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# Competing Forces Affect Food Prices for Low-Income Households

Phil Kaufman and Steven M. Lutz  
(202) 694-5389 (202) 694-5461

**W**hether poor households pay more or less for food than other households is a recurring policy question. Many Federal food-assistance programs are designed to provide low-income and other needy people with the financial means to select nutritious diets. For example, the amount of a household's monthly food stamp allotment is based on the cost of USDA's Thrifty Food Plan (TFP), a market basket of suggested amounts of foods that make up a nutritious diet and can be purchased at a relatively low cost. The cost of the TFP is based on the actual food prices paid by low-income households. The food stamp allotment is adjusted annually by the Consumer Price Index for specific foods within the TFP market basket.

At current participation levels, a dollar increase (decrease) in the cost of the TFP for a family of four would result in about a \$69 million annual increase (decrease) in the cost of the Food Stamp Program. Given the large budgetary exposure, accurate estimates of food prices and costs for low-income families are needed for informing any decisions that might arise related to the Food Stamp Program's benefit

determination formula. Furthermore, improved understanding of food costs for the poor would be helpful to nutrition educators who seek to help low-income households better manage their food budgets.

Information to determine the food prices faced by and paid for by low-income Americans in comparison to the population as a whole is sketchy; no single source of data captures all the elements needed to calculate precise estimates. For example, household surveys, while quite detailed, do not typically distinguish between expenditures for different brands or grades of food products. Supermarket scanner data on food prices can be used to shed some light on the question of price differences between different brands and grades of food products, but no information is collected to establish the income of the person purchasing the products.

The abundance and variety of foods offered for sale exacerbate the problem of identifying food price differences by income level. A typical supermarket may offer more than 25,000 food items, differentiated not only by product category, but also by brand, flavor, and package size. Nationwide, more than 200,000 grocery items (excluding fresh meat and poultry, and produce) are offered by foodstores at any given time.

The definition of low income may differ slightly among data sources,

but consumption patterns are generally the same across the sources. Low-income households spend less per person for food than do higher income households because they tend to purchase lower cost items within broad food groups and allocate their budget differently between food groups than wealthier households. However, low-income households face slightly higher prices on average due to the localities where they live and the kinds of foodstores where they generally shop. The extent of these two apparently competing forces on the cost of foods purchased by low-income households depends on the types of foods they purchase and the magnitude of the price differences in the stores where they shop.

We used historical and the most recent surveys on household food consumption and expenditures, foodstore prices, food stamp redemptions, and census estimates to better understand the major factors influencing the prices paid for food by households of different income levels.

## Smaller Foodstores Means Higher Prices

Low-income households face higher food prices compared with other households if they shop more in smaller foodstores than in supermarkets. Past research suggests

The authors are agricultural economists with the Food and Rural Economics Division, Economic Research Service, USDA.

prices at small stores run an average of 10 percent more than at supermarkets. Food prices are lower in supermarkets because they take advantage of economies in procurement and retailing. With higher sales, supermarkets' costs for labor, utilities, advertising, and other retailing expenses are spread over more units, reducing per unit costs. As a result, supermarkets generally have smaller store margins (the markup over cost of goods sold), allowing for lower prices than in smaller outlets. The larger physical size of supermarkets also allows for greater product variety, including many lower cost store label and generic items.

USDA food stamp redemption data show that supermarkets' share of total food spending by low-income households is only slightly less than supermarkets' share of total food spending nationwide (fig. 1). About 76.7 percent of food stamps are redeemed in supermarkets. Data from the Census of Retailing show a similar result, with supermarkets and other large retailers accounting for 77.7 percent of food sales nationwide.

