

Weekly Purchase Data Display Strong Seasonal Patterns

Fresh Beef Purchases Trend Downward and Have Seasonal Peaks and Troughs

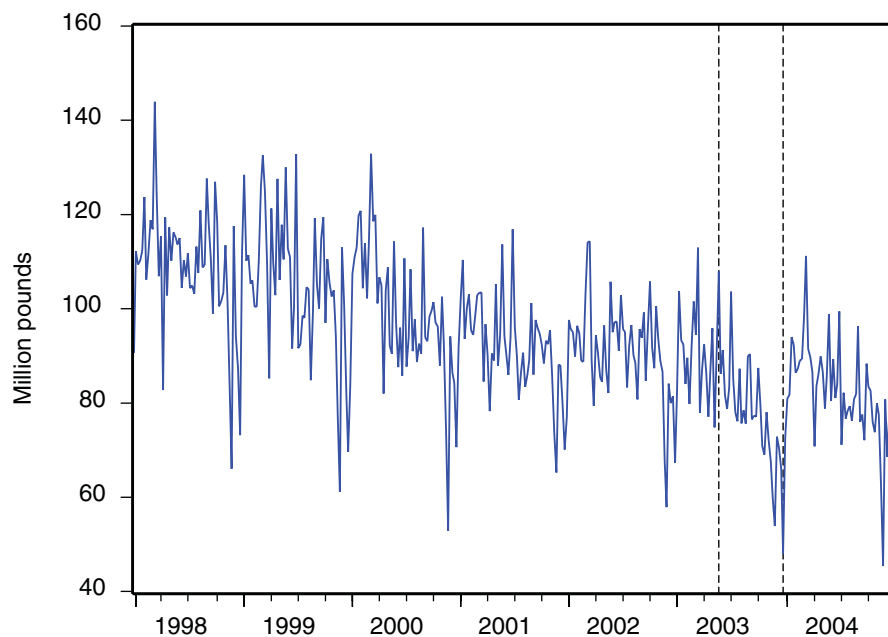
The likely place to look for consumers' adjustments to BSE announcements is in the quantity of beef and veal purchased from grocery store meat counters. At the meat counter, beef and veal packages are individually weighed and labeled with exact, but not uniform, weights. We refer to these purchases as fresh items, distinguishing them from packaged goods bearing UPC codes and having uniform weights. The category of purchases we defined includes beef and veal in a variety of forms: many varieties of roasts, steaks, and chopped meat; ribs; and liver. Since veal is only a very small portion of this category, we refer to the purchases as fresh beef.

Plotting weekly fresh beef purchases reveals two distinctive aspects of the pattern of consumer purchases: trend and seasonality. Figure 1 clearly shows a 7-year downward trend in fresh beef purchases. The rate of decline was 5.2 percent annually, estimated from a linear trend line. Vertical lines

Figure 1

Weekly U.S. purchases of fresh beef, 1998-2004*

Fresh beef purchases declined by 5.2 percent annually between 1998 and 2004



* Weeks immediately following BSE announcements are indicated by vertical lines.

Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

indicate the weeks immediately following the May 20 and December 23, 2003, BSE announcements.

