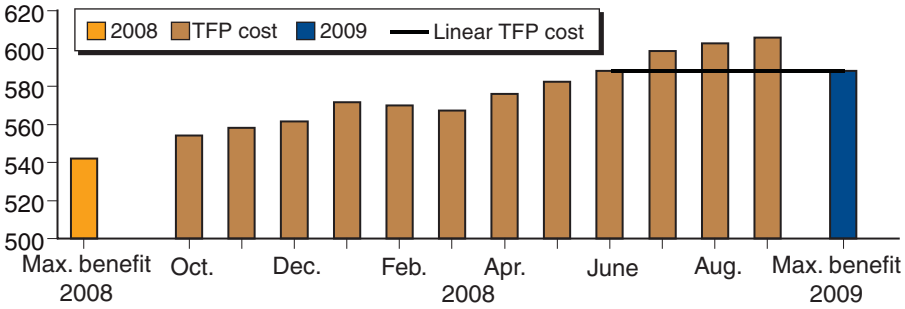
Source: USDA, Economic Research Service.

Throughout FY 2008, the difference between the cost of the TFP and the maximum benefit for the reference family has grown due to rising food prices (fig. 3). The FY 2008 FSP maximum benefit for the reference family was set in October 2007 at $542, the cost of the TFP in the prior June. But by October, the cost of the TFP had already risen to $554, resulting in a shortfall of $12. The shortfall increased steadily over the year, reaching $56 in July and $64 in September 2008. The FY 2009 maximum benefit has been set at $588 for the reference family, given the June 2008 cost of the TFP. The cost of the Thrifty Food Plan for October 2008 is $606, which is 3.1 percent greater than the maximum benefit in the first month of FY 2009.

Figure 3

Food stamp maximum benefit and cost of Thrifty Food Plan (TFP)

Dollars per month



Note: Amounts are for the reference family of four with children ages 6-8 and 9-10.

Source: USDA, Economic Research Service.

Alternative Policies for Adjusting the Maximum Benefit for Rising Food Prices

Throughout the history of the FSP, policymakers have taken several approaches to modify the method of adjusting the maximum food stamp benefit in response to rising food prices. When a uniform national benefit was first adopted in 1971, the legislation specified annual adjustments for inflation. In the early 1970s, semiannual adjustments were instituted in response to rapid increases in food prices. Lawmakers restored annual adjustments in the early 1980s. In 1988, a policy was phased in that raised the FSP maximum benefit for the reference family to 103 percent of the cost of the TFP and adjusted it at that level annually. In 1996, welfare reform legislation scaled back the maximum benefit to 100 percent of the TFP and maintained annual indexation.

Other methods for adjusting the maximum food stamp benefit for rising food prices could be designed that are based on expected changes to food prices and the lag between the June TFP cost and the first month of the fiscal year. This study compares the loss of purchasing power from rising food prices for the two alternative historical methods for adjusting the maximum benefit with the current method of annual adjustment to 100 percent of the cost of the TFP.

If the maximum benefit had been adjusted semiannually (as it was in the early 1970s) over the same 144-month span discussed earlier in the context of figure 2, the cumulative shortfall over the period ($1,375, or an average of $9.55 per month) would have been lower than that of the current adjustment method. This amount is 28 percent less than the average monthly shortfall under the current method of adjustment. If the policy of setting the October maximum benefit equal to 103 percent of the June TFP had been in place, there would be no shortfall but rather a cumulative gain over the entire period of $23, or about $0.16 per month.

The alternative methods reduce the monthly shortfall for the reference family during FY 2008 relative to the shortfall under the current adjustment method. With semiannual adjustment, the monthly shortfall for the reference family during FY 2008 would go from $12 in October 2007 to $45 in September 2008. The shortfall in the last month of the fiscal year is 30 percent less than the $64 under the current adjustment method because the maximum benefit would get adjusted in April 2008, based on the December 2007 TFP cost. If the maximum benefits are adjusted to 103 percent of the TFP cost, then the maximum benefit would be $558 for each month of FY 2008, compared with $542 under the current adjustment method. In October 2007, there would be no shortfall but rather a gain of $4; by September 2008, there would be a shortfall of $48, or 25 percent less than the $64 under the current adjustment method.

