United States Department of Agriculture

Economic Research Service

Stretching the Food Stamp Dollar

Regional Price Differences Affect Affordability of Food

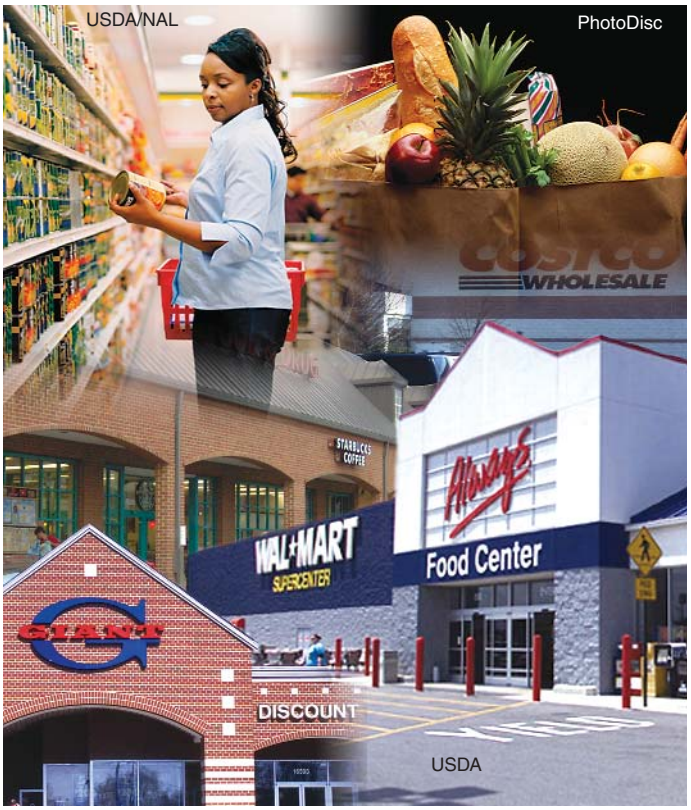
Ephraim S. Leibtag

Economic Information Bulletin Number 29-2 September 2007

The Food Stamp Program provides low-income households with supplementary income for food purchases in amounts judged sufficient to purchase healthful, adequate diets. Except those for residents of Alaska and Hawaii, benefits are based on national average prices. Significant regional differences in food prices, however, could affect how far a food stamp benefit goes in enhancing the diet of low-income consumers in a given region. For example, if food prices were significantly higher in one region than in other regions, households may choose to purchase less of some healthful foods, such as fruits and vegetables, with their limited food budget. In regions where average food prices exceed the national average, food stamp benefits may not provide the same level of coverage as the same benefit would in below-average-price regions. This variation may force low-income households to economize in their food purchase behavior when faced with higher than average food prices.

ERS looked at prices paid across the four major U.S. regions and found that prices are lowest in the Midwest and South for most food products and highest in the East and West (Leibtag, 2006) (see box). For example, during 1998-2003, average prices for a representative mix of products, including meat, grain, and fruit and vegetable categories, were 8.0 and 11.1 percent above the national average in the East and West but 7.0 and 5.2 percent below the national average in the South and Midwest (fig. 1). These differences imply that a household made up of a family of four in the East or West would spend $32-$48 more per month on food than the average U.S. household, whereas a household in the South and Midwest would spend $12-$28 less per month for a similar amount of food than the average U.S. household.

Price differences across regions are especially noteworthy given the relatively stable level of food price inflation from 1998 to 2003. The highest average annual inflation rate was in the East (1.78 percent), while the annual average rate for the West, South, and Midwest was 1.77, 1.52, and 0.84 percent, respectively. This implies that simply adjusting food stamp benefits for inflation by region over time would not completely account for price variation since the cross-market variation at any point in time is two to eight times as large as the price change over time. To gain additional insight into these differences, ERS researchers compared average prices across major U.S. markets and store types to better illuminate possible causes of the observed regional price variation.[1]



[1]ERS studied eight large metropolitan areas: Atlanta, Baltimore-Washington, Chicago, Los Angeles, New York, Philadelphia, San Antonio, and San Francisco.

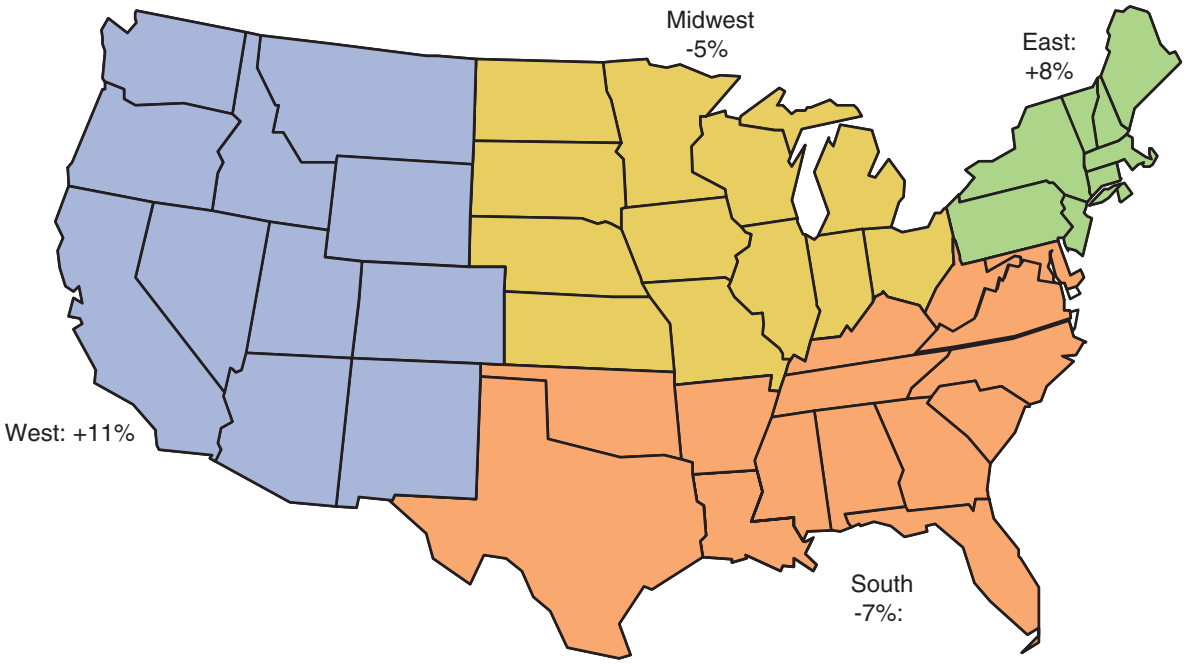
For the most part, market differences follow the general regional patterns just discussed. Chicago (Midwest) had the lowest average market prices, while Los Angeles and San Francisco (West) had the highest. The only exception to the regional patterns was in Philadelphia where prices were second lowest, on average, and not statistically different from average prices in Chicago and Atlanta.

