**Managing for
Today's Cattle Market
and Beyond**

The Changing Consumer and the Demand for Meats

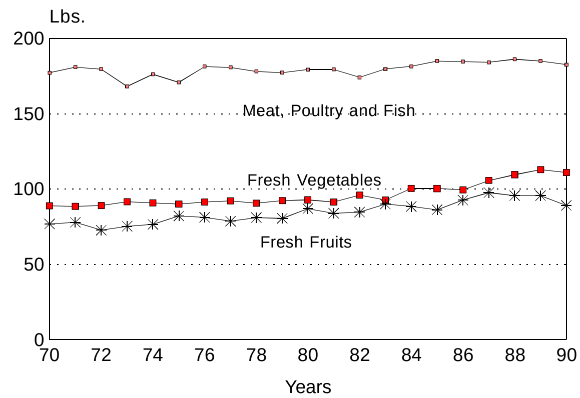
By
Chris Bastian,University of Wyoming

In production agriculture, it is sometimes easy to forget what happens to the steer when it leaves the farm gate, but it is the final destination of that product which has had a significant impact on the beef industry. While changing consumer demand has influenced the market for all types of meat, the change that has the largest potential for challenging traditional American agricultural institutions in recent years has been the dramatic weakening in beef's competitive position. Consumers have changed their attitudes toward diet and health. Today's consumers are more conscious of calories, fat and cholesterol than the consumers of twenty years ago. Moreover, consumers want a broader variety of nutritious and convenient food products. Changes in production and processing technology have enabled producers to better target food market niches than ever before. These changes in attitudes and technology, combined, have significantly impacted the beef industry. Figure 1 points to a trend of more fresh vegetables and fruits in the American diet. Table 1 shows that of the top ten foods for which per capita consumption has increased (between 1976-78 and 1986-88) over half have been fruits and vegetables. Veal, beef, and lamb, on the other hand, have experienced significant declines in consumption over the same period.

Table 1. Foods with Biggest Increases and Decreases in Consumption, 1976-78 to 1986-88.

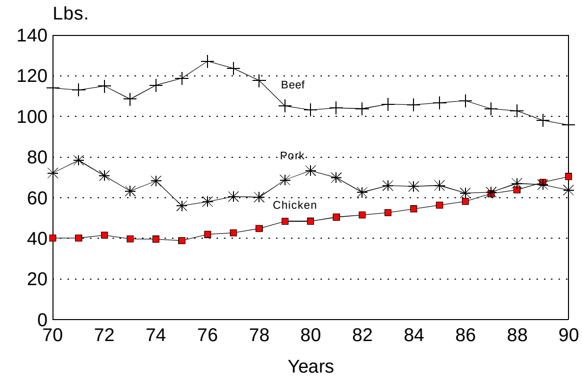
Food Consumption Gains	Percent Change 1976-78 to 1986-88	Food Consumption Losses	Percent Change 1976-78 to 1986-88
Fresh broccoli	231.8	Veal	-46.1
Low-Calorie sweeteners	193.2	Whole milk	-33.8
Fresh cauliflower	174.1	Canned green peas	-32.8
Fresh grapes	134.8	Canned peaches	-27.8
Rice	95.1	Distilled spirits	-25.2
Yogurt	89.4	Nonfat dry milk	-23.2
Fresh carrots	77.0	Canned corn	-19.6
Frozen broccoli	67.6	Beef	-17.8
Turkey	62.7	Lamb	- 8.8
Cheese (excl. cottage)	46.0	Coffee	- 7.5

Figure 1. Major Foods: Per Capita Consumption



Source: Food Consumption, Prices, and Expenditures, 1970-90.

Figure 2. Per Capita Consumption: Red Meat (carcass weight) and Poultry (ready-to-cook).



Source: Food Consumption, Prices, and Expenditiures, 1970-90.

Additionally, there has been a shift toward more convenience in food preparation. Three-fourths of the women aged 25-54 in the U. S. are now in the work force, compared to about one-half 20 years ago (Barkema et al.). Thus, with more households having two working adults, less time is spent preparing meals. More consumers are choosing to eat away from home or purchase foods already partially prepared.

Given these changes in consumer tastes and preferences, beef must now compete more directly for each dollar spent on meat than was the case 20 years ago. Figure 2 shows the trend in consumption for red meat and poultry. Overall, per capita consumption of red meat and poultry has not changed that much, but when beef, pork, and chicken are examined separately, beef appears to be losing market share to chicken. A negative trend in beef per capita consumption has occurred, while per capita consumption of pork has remained stable, and the per capita consumption of chicken has increased (Figure 2).[1] Moschini's results showing an average annual decline of 2.53% in the beef-to-chicken demand ratio between 1967-1984 underscore the dramatic loss of market share the beef industry has experienced in recent years.

