

Challenges to the Beef Industry

by Gary W. Brester, Ted C. Schroeder, and James Mintert

In two 1989 *Choices* articles, Wayne Purcell, director of the Research Institute on Livestock Pricing at Virginia Tech, argued that professional agricultural economists failed to alert the beef industry to a "...textbook case of decreasing demand" and that economists did not effectively communicate what they knew about changing beef demand to the private sector. Although analysts continue to debate the causes of per capita beef consumption declines throughout the 1980s, competition from the poultry sector resulting from productivity increases was certainly a major factor. More importantly for the future of the beef industry, downward pressure on beef demand may intensify as efficiency gains and marketing improvements in the pork industry reduce retail pork prices and create products with greater value to consumers.

Meat sector productivity

Productivity gains can be estimated by calculating dressed beef production per cow and dressed pork production per sow. Based upon these measures, productivity in the beef sector increased 25 percent from 1980 to 1995, whereas pork sector produc-

tivity increased an astounding 90 percent. Gains in beef production per cow were attributable to changes in genetics and feeding programs and large decreases in calf slaughter. Much of the calf slaughter reduction resulted from widespread adoption of finishing dairy steers and heifers in feedlots rather than marketing them as veal calves. Thus, the dramatic decline in calf slaughter is over, which means future gains in beef productivity will need to come from feeding cattle to heavier slaughter weights, genetic improvements, or increased feed efficiency. However, traditional cross-breeding programs (which are beneficial in some ways), disparate cow/calf production enterprises, and lengthy biological lags present significant impediments to large-scale changes in beef genetics. Therefore, beef productivity is likely to increase at a pace no faster than that of the past fifteen years.

Prospects for future productivity growth in the pork sector are considerably brighter. Past productivity growth was primarily attributable to improvements in genetics, technology, and management. Genetic and nutritional improvements made it possible to feed hogs to heavier weights and still produce relatively lean carcasses. Moreover, the application of better genetics, new production technologies, and improved management techniques allows the best hog producers to annually wean 50 percent more pigs per sow compared to ten years ago. Further industry consolidation is expected as firms take advantage of new technologies and economies of size to lower production costs and drive out firms that fail to adapt (Rhodes). Industrialization has resulted in consolidation of hog genetics and uniformity in production enterprises which facilitates adoption of new technologies. Therefore, widespread adoption of improved genetics, split-sex feeding, multiple site production, and segregated early weaning could contribute to future pork productivity gains which may

Department of Communications, Kansas State University



dwarf expected productivity gains in the beef sector.

Like the pork industry, the poultry industry produces meat much faster and with less feed than was previously possible because of advances in genetics, equipment, nutrition, and management practices. A 3 1/2–4 1/2-pound broiler reaches maturity in seven to eight weeks versus twelve to fourteen weeks thirty years ago, and it takes 50 percent less feed to produce a pound of chicken today than in the 1940s (Lasley et al.). In addition, vertical integration has reduced transactions costs and generated scale and scope economies. Poultry sector productivity is expected to grow in the future as researchers develop better genetics, nutrition, and management techniques. However, the industry has matured, and many observers believe the rate of productivity growth will be lower than in the past (S. Beyer, Dept. of Animal Sciences and Industry, Kansas State University, personal communication, 31 March 1997).

Fighting for market share

Increases in meat sector productivity lower production costs and retail meat prices. Meat commodities that do not match productivity gains of substitute products will be at a competitive disadvantage. Over the past thirty-five years, U.S. per capita total meat consumption grew from 165 pounds to 210 pounds. However, while per capita poultry (chicken and turkey) consumption trended upward, per capita pork consumption was relatively stable and per capita beef consumption declined since the mid 1970s (figure 1).

Changes in relative prices among the three meats explain a major portion of consumption changes. Productivity gains in the poultry sector contributed to declines in real poultry prices which increased poultry consumption. More importantly, productivity was growing more rapidly in the poultry sector than in the beef sector and, as a result, the beef-to-chicken price ratio increased dramatically over the 1960–82 period (figure 2). Since 1982 the trend in the beef-to-chicken price ratio has leveled, but other factors caused beef to continue to lose market share. In contrast to the beef/chicken price ratio, the beef/pork price ratio fluctuated considerably, but displayed no overall trend since 1960. Not surprisingly, there has also been no discernible trend in the beef/pork consumption relationship.