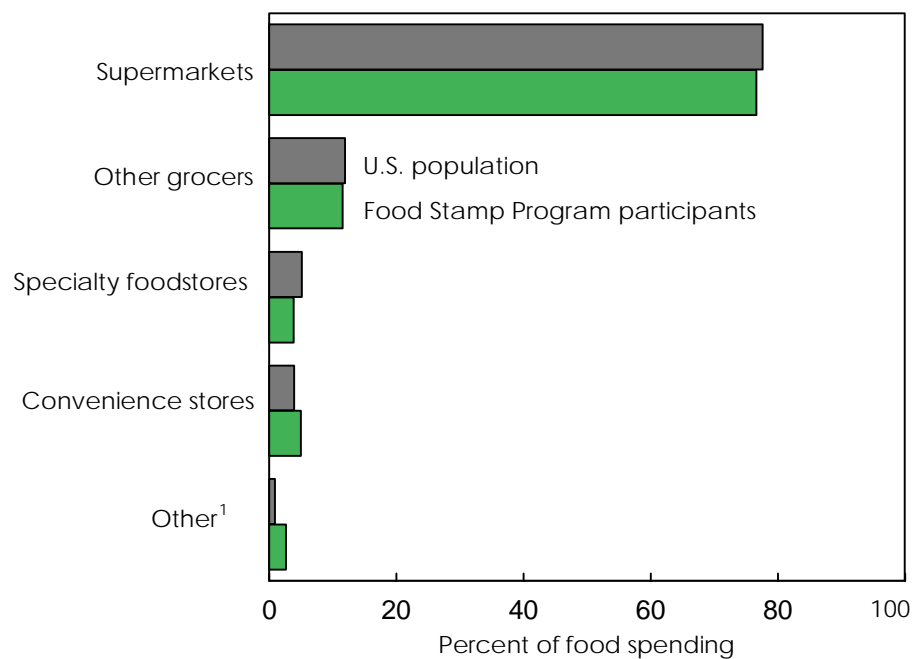
This 1-percentage-point difference in the share of supermarket food spending between food stamp recipients and the general population, multiplied by the 10-percent price difference between store types, suggest that low-income households face prices that are an average of 0.1 percent higher.

## Suburban Stores Have the Lowest Prices

Store prices vary by location, whether urban, suburban, or rural. Prior studies indicate that foodstore prices in urban and rural areas average about 4 percent higher than in suburban areas. Urban areas have fewer and smaller supermarkets than do suburban areas, and the urban stores' operating costs are likely higher due to the lower effi-

Figure 1

### Food Shopping Sources Are Similar Among Income Levels



Note: <sup>1</sup> Includes gas stations, drugstores, warehouse clubs, and other retail outlets.

Source: *Authorized Food Retailer Characteristics Study: Technical Report IV*. USDA's Food and Consumer Service, Sept. 1996.

ciencies associated with smaller stores, and the higher cost of land, rental rates, insurance, and taxes. Due to lower population density, rural supermarkets are likely to be fewer and smaller, have higher shipment costs, and experience higher costs per unit sold than in suburban supermarkets.

Because a greater proportion of low-income households live in urban areas (42.4 percent) and rural areas (25.8 percent) than that of the U.S. population as a whole, they face an average of 0.63 percent higher food prices than national averages (table 1).

Another potential source of higher food prices facing low-income households arises from "neighborhood income effects" within a geographic area. Researchers have hypothesized that the different security and competitive environment in poverty neighborhoods, especially

neighborhoods in central cities, might be associated with a tendency for supermarkets to charge higher prices than those outside poverty areas. Foodstore surveys that examine the prices for a fixed market basket of food items, however, found little evidence for this. However, such surveys may not reflect what an individual household actually buys.

## Lower Cost Foods a Factor

Household food consumption and expenditure surveys reveal that the poor tend to allocate their food dollar differently and spend less per pound for nearly all broad food groups than do all households combined. They are able to do this by purchasing lower cost items within the broad food groups. Selecting more economical foods such as store

label and generic items, larger package sizes, and lower priced items helps them realize lower food costs.