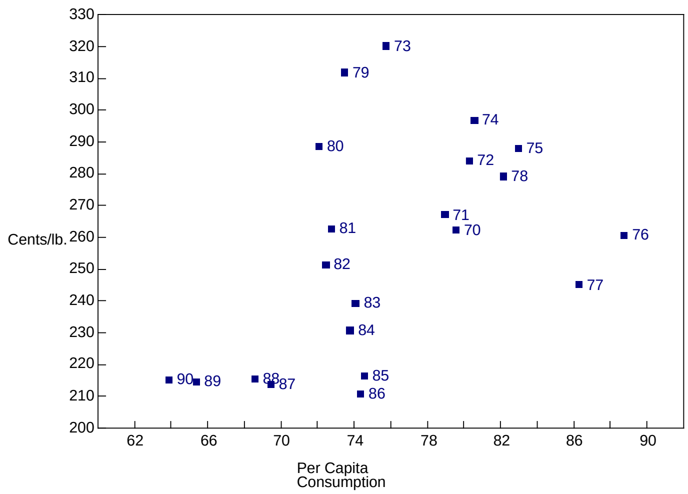
To better answer the question why beef lost market share to other meats, it is necessary to examine the concept of consumer demand in more detail. Consumer demand is the relationship between the price of a product and the quantity of that product which consumers are willing and able to purchase, while all other influences in the market are held constant. As the price of a product increases, the quantity demanded decreases. The reverse is true of quantity demanded if price decreases. Other factors in the market which may influence demand include the level of consumer incomes, prices of competing products, and consumers' tastes and preferences.

To this point, trends in per capita consumption have been discussed, but the concept of demand really deals with the price-quantity relationship. Purcell (1989b) suggests that measures taking into account only the percentage of income spent on beef, or per capita consumption, fail to capture the true picture of demand. Prices for beef, and other competing meats (mostly pork and chicken) must be considered in conjunction with the corresponding quantities of the product consumed when analyzing demand for these meats.

Figures 3-5 demonstrate the relationship between deflated (1982-84=100) retail prices and consumption for beef, pork, and chicken, respectively. Figure 3 shows a relatively stable demand for beef in the 1970's. That is, the quantity of beef demanded appeared to increase or decrease based on changes in price. However, after 1979 less beef appears to have been demanded at each level of price relative to earlier periods. This suggests there has been a significant downward (negative) shift in the demand for beef since 1979. Also, the relationship between price and per capita quantity of beef demanded appears to be "flatter" since 1979 than it was previously. That is, increases in the per capita quantity of beef consumed were accomplished only with larger prices decreases than was true prior to 1979 (Figure 3). This indicates that after 1979 consumers have become more willing to substitute competing products for beef as the price of beef increases and less willing to substitute beef in place of other meats as the price of beef decreases.

The downward shift in, and change in the slope of the demand curve for beef since 1979 has been caused by some factor(s) other than the price of beef, i.e., incomes of consumers, prices of related products or changes in consumers' tastes and preferences have changed. Real consumer income has increased during the last 20 years, and demand for beef should have been positively impacted, assuming beef is a normal good. Consequently, something other than changes in consumer income must have caused the decreasing demand for beef during the last two decades.

Figure 3. Per Capita Consumption and Deflated Retail Prices for Beef, 1970-90.



Figures 4 and 5 explore the price-quantity relationships of meats that are substitutes for beef. Figure 4 indicates a more stable demand for pork than for beef during the same time period. However, some of the same patterns exist for pork as for beef. During the 1970's and early 1980's, the inverse relationship between price and the quantity of pork consumed is quite evident. Then a slight downward shift in demand is seen in the mid-to-late 1980's, i.e., less pork was demanded in the late 1980's at prices approximately equal to those in the 1970's and early 1980's. The demand for pork appears to have stabilized since the late 1980's in contrast to the apparent continuing downward trend in the demand for beef.

The price-quantity relationship for chicken (Figure 5) suggests a much different set of circumstances than for beef or pork. Chicken consumption has increased continually since the 1970's as real prices have declined. This suggests that increased quantities of chicken have been produced at lower costs during the past 15 years and have been provided to consumers at continually lower prices.

Figure 4. Per Capita Consumption and Deflated Retail Prices for Pork, 1970-90.