Health and food safety concerns—additional challenges

Although consumers express concern about health, nutrition, and food safety, researchers have not been able to completely quantify the effect of these factors on beef consumption. Many surveys and studies suggest that consumers are aware of the negative effects of diets high in cholesterol and fat and

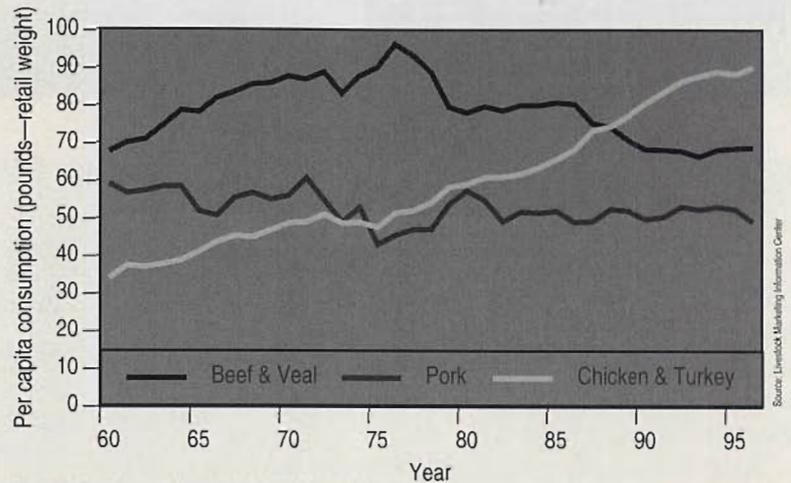


Figure 1. Per capita meat consumption

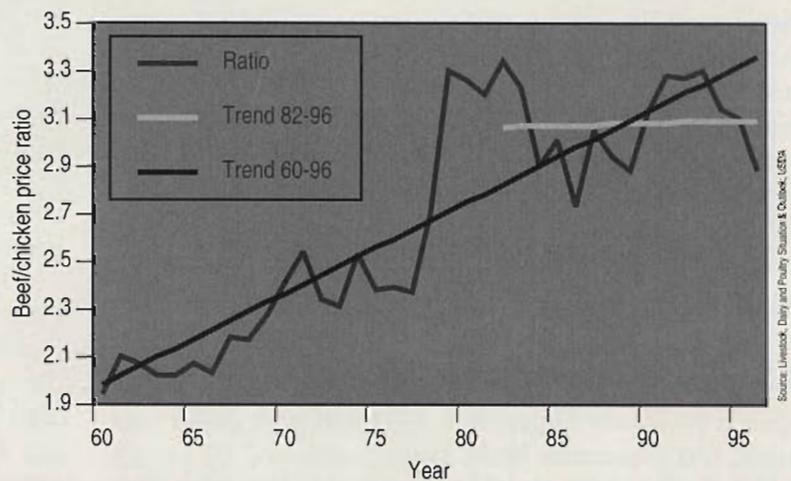


Figure 2. Beef/chicken annual retail price ratios

that consumers are willing to compromise on taste in exchange for products perceived as healthy (Skaggs et al.). No study, however, has found that these factors overwhelm price considerations. For example, the argument that health concerns caused consumers to substitute away from beef consumption toward poultry consumption is weakened by the fact that much of the increase in poultry consumption took place within the fast-food sector where many poultry products are deep-fat fried (Lasley et al.). However, to the extent that health and food safety concerns influence food consumption, isolated cases of microbial pathogens in beef products will erode market share. Thus, the beef industry must continue to improve the safety of its products and educate consumers regarding real and perceived health and safety issues.