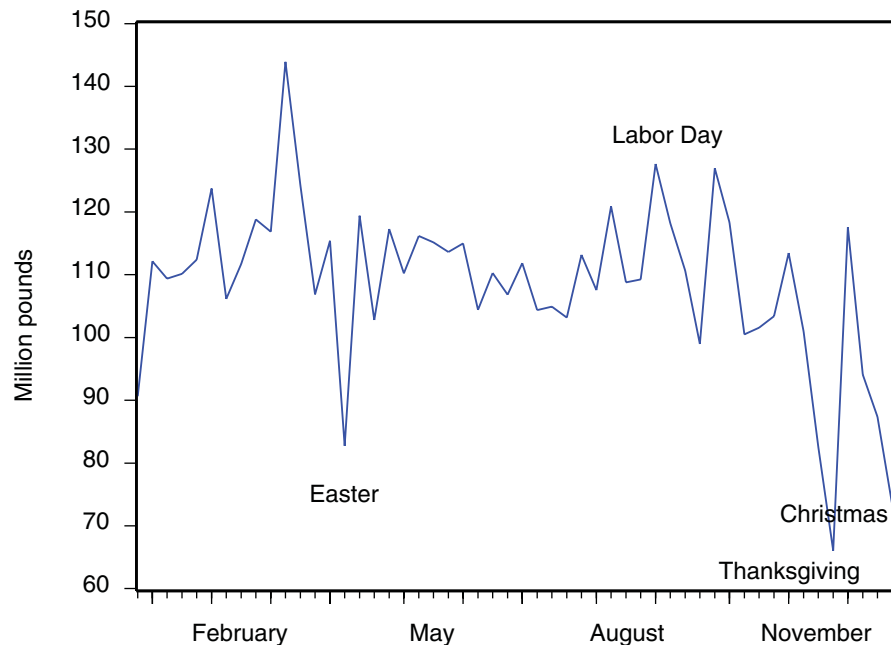
The second feature that can be revealed by time plots is the seasonal pattern of weekly purchases. Figure 2 expands the data from 1998 to show a typical yearly pattern. The figure shows that weekly purchases vary, with purchases at the highest peak approximately twice that of the lowest trough in any year. There are predictable peaks and troughs in each year. Troughs in purchases occur just before several major holidays: Easter, Thanksgiving, and Christmas. Deep troughs occur exactly as other meats peak (turkey at Thanksgiving). Peaks in early March and around summertime holidays (e.g., Labor Day) are typical. The May 20 announcement came just prior to the Memorial Day peak in purchases and the December 23 announcement came just before the trough at Christmas.

Frozen Beef Purchases Display Rising Seasonal Peaks

Unlike meat sold at the meat counter, frozen beef is packaged in uniform weights and labeled with UPC codes. Mostly, this category consists of steaks and hamburger patties. The frozen product differs from fresh meat at the meat counter in that the frozen is designed to be more quickly prepared.

Figure 2

Weekly U.S. purchases of fresh beef, 1998
Purchases declined at Easter, Thanksgiving, and Christmas



Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

Thus, the demand characteristics of frozen meat may differ from the fresh product. Possibly, impacts of BSE announcements could differ as well.

Figure 3 shows weekly quantities purchased of frozen beef and veal (again referred to as beef) between 1998 and 2004. In contrast to fresh beef, frozen beef purchases show an upward trend, although the pattern is more complex than simply random observations above and below the trendline. Peaks are rising while the troughs are about the same level year after year. (The lowest weekly quantity purchased occurred over Thanksgiving week, 2004.) Further, there is a seasonal pattern to purchases within each year. Figure 4 displays a year of weekly observations. Like every year in the dataset, summertime holidays are peaks and Thanksgiving and Christmas weeks are troughs.

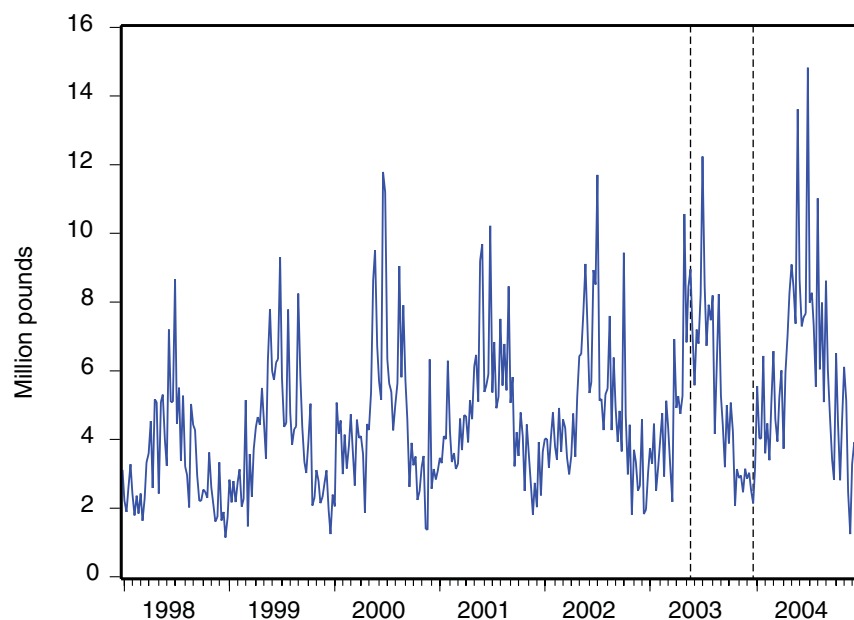
Frankfurter Purchases Are Strongly Seasonal

