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

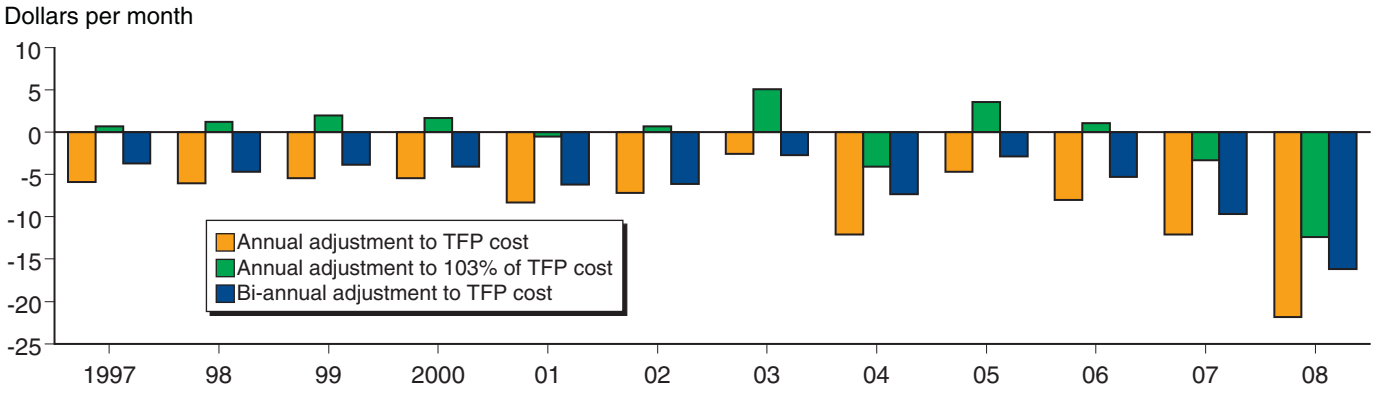
Shortfall between Thrifty Food Plan (TFP) cost and maximum Food Stamp Program benefit for three policy scenarios

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.