The Bureau of Labor Statistics' Consumer Expenditure Survey (CES), which collects household expenditure information on roughly 130 broad food groups, reveals that food purchases made by low-income households differ markedly from purchases by higher income households. In 1992 (USDA's most recently published survey data), households in the poorest 20 percent of the Nation's income distribution (household income averaging \$6,669) spent \$1,249 per person on food, compared with \$1,997 for the wealthiest 20 percent (household income averaging \$77,311).

The survey also revealed that higher income households spent more money and a larger share of their food budget on food away from home: 24 percent for the lowest income households, compared with 40 percent for the highest income households.

The CES data are useful in comparing overall spending levels as well as expenditures for specific foods (fig. 2). For example, the CES data reveal that the highest income group bought \$48 worth of fish and seafood per person per year, while the lowest income group spent \$26. However, the CES does not report any quantity information.

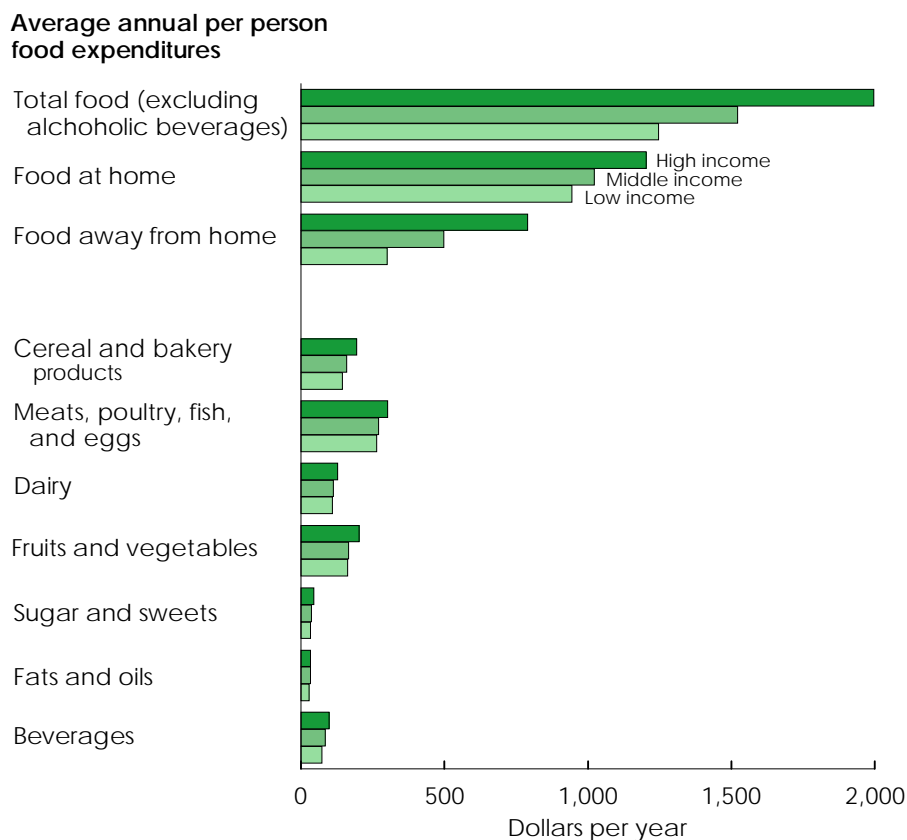
USDA's Nationwide Food Consumption Survey (NFCS) collects information on both food consumption and expenditures of households, as well as their economic and demographic characteristics. In order to make food cost comparisons across income levels, we calculated per unit costs (cost per pound) by dividing food expenditures from the NFCS for broad food groups by the quantities consumed. Costs were compared for all households and low-income households in several broad categories of food for both the 1977-78 and 1987-88 NFCS surveys (fig. 3), the latest survey periods.

