

Price Spreads

Farm-to-wholesale and wholesale-to-retail beef price spreads often become an issue when producer prices are low or falling and retail food prices are high or rapidly rising. Several congressional hearings, task forces, and commissions have addressed price spreads since the 1970's, alternately concerned with low or falling producer prices or high or rising consumer prices.

Price spreads for beef have been computed since the early 1920's, when Congress asked the U.S. Department of Agriculture (USDA) to undertake special studies of marketing margins for livestock. In 1934, at the request of livestock producers, USDA developed a statistical series to measure changes in marketing costs for a number of agricultural commodities. A preliminary report was published in 1935 and a report was issued in 1936 on price spreads for 58 food items, including beef. Price spreads for beef have been published on a regular basis since 1942, initially in *Marketing and Transportation Situation* and since 1975 in *Agricultural Outlook* and in various *Situation and Outlook* reports published by USDA's Economic Research Service (ERS).

The Retail Choice Beef price series used in price spreads is a weighted average of prices of Choice beef cuts and hamburger published by the Bureau of Labor Statistics (BLS). The weights chosen approximate the quantity of each type of cut that can be taken from a Choice beef carcass. This weighting is designed to maintain a constant quantity and quality of product at the farm, wholesale, and retail levels. Although the beef from a Choice carcass is assumed to be sold somewhere, whether in restaurants, grocery stores, or export markets, only meat sold in grocery stores is represented in the price spread series.

There are several ways to weight different cuts to arrive at a value for the beef from one carcass, depending on the specific nomenclature of the individual cuts. Some experimental work in ERS using principal component analysis has shown that over 95 percent of the variation in BLS cut data is captured in the first principal component (Hahn, internal analysis, 1996).¹ This indicates that reweighting cuts would result in a slightly different weighted average carcass price, but the resulting price series would likely be highly correlated with the current series. In econometric work, either series would give similar results.

ERS also publishes an All Fresh Beef price series, which includes prices for non-Choice cuts and additional hamburger from cows and imported sources. This price also incorporates how much of each type of beef is produced, but not how much of each type is sold from retail counters. No data are available on a frequent and timely basis that would reveal the distribution of cuts actually sold. Because it includes lower quality beef, the fresh beef price is lower than the Choice Beef Retail price. However, the Choice price, the All Fresh beef price, and BLS's Beef and Veal Price Index are all highly correlated (fig. 2).

¹Principal component analysis is a statistical technique that separates linear combinations of factors into groups that may be considered as variables or proxies for variables in further analyses.

Price and Price Spread Data Issues

Price and price spread data must be interpreted with care. Misinterpretation of these data and indicators can lead to unwarranted conclusions about prices and price spreads. Here, we discuss three issues especially relevant to this report: (1) the interpretation of price spread data, (2) the methods used in calculating the Choice Beef Retail Price, and (3) the fact that special or sale prices are given no more weight than standard prices by the Bureau of Labor Statistics (BLS).

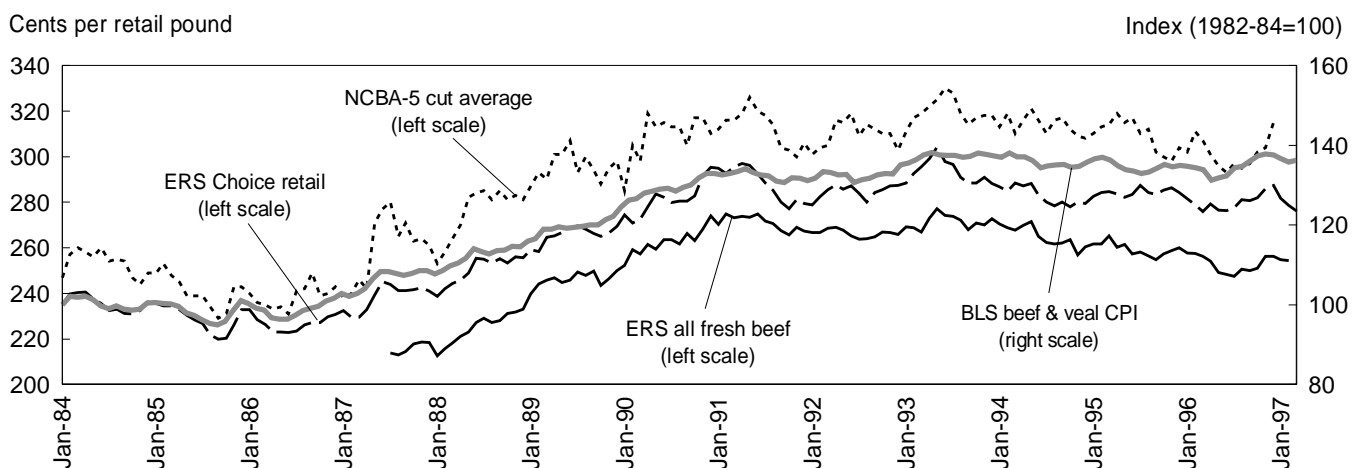
Interpreting price spread data. Changes in price spread data include changes in cost efficiency for slaughtering and processing Choice beef. Over time, the Choice beef price spread measures all the costs and changes in those costs (and profit or losses) of converting a live animal and transporting Choice beef to the grocery store. Even so, it does not provide any direct indication of whether observed price changes are cost-justified. Neither does it separately measure costs or profits for any one type of firm or industry group.

Calculating the Choice Beef Retail Price. Some observers, especially retailers, have criticized the retail price used in price spreads because they feel it does not reflect the distribution of beef cuts actually sold out of meat cases in grocery stores. First, the Choice Beef Retail Price reflects only the price of Choice beef, while many stores also sell other grades of beef. Many critics also feel that, even within the Choice beef grade, fewer steaks and roasts are sold in retail foodstores and more lower value hamburger is sold than is reflected in the Choice Beef Retail price.

Weighting of beef retail prices. Special or sale prices are given no more weight than standard prices in calculating the Choice Beef Retail Price (Tomek, 1996; and Duewer, 1969). BLS collects whatever price is in effect, regular or special, at the time data are collected. BLS has no data to support and makes no adjustment for possible increased volume of sale-priced items. No indication is given in the published BLS data series for frequency or incidence of special prices. This BLS methodology is used for all retail price series collected by BLS and is not unique to meats.

Some critics argue that a retail price more directly reflective of special prices would not only be lower than the ERS price but would more closely track farm and wholesale prices. Unfortunately, no data are available to test that hypothesis.

Figure 2
Retail beef price measures, January 1984-April 1997



Note: CPI is Consumer Price Index, NCBA is National Cattlemen's Beef Association, and BLS is Bureau of Labor Statistics.
Source: USDA, ERS.