Product development

Changing consumer lifestyles have increased demand for convenient, further processed, and diverse foods (Henneberry and Charlet). However,

(continued on p. 24)

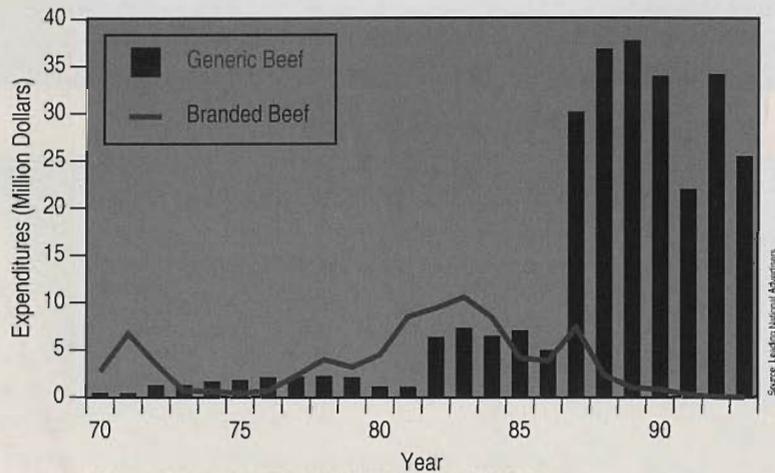


Figure 3. Real annual beef advertising, 1970-93 (1993\$)

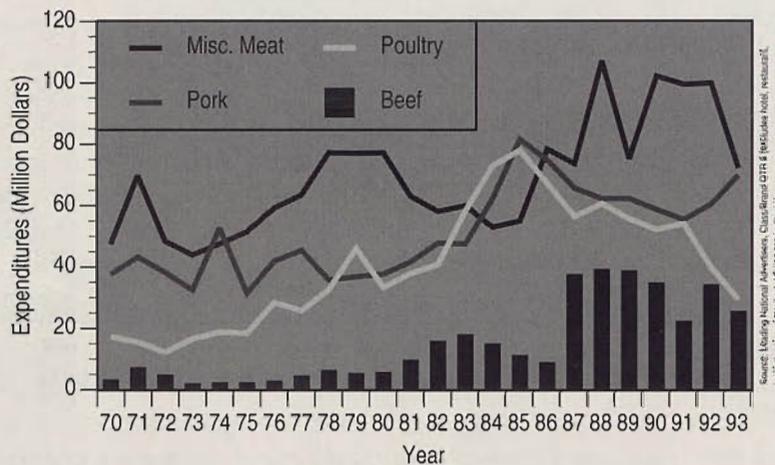


Figure 4. Real annual advertising, 1970-93 (1993\$)

(continued from p. 21)

the beef industry has been slow to respond to these demands and has not invested in new product development at levels comparable to competing meats. This lack of product development is reflected in promotion expenditures. Generic beef product promotion expenditures represent the vast majority of beef promotion (figure 3). Conversely, most pork product promotion and virtually all poultry product promotion target branded products (Brester and Schroeder).

Ritchie et al. provide additional evidence of slow product development in the beef industry. They cite the number of prepackaged, consumer-ready meat product items listed by a major supermarket chain at the 1996 Meat Marketing Conference in Phoenix: poultry, 70; pork, 58; veal, 7; lamb, 6; and beef, 5. They also provide anecdotal evidence from several food marketing professionals indicating the need for new beef product development.

Product promotion—more challenges

Both beef and pork producers use generic advertising to increase consumer demand. Starting in 1986-87, both groups launched separate national generic

commodity advertising programs funded by producer check-off assessments. Prior to 1986, beef and pork producers typically allocated less than \$2 million annually to advertising expenditures. Since 1987 annual producer-funded beef advertising expenditures ranged from \$25 to \$35 million, and annual producer-funded generic pork advertising expenditures ranged from \$7 to \$14 million. Beef and pork advertising campaigns compete for consumers' food expenditures (Brester and Schroeder).

Although generic beef promotion expenditures appear large at first glance, total (generic plus branded) beef advertising expenditures are small compared to those for other meats (figure 4). Since 1987, total beef advertising expenditures have averaged 53 percent and 68 percent of total pork and poultry advertising, respectively.