Estimated Shortfall in Food Purchasing Power for All Households in the FSP Caseload

Estimating impacts of rising food prices under the three alternative adjustment procedures for all households involves making monthly estimates of the shortfall between the maximum benefit for households by size and household-specific TFP costs. Table 1 presented data on the FY 2008 maximum benefit by household size and estimated TFP costs in June 2008, which equal the FY 2009 maximum benefit by household size. A complexity in deriving the estimates in table 1 is that TFP costs account for variations in both household size and age-gender composition of the household, while the maximum benefit varies only by household size. For this analysis, the household-specific cost of the TFP was approximated using the same procedure used to adjust the FSP maximum benefit for household size, which implies that the proportionate gap between the maximum benefit and the estimated TFP cost is equal for all household sizes. The adjustment procedure multiplies the per capita maximum benefit for the reference family of four members by household size and applies an adjustment factor based on estimated economies of scale in food expenditures. The adjustment factors are 1.20 for one-member households, 1.10 for two-member households, 1.05 for three-member households, 1.00 for four-member households, 0.95 for five- and six-member households, and 0.90 for seven-member households or higher (Nelson et al., 1985). To estimate monthly, household-specific TFP costs, the per capita TFP cost for the reference family in a given month was multiplied by household size and then adjusted for economies of scale. This approximation does not consider whether the maximum FSP benefits by household should be adjusted for the age-gender composition of household members.

An average monthly shortfall for each fiscal year was calculated for households ranging in size from one to six or more members, and a weighted average for all household sizes was derived using data on the size distribution of households participating in the FSP. In FY 2006, the percent distribution for households ranging in size from one to six or more members was 10.8 percent, 44.0 percent, 20.2 percent, 16.0 percent, 5.6 percent, and 3.5 percent, respectively (USDA, FNS, 2007). As the distribution of household size was relatively constant over the period analyzed, 2006 weights were used for all years.

The shortfalls under the existing annual adjustment policy range from $2.57 per month for the average household in 2003 to an estimated $21.87 in 2008, in nominal dollar values (table 2, fig. 4). The average monthly shortfall in FY 2008 exceeds that for all other years in the analysis. The average monthly shortfall in FY 2007, $12, was also relatively large.

Table 2 also presents these shortfalls in real 2007 dollars and in terms of the percent of the weighted maximum benefit amount. In FY 2007 and FY 2008, the average monthly loss in food purchasing power is 3.99 percent and 6.89 percent, respectively, of the weighted maximum benefit amount.

The average monthly loss in food purchasing power varies over the months of the fiscal year. In general, the shortfalls start out smaller in the initial months and get larger over the later months. In FY 2007, the average monthly losses