Weekly purchase data for frankfurters display an obvious seasonal pattern, peaking in the summer months and dipping at the end of the calendar year (fig. 5). In fact, for each year, there are three peaks in the summer. These all occur just before holidays: Memorial Day, July 4th, and Labor Day. The BSE announcements came just before the Memorial Day peak and before the Christmas trough. Figure 6 shows 1 year, 1998, identifying the three

Figure 3

Weekly U.S. purchases of frozen beef, 1998-2004*

Purchases increased between 1998 and 2004, with peaks getting larger and troughs staying about the same



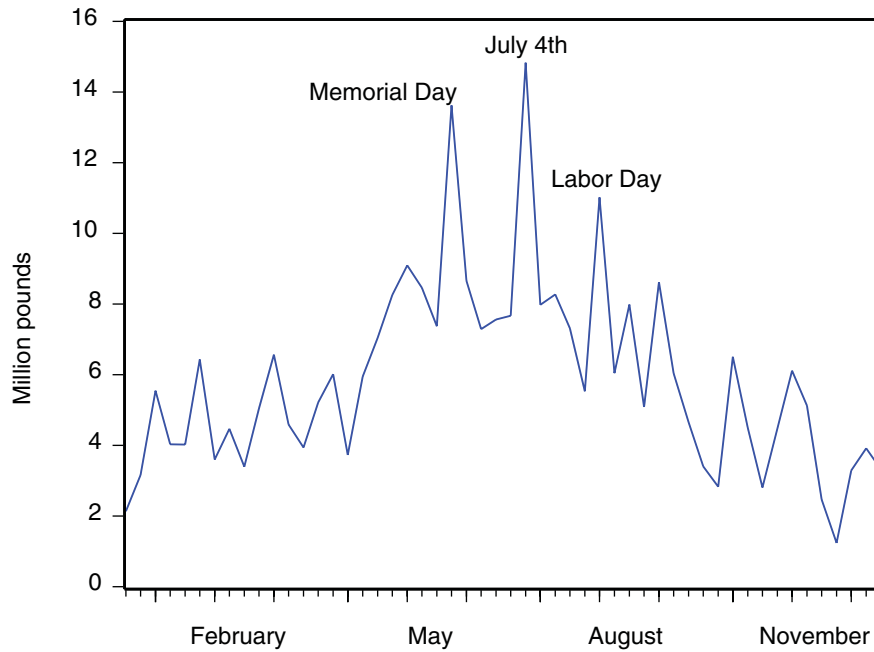
* Weeks immediately following BSE announcements are indicated by vertical lines.

Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

Figure 4

Weekly U.S. purchases of frozen beef, 2004

Purchases hit peaks during Memorial Day, July 4th, and Labor Day

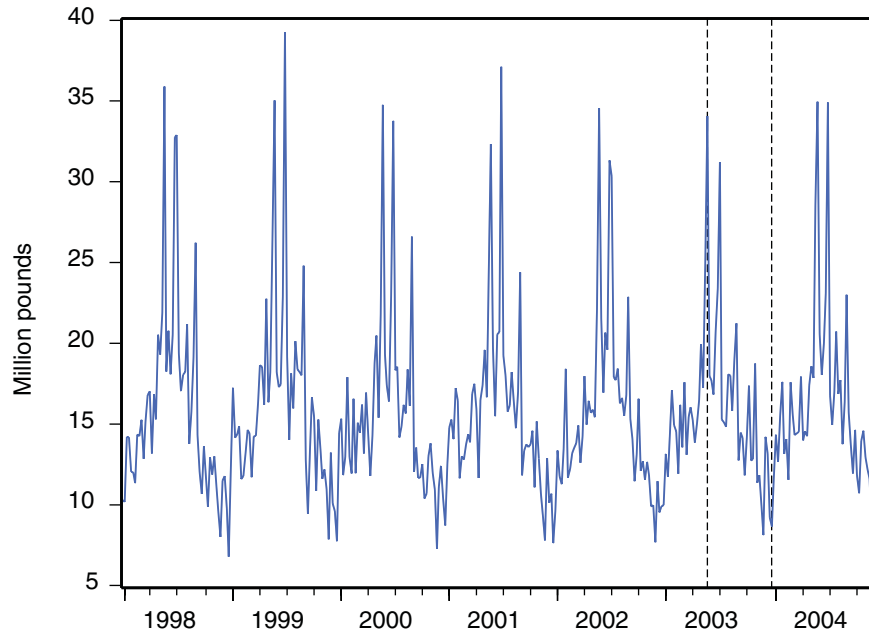


Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

Figure 5

Weekly U.S. purchases of frankfurters, 1998-2004*

Frankfurter purchases were seasonal between 1998 and 2004



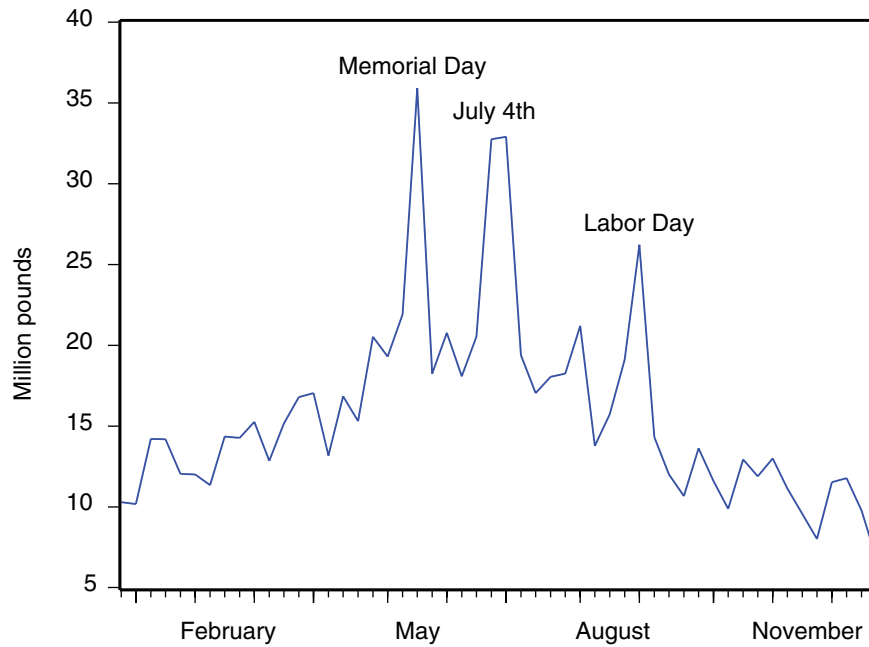
* Weeks immediately following BSE announcements are indicated by vertical lines.

Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

Figure 6

Weekly U.S. purchases of frankfurters, 1998

Frankfurter purchases peaked during summer holidays in 1998



Source: Economic Research Service/USDA, using data from the ACNielsen Homescan Panel, 1998-2004.

summertime peaks for purchases.

The figures show that variation in purchases throughout the year is large. Weekly purchases were 6.8 million pounds at the deepest trough and 39.3 million pounds at the highest peak. Typically, peaks are five times trough purchases.