Table 1  
The Greatest Share of the Low-Income Population Lives in Urban Areas

Geographic area	Low-income population <sup>1</sup>	U.S. population as a whole
	Percent	
Urban <sup>2</sup>	42.4	30.1
Poverty area <sup>3</sup>	20.2	7.5
Suburban <sup>4</sup>	31.8	47.6
Poverty area	4.5	2.1
Rural area <sup>5</sup>	25.8	22.3
Poverty area	9.6	5.1

Notes: <sup>1</sup>Population classified as poverty households by U.S. Census Bureau. <sup>2</sup>Central-city portion of a Census Metropolitan Statistical Area (MSA). <sup>3</sup>Census areas in which poverty households constitute 20 percent or more of all households. <sup>4</sup>Noncentral city portion of a census MSA. <sup>5</sup>Areas not designated as a census MSA. Source: U.S. Census Bureau. *Current Population Reports, 1992, Series P60-185.*

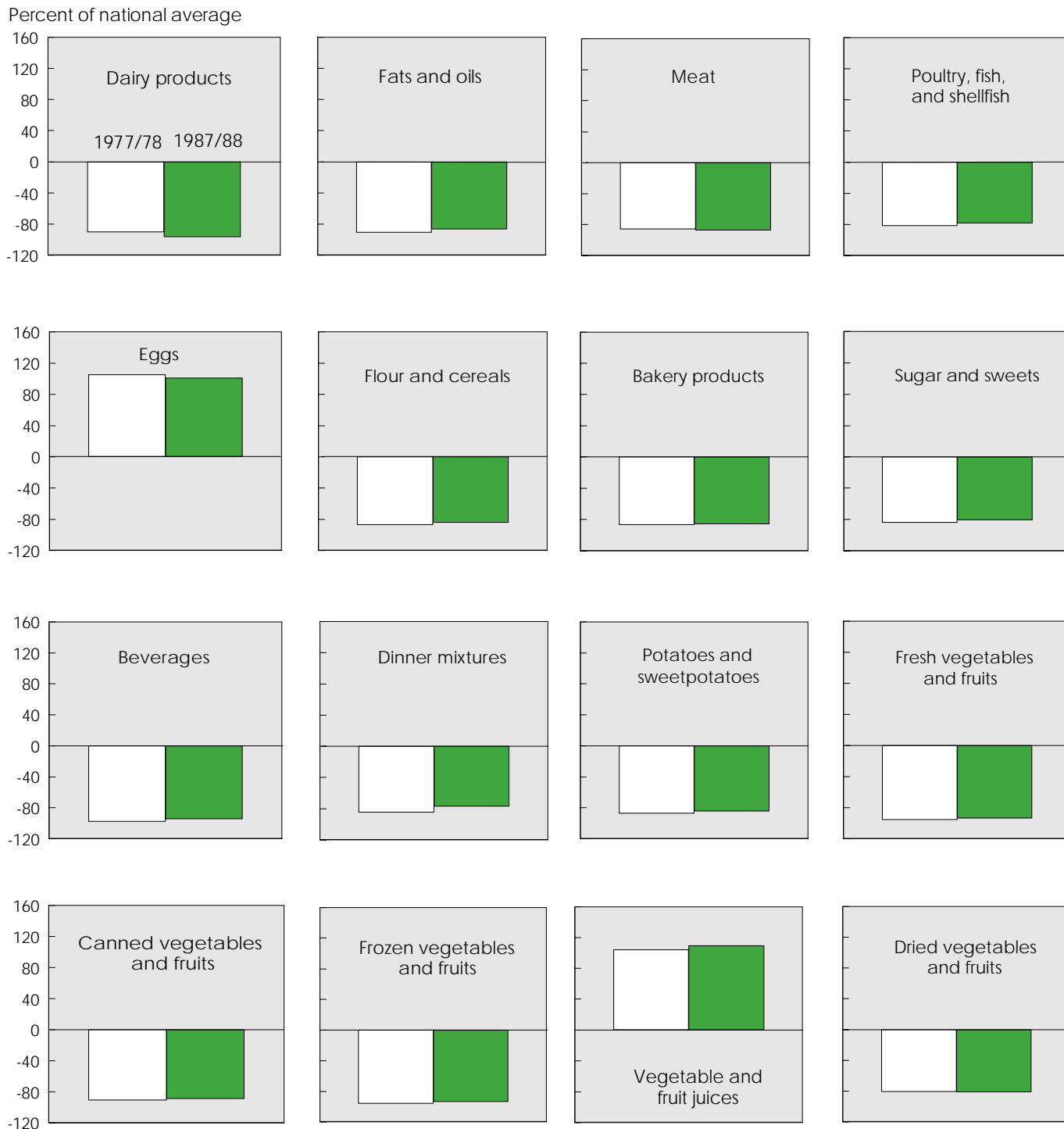
Figure 2  
Food Spending Increases with Household Income