Table 2

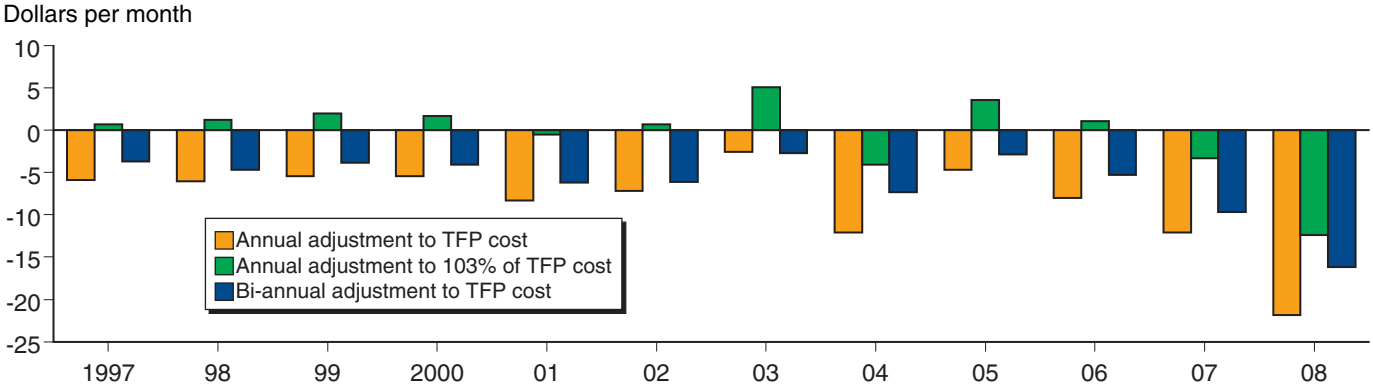
Shortfall between Thrifty Food Plan (TFP) cost and maximum Food Stamp Program benefit for three policy scenarios

Fiscal year	Annual adjustment to TFP cost			Annual adjustment to 103% of TFP cost			Semiannual adjustment to TFP cost		
	Average $/month by household		Share of maximum benefit by household	Average $/month by household		Share of maximum benefit by household	Average $/month by household		Share of maximum benefit by household
	Nominal $	*Real 2007 $*	*Percent*	*Nominal $*	*Real 2007 $*	*Percent*	*Nominal $*	*Real 2007 $*	*Percent*
1997	-5.92	-7.61	-2.50	0.71	0.92	0.19	-3.72	-4.78	-1.59
1998	-6.06	-7.67	-2.57	1.21	1.53	0.51	-4.66	-5.89	-2.03
1999	-5.44	-6.75	-2.30	2.00	2.48	0.75	-3.82	-4.74	-1.59
2000	-5.43	-6.52	-2.28	1.70	2.05	0.60	-4.10	-4.93	-1.67
2001	-8.28	-9.65	-3.25	-0.49	-0.57	-0.19	-6.18	-7.21	-2.42
2002	-7.14	-8.19	-2.75	0.71	0.82	0.19	-6.13	-7.04	-2.36
2003	-2.57	-2.88	-1.01	5.10	5.72	1.75	-2.74	-3.08	-1.05
2004	-12.07	-13.23	-4.36	-4.05	-4.44	-1.47	-7.35	-8.06	-2.61
2005	-4.69	-4.97	-1.68	3.59	3.81	1.07	-2.89	-3.07	-1.04
2006	-7.99	-8.18	-2.78	1.09	1.11	0.32	-5.27	-5.39	-1.82
2007	-12.07	-12.07	-3.99	-3.28	-3.28	-1.15	-9.69	-9.69	-3.22
2008	-21.87	-21.24	-6.89	-12.40	-12.04	-3.80	-16.21	-15.74	-5.02

Source: USDA, Economic Research Service calculations.

Figure 4

Average monthly shortfall in food purchasing power for Food Stamp Program (FSP) maximum benefit relative to the cost of the Thrifty Food Plan (TFP)



Note: Nominal $ per household. 2008 estimated.

Source: USDA, Economic Research Service.

for families of all sizes increase from $7 in October to $19 in September, while in FY 2008 the average loss of about $8 in October grew to $34 in July and to $38 in September. The average monthly shortfall also varies by household size. In FY 2008, the average monthly loss ranges from $11.45 for a household with one member to $36.15 for a four-member household and up to $51.86 for a household with six or more members.

Figure 4 and table 2 compare the average monthly shortfall for the maximum benefit under the existing adjustment policy, with the losses under the two alternatives. Both alternative procedures reduce the shortfall in all years. A semiannual adjustment would have reduced the shortfall by 40 percent (from $12.07 to $7.35) in 2004 but by only 20 percent (from $12.07 to $9.69) in 2007. In 2007, food price inflation was higher in the last half of the fiscal year

than in the first half. This was not the case in 2004 so the semiannual adjustment would have been less effective in correcting for inflation in 2007 than in 2004. For 2008, semiannual adjustment would reduce the shortfall by 26 percent (from $21.87 to $16.21).