These statistically significant differences in prices across U.S. markets indicate differences in both food costs and consumers' purchasing behavior. Price variation at the retail level is a function of both supply and demand conditions in a given market. On the supply side, differences in transaction, marketing, or operating costs may explain some of the retail price variation. On the demand side, consumer preferences for different retail store formats generate differences in average prices across markets, depending on the level of retail competition in a given market.

Consumers can affect the prices they pay for foods through their purchasing behavior, which can include using coupons, purchasing larger packages, checking the newspaper for sale items, or traveling to a store that offers lower prices. ERS research, in fact, found that low-income consumers are able to economize by purchasing some food products on sale, private-label (store brand) products, and less expensive meats, fruits, and vegetables (Leibtag and Kaufman, 2003). Nevertheless, ERS research finds that differences in food prices paid are not as pronounced across demographic groups as they are across geographic areas. For example, Leibtag (2006) finds that average dairy prices differ by 1.1-5.3 percent across income groups. Because regional and market differences are larger than differences in prices paid by income groups, geographic differences are the result of more than just differences in the income distribution of a region or market. The retail food stores available to consumers in a given market affect average prices paid for food because stores use price differences as one way to differentiate themselves from competitors.

Given that the difference in prices paid is smaller across income groups than across regions and markets, a store's format—including physical characteristics, product offerings, business practices, and marketing strategies—is a likely determinant of variation in retail food prices. One of the biggest changes in the retail food market landscape over the past 10 years has been the growth of nontraditional food outlets. Such firms as Wal-Mart, Costco, and Target sell both food and nonfood products in several store formats. Recent ERS research (Leibtag, 2006) focused on the differ-

Figure1
Regional food prices differ from the national average



Source: Economic Research Service/USDA, using Bureau of Labor Statistics' average price data and Nielsen Homescan Data, 1998-2003.

How Are Average Regional and Market Prices Calculated?

This research uses Nielsen Homescan scanner panel data for 1998-2003. The annual data are from a consumer panel of about 8,500 representative households across the United States and include purchasing and demographic information. Panelists recorded both prices paid and quantities purchased for Universal Product Coded (UPC) and random-weight (non-UPC) food purchases over the year(s) that the panelists participated in the survey.

Average prices were calculated for a wide variety of products commonly purchased for food-at-home consumption. The average prices were calculated by dividing the total weighted expenditures for a given product by the total weighted quantity that was purchased. These average prices were then weighted using projection factors for each household in the sample to arrive at a national average in each food category. The same method was used for individual U.S. markets and regions in order to be able to make valid comparisons.

ence in food prices across store format types as the changing retail food market landscape has impacted where people shop for food as well as what prices they pay.

Food product comparisons were made for similar package sizes and a representative sample of specifically defined food products. Results showed that dairy prices are 5-25 percent lower at nontraditional retailers than at traditional supermarkets. These price differences are statistically significant when modeled in an analysis of variance, and the differences between store formats is significant even after controlling for region, household income, and inflation over time. Since the number of nontraditional retailers and their relative market share varies by market and region, food price dispersion will increase as long as these differences in market share persist.

Accounting for regional differences in food prices is an important issue for the Food Stamp Program as it strives to ensure the affordability of healthful diets for all Americans. However, the extent to which regional benefit level adjustments would improve the program's ability to promote healthful diets has not yet been determined since consumer tastes and preferences also play a significant role in food choices. Even if benefit levels were adjusted to match food prices in a given region or market, households may still continue to purchase less healthful products due to competing preferences for convenience or taste. In addition, the administrative costs of regional adjustment that such a change could create have not been estimated.

Information Sources

Leibtag, Ephraim S. *The Impact of Big-Box Stores on Retail Food Prices and the CPI*, Economic Research Report No. 33, U.S. Department of Agriculture, Economic Research Service, December 2006, available at: http://www.ers.usda.gov/Publications/err33/.

Leibtag, Ephraim S., and Phil R. Kaufman. *Exploring Food Purchase Behavior of Low-Income Households: How Do They Economize?* Agriculture Information Bulletin No. 747-07, U.S. Department of Agriculture, Economic Research Service, June 2003, available at: http://www.ers.usda.gov/Publications/aib747/.