Virtually all poultry advertising is of a branded form (products which display the processor's name on the label). Since 1987, 84 percent of pork advertising expenditures has been for branded products and has been funded by pork processing and merchandising firms. Producer-funded generic programs account for only 16 percent of all pork advertising expenditures. This contrasts sharply with the beef sector where less than 5 percent of total advertising expenditures has been for firm-branded products and 95 percent of total beef advertising expenditures has been spent on generic advertising (figure 3). Research suggests that branded advertising is more effective than generic advertising (Brester and Schroeder).

Changing consumer lifestyles have increased demand for convenient, further processed, and diverse foods. However, the beef industry has been slow to respond to these demands...

Economists generally agree that the impact of generic advertising on beef demand is small compared to the impact of changes in relative prices and incomes (Brester and Schroeder). For example, Forker and Ward noted "...while the beef checkoff has been successful, the checkoff accounts for only 5 percent of the total changes in beef prices from 1987-92." Although there is not unanimous agreement among economists, most research indicates that additional dollars devoted to domestic generic beef advertising are likely to have (at best) a very small impact on retail beef prices and an even smaller effect on farm-level prices.

Beef industry's challenges

Regaining a competitive position at the retail counter presents a difficult and multifaceted challenge for the beef industry. Beef sector interests need to consider the relative benefits and costs of strategies which do the following:

- Make beef products more price competitive through more efficient production, processing, and marketing of beef products.
- Develop products that provide increased value to consumers. Consumers have clearly demonstrated their willingness to pay for products that fit their lifestyles. In addition to competitive prices, value is provided by convenience, consistency, and high quality. Improved product quality requires accurate identification of live animal quality, increased use of value-based cattle pricing, better identification of quality in consumer beef products, production of differentiated products, and increased sorting of beef products by quality characteristics.
- Respond proactively to health, nutrition, and food safety concerns. Advertising efforts have attempted to promote the low-fat aspects of leaner beef cuts. However, in some circles, the term "red meat" connotes a negative health and nutrition image. Additional emphasis must be placed on proactively improving the safety of meat products and providing science-based information to consumers.

Although U.S. consumers spend more on beef than any other meat product, simply promoting the existing mix of relatively expensive, inconvenient, and inconsistent quality products will not improve the competitiveness of the beef industry. ■

■ For more information

Brester, G.W., and T.C. Schroeder. "The Impacts of Brand and Generic Advertising on Meat Demand." *Amer. J. Agr. Econ.* 77(November 1995):969-79.

Forker, O.D., and R.W. Ward. "Commodity Checkoff Programs: A Self-Help Marketing Tool for the Nation's Farmers?" *Choices*, Fourth Quarter 1993, pp. 21-25.

Henneberry, S.R., and B. Charler. "A Profile of Food Consumption Trends in the United States." *J. Food Products Mktg.* 1(1992):3-23.

Lasley, F.A., H.B. Jones, Jr., E.H. Easterling, and L.A. Christensen. *The U.S. Broiler Industry*. Washington DC: U.S. Department of Agriculture, Commodity Economics Division, ERS Agricultural Economic Report No. 591, 1988.



Department of Communications, Kansas State University

Purcell, W.D. "The Case of Beef Demand: A Failure by the Discipline." *Choices*, Second Quarter 1989, pp. 16-19.

—. "Re: The Author Responds." Letter to the editor, *Choices*, Third Quarter 1989, p. 41.

Rhodes, V.J. "The Industrialization of Hog Production." *Rev. Agr. Econ.* 17(May 1995):107-18.

Ritchie, H.D., J.L. Orth, J.N. Ferns, T.R. Pierson, J.H. Hilker, and J.R. Black. "Time is Now for Beef Industry to Consider Change." *Feedstuffs* 69(February 3, 1997):1, 25-26.

Skaggs, R.K., D.J. Menkhaus, S.J. Torok, and R.A. Field. "Test Marketing of Branded, Low Fat, 'Fresh Beef.'" *Agribus.* 3(Fall 1987):257-71.

Gary Brester is associate professor in the Department of Agricultural Economics and Economics at Montana State University; Ted Schroeder and James Mintert are professors in the Department of Agricultural Economics at Kansas State University.