Setting the maximum benefit amount to 103 percent of the TFP cost would have reduced the loss in food purchasing power more than a semiannual adjustment. For 2004 and 2007, years of high food price inflation, the 103-percent adjustment would have reduced the shortfall in food purchasing power by 66 percent (from $12.07 to $4.05) in 2004 and by 73 percent (from $12.07 to $3.28) in 2007 relative to shortfalls under the existing annual adjustment. For 2008, the 103-percent adjustment would reduce the shortfall by 43 percent (from $21.87 to $12.40). For years in which TFP food price inflation, relative to the prior June, is below 3 percent, this adjustment method would increase food purchasing power. Increases would have occurred for 8 of the 12 years from 1997 to 2008, though the gains generally would have been small, in the range of $1-$2 per month. For FY 2003 and 2005, years in which annual average food price inflation was only 1.0-1.5 percent, the gain in purchasing power would have been as high as $5.10 per month. While the 103-percent adjustment alternative will over-adjust the maximum benefit amount in low inflation years, the semiannual adjustment alternative tends not to.

Additional Federal Benefit Costs Under Alternative Adjustment Procedures

Either of the alternative adjustment methods would involve sizable costs to the Federal Government for the additional benefits. This study estimates the magnitude of additional benefits, using a MATH[7] micro-simulation model based on the FSP Quality Control (QC) sample of recipient households in 2006 (USDA, FNS, 2004). The QC data are weighted to represent the national caseload, and the dataset includes all the necessary information needed to determine food stamp eligibility, benefits, and income levels. The simulation model calculates the changes in benefits for each household in the sample under various policy scenarios, which are used to calculate the overall percent change in benefits issued from a percentage change in the maximum benefit. The model used in this study assesses impacts on participants only. It does not take into account any increases or decreases in participation that might occur if an alternative price adjustment policy were actually implemented.

[7]MATH is an acronym for Micro Analysis of Transfers to Households.

Model-based findings reveal that adjusting the maximum benefit by 103 percent of the prior June TFP cost would have required an additional $1.2 billion in benefits issued in FY 2006 (table 3). Implementing a semiannual adjustment would have required an additional $400 million. The estimates of additional benefits reported for FY 2007 and FY 2008 are less precise than those for FY 2006. Caseload characteristics and benefit levels similar to those used for the FY 2006 micro-simulation model were not available for FY 2007 and FY 2008 at the time of this study. Therefore, the analysis relied on the micro-simulation results for FY 2006 and made adjustments based on available data for FY 2007 and FY 2008.

According to the model, each additional 1-percentage-point increase in the maximum benefit amount results in a 1.4-percent increase in benefits issued. The amount increases because the proportionate effect of a change in the maximum benefit is greater for households with benefits less than the maximum. When averaged over the caseload, the proportionate effect of a set percentage increase in the maximum benefit is magnified.

For the alternative adjustment method in which the maximum benefit amount is set at 103 percent of the TFP cost, FY 2007 and FY 2008 benefits are estimated to increase by 4.2 percent. For the semiannual adjustment procedure, the increase in benefits is estimated by calculating a percentage increase

Table 3
Estimated additional benefits from alternative adjustments to the maximum benefit

	103% of Thrifty Food Plan cost			Bi-annual adjustment	
Fiscal year	Average month benefits	Increase in average month benefit/household	Increase in annual benefits	Increase in average month benefit/household	Increase in annual benefits
	$ billion	*Nominal $*	*$ billion*	*Nominal $*	*$ billion*
2006	2.358	8.74	1.187	2.75	0.373
2007	2.408	8.82	1.212	2.41	0.330
2008	2.688	9.27	1.353	5.40	0.789

Source: USDA, Economic Research Service calculations.

in the maximum benefit (relative to existing policy) and applying the 1.4 percent. For example, the annual percentage increase in maximum benefits relative to existing policy would have been 0.8 percent in FY 2007, and the additional benefits of semiannual adjustment would have been 1.1 percent (calculated as 0.8 percent times the 1.4-percent adjustment factor).