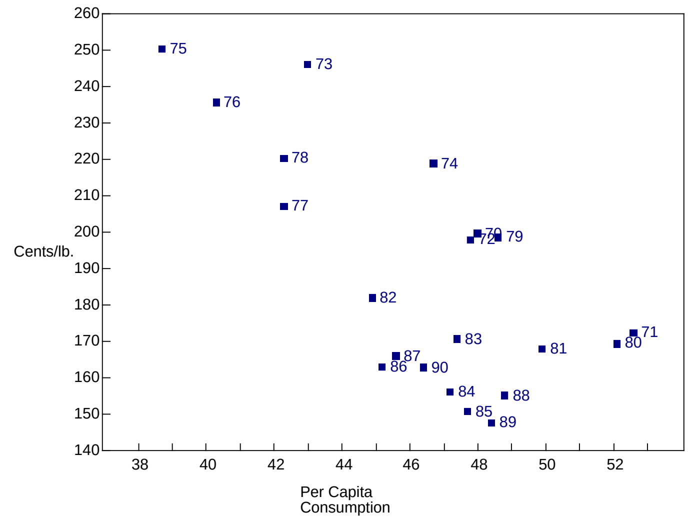
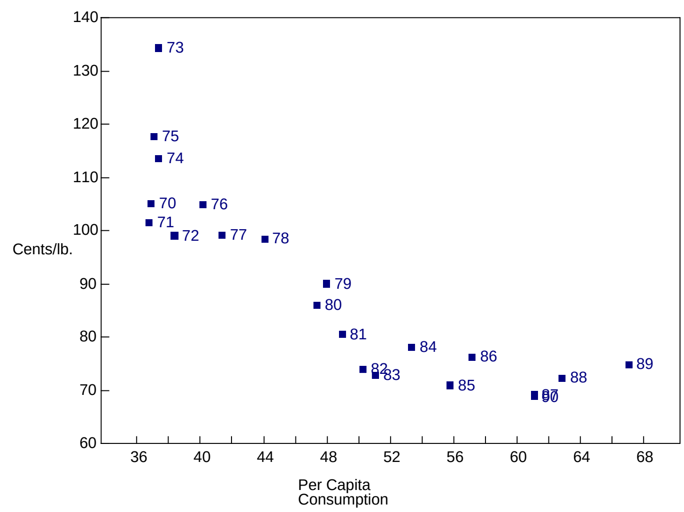


Figure 5. Per Capita Consumption and Deflated Retail Prices for Chicken, 1970-90.



This price advantage, at least partially, may explain a shift from beef consumption to chicken consumption. This price advantage may not explain the total change in beef demand, however (Purcell, 1989b). There has likely been a structural shift in beef demand stemming from issues concerning convenience and health concerns as well.

The marketing of beef has changed relatively little over the last 20 years. Most beef carcasses are cut into products which are grouped either as prime, choice, or select grades. Cattle feeders get a higher price for prime and choice cattle than select. Moreover, feeders tend to put more fat on animals to achieve the prime and choice grades which increases feed costs. By encouraging feeders to produce excess fat, the grading and pricing system has increased production costs and caused feeders to produce a product conflicting with consumers' preferences for leaner beef (Barkema et al.).

Survey results (Purcell, 1991) clearly show consumers do not perceive beef as being competitive with chicken in terms of offering low fat and low cholesterol product lines. A study completed by Menkhaus et al. reports results similar to those of Purcell (1991). The Menkhaus et al. study indicated that consumer concerns with beef were related to cholesterol, calorie content, artificial ingredients, convenience characteristics (microwaveable and storage), how it is displayed in the store, and price (too expensive). Each of these factors exhibited a statistically significant negative effect on the quality perception of beef compared to other meats.

The poultry industry has been more responsive to the changes in consumer lifestyles than the beef industry by providing products which address health and convenience concerns. The proliferation of chicken products has, without doubt, also increased the demand for chicken, and, in turn, has reduced the market share of other meats such as beef and pork. Reynolds states that much of the positive perception position enjoyed by chicken is as much the result of packaging, positioning, and product form as it is the product itself and its pricing. Reynolds goes on to state that, based on survey results, chicken is an entirely different product in the eyes of consumers than it was 20 years ago, while beef's image is virtually unchanged.

Implications for the Beef Industry

The decline in the demand for beef has serious implications for the beef industry. This change in demand has probably played a major role in the structural change experienced in the beef industry. Purcell (1989a) states the decreasing demand for beef was the catalyst for forced changes in the industry that will shape and influence it for years to come. The beef industry, while starting to make changes in its marketing strategies, needs to continue efforts in the areas of product development and advertising which address health and convenience issues. Biotechnology needs to address the issues relating to lower feed conversions and the production of leaner muscle tissue. Otherwise, the beef industry could face a continued trend toward a shrinking market share at the retail meat counter.

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[1] Moschini also found that the beef-to-pork demand ratio between 1969 and 1984 remained stable.