Source: Smallwood, David M., Noel Blisard, James R. Blaylock, and Steven M. Lutz. *Food Spending in American Households, 1980-92*, SB-888. USDA's Economic Research Service, Oct. 1994.

Figure 3

**Low-Income Households Continue To Spend Below the National Average for Most Foods**



Sources: Lutz, Steven M., David M. Smallwood, James R. Blaylock, and Mary Hama, *Changes in Food Consumption and Expenditures in American Households During the 1980's*, SB-849, USDA, ERS, Dec. 1992; and Lutz, Steven M., David M. Smallwood, James R. Blaylock, and Mary Hama, *Changes in Food Consumption and Expenditures in Low-Income American Households During the 1980's*, SB-870, USDA, ERS, Nov. 1993.

Although low-income consumers tend to have lower per unit food costs than the population as a whole, the differences vary substantially by food category. For example, in the 1987-88 survey, low-income households paid about 78 percent of the average price for poultry, fish, and shellfish, while they paid about 92 percent for fresh vegetables. However, they paid 0.5 percent more for eggs and 9 percent more for vegetable and fruit juices.

Both NFCS data sets suggest that low-income consumers select a different mix of food products and qualities to lower their food costs. One can speculate that low-income households may look for bargains, buy more store label and generic brands, choose foods sold in bulk, and/or buy a lower quality mix of items that tend to lower their food costs.

Accounting for differences in food costs due to quality differences is complex. Quality aspects can include the nutritional content of food, freshness of agricultural products, convenience of preparing food, tenderness of meat products, taste and palatability of a meal, ambiance and

uniqueness of food from a gourmet restaurant, or simply the satisfaction of a home-cooked meal. For example, while spending less for food, low-income households usually get more nutrients for their food dollar than do other households. Further research is needed to quantify these effects on consumer decisionmaking.

### Food Choices Offset Higher Store Prices

Proximity to different types of stores and the geographic location where low-income households live play much smaller roles in the prices they pay for food than do item selections. The combined effects of the 0.1-percent difference due to store type and the 0.63-percent difference due to geographic location suggests that low-income households, on average, face foodstore prices that are less than 1 percent higher than average prices nationwide.

Some low-income households and specific areas in the country undoubtedly pay higher food prices than does the overall population. For example, in low-income rural areas, only 53 percent of food stamps were spent in supermarkets. If the balance of food stamps were spent in higher-priced, smaller foodstores, these low-income households

would face prices about 2.5 percent higher, on average.

Although low-income households face slightly higher store prices, within a food group, they generally select less expensive items than those purchased by higher income households. While the magnitude of this difference varies between food groups, it is clear that low-income households pay a lower per unit cost for most major food groups.

### References

P. Kaufman, J. MacDonald, S. Lutz, and D. Smallwood. *Do The Poor Pay More For Food? Item Selection and Price Differences Affect Low Income Household Food Costs*. Agricultural Economics Report. USDA, Economic Research Service (forthcoming).

R. Mantovani, L. Daft, T. Macaluso, J. Welsh, and K. Hoffman. *Authorized Food Retailers' Characteristics and Access Study*. USDA, Food and Consumer Service, Office of Analysis and Evaluation. Feb. 1997. ■