The average monthly benefits and caseloads for 2006 are taken from the FSP-QC data as reported in USDA, FNS (2007). Estimated monthly benefits and caseloads for FY 2007 and 2008 started from the national program data posted on the USDA, FNS Web site and were adjusted down with a ratio of FSP-QC data to national data from 2004 to 2006. In general, the QC data on caseloads and benefits issued are lower than the program national data because they do not include disaster program participants and they exclude recipients and benefits that are found later to be in error. If the caseloads and benefits for 2008 continue to increase for the remainder of the fiscal year, then the estimated additional benefits with the alternative adjustment methods will be lower than estimates using more months of data.

Given these caveats for 2007 and, particularly, 2008, it is estimated that the semiannual adjustment would have increased total annual benefits issued by $330 million for 2007 and by $789 million for 2008. If caseloads continue to grow in 2008, this estimate will be lower than the actual amount.

Discussion

When increases in food prices weaken the buying power of food stamp benefits, policymakers are challenged with protecting program participants as well as moderating increases in program costs. In addition to increasing benefit costs, implementing either of the alternative benefit adjustment procedures examined in this study would raise concerns about increasing program administrative costs. As previously mentioned, the semiannual approach entails additional administrative burden and costs in that States have to adjust benefit amounts twice a year and coordinate the adjustment with those made for other programs. The 103-percent adjustment does not entail additional administrative costs relative to the costs of the current procedure.

Another issue is whether increased demand for food arising from additional FSP benefits would affect food prices. In 2007, retail food sales for food at home amounted to about $580 billion (ERS food expenditure data), and the cost of food stamp benefits issued amounted to about $30 billion, or 5.3 percent of sales. An increase of $1 to $2 billion in FSP benefits would increase food demand by only 0.17 to 0.35 percent of total retail food sales, at most. Such a small increase in food demand would not be expected to have a measurable effect on food prices.

A final issue relates to how well the shortfalls measured in this study actually reflect the pressure of rising food prices on the food budgets of food stamp participants. Factors that might introduce bias into the estimation of effects are the lack of correspondence between the typical diets of low-income households and the food pattern recommended by the TFP and the biases associated with inflation indices.

The TFP is a representative diet that can be purchased at low cost. It is estimated to reflect, as closely as possible, the consumption patterns of low-income households. Yet, survey data show otherwise. For example, the TFP diet includes 37 percent more vegetables, 25 percent more milk products, and 15 percent more fruits than actual diets reported by program participants. The TFP diet also has 83 percent less fats, sugars, and other products than reported diets (USDA, CNPP, 2007). If FSP participants regularly consume a different mix of food items than those in the TFP, the cost of the TFP will not reflect pressures on the food budgets of low-income households.

As for the problems associated with the use of index numbers, the CPI for food at home and related subcomponents have a well-known upward bias (Boskin et al., 1997; Hausman, 2003) due to their inability to accurately correct for quality changes, outlet changes, and substitution of products due to price changes. The TFP cost index is also affected by these factors. With these biases, it could be that shortfalls are overestimated.

Yet, the intent of the FSP is not to ensure that participants can continue to purchase their typical diet. Participants are not expected to substitute cheaper (and potentially less nutritious) foods when prices change. Transportation costs may limit the extent to which participants can obtain food from the least expensive outlets. Thus, the cost of the Thrifty Food Plan serves the Food Stamp Program purpose of ensuring that participants have the purchasing power to afford a nutritious diet.

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