



Twenty-Five Year Meat Consumption and Price Trends

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Meat demand is important to livestock producers and therefore is of considerable interest to them. This OSU Cooperative Extension fact sheet reports trends in consumption and retail prices for beef, pork, chicken, and turkey for the twenty-five years from 1980 to 2004. Combined, consumption and prices provide insight into the aggregate or overall demand for individual meats.

Consumption Trends

A statement often heard about food consumption is that we eat what we produce. Technically speaking, it is correct. There are no reliable statistics on consumption of all meats in total or for individual meats. The best estimate of consumption per person is made by taking total production and dividing it by the U.S. population to get an estimate of per capita consumption. At any point in time, the absolute estimate may not be exact, but over time the process yields a series for which we can identify trends and changes.

Total per capita meat consumption is discussed first, followed by per capita consumption for each of the four meat groups (beef, pork, chicken and turkey). Summary statistics are presented in Table 1. Data were compiled by the Livestock Marketing Information Center (www.lmic.info.org).

All Meats

Over the period 1980 to 2004, per capita meat consumption increased steadily in the U.S. (Figure 1). Note that production is domestic meat production plus imports minus

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exports. So production statistics include net trade volume. Then, production is divided by U.S. population to arrive at per capita consumption.

Consumption per person of all meats in 1980 was 190 pounds. Per capita consumption increased in most years, reaching its current peak at 218.6 pounds per person in 2004. Over this period, an increase of 28.6 pounds of meat consumed per person is very significant. That increase equals slightly more than another 8-ounce serving of meat each week in 2004 compared with 1980. This increase in per capita consumption also is significant when considering a steady increase in total U.S. population. Thus, total meat production had to increase very sharply for per capita consumption to increase also by a relatively large amount.

Beef

Per capita beef consumption increased slightly in the early 1980s (Figure 2). Consumption in 1980 was 76.6 pounds per person, increasing to 79.2 pounds by 1985. Per capita beef consumption began a period of fairly steady decline before stabilizing in the mid-1990s. In 2004, consumption of beef per person increased slightly to 66.1 pounds per person, up from the 2003 level, which was the second-lowest point in the twenty-five years. Lowest per capita beef consumption since 1980 was 64.6 pounds in 1993.

Table 1. Summary statistics on meat consumption and retail prices, 1980-2004.

Variable		Average	Maximum	Minimum
Per capita meat consumption	Pounds	200.9	218.6	183.8
Per capita beef consumption	Pounds	70.4	79.2	64.6
Per capita pork consumption	Pounds	51.4	57.3	47.9
Per capita chicken consumption	Pounds	63.5	84.2	45.8
Per capita turkey consumption	Pounds	15.6	18.4	10.3
Market share for beef	%	35.2	41.9	30.1
Market share for pork	%	25.6	30.2	23.5
Market share for chicken	%	31.4	38.5	24.1
Market share for turkey	%	7.7	9.1	5.4
Retail price of beef	\$/pound	2.79	4.06	2.27
Retail price of pork	\$/pound	2.12	2.79	1.40
Retail price of broiler chicken	\$/pound	0.90	1.10	0.71
Retail price of turkey	\$/pound	1.01	1.10	0.89

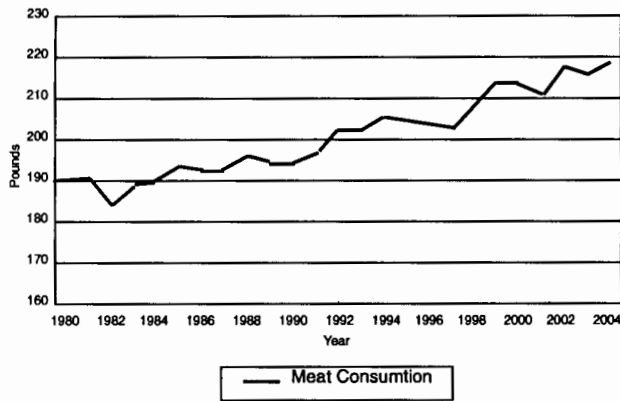


Figure 1. Per capita meat consumption, 1980-2004.

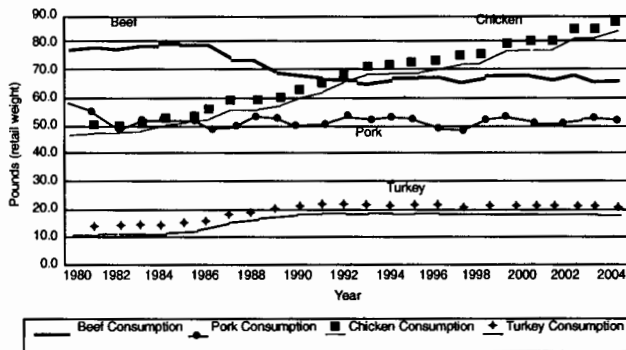


Figure 2. Per capita meat consumption, 1980-2004.

Often, per capita consumption is used synonymously with demand. However, it is important to note that nothing can be said about demand for beef solely from observing per capita consumption. Demand is the quantity demanded (essentially per capita consumption), at a given price. Consumption data say nothing about prices or demand. A discussion of retail beef prices and demand implications is presented later.

Aggregate or overall consumption data provide no insight into how our consumption patterns have changed over time. For example, there is some evidence U.S. consumers have replaced some of their purchases of hamburgers with purchases of deli meats. Similarly, the consumption of higher quality beef products at white tablecloth restaurants appears to have increased. The level of consumption of individual beef products and trends over time are very important also to understanding beef demand, and demand changes over time. However, this fact sheet only focuses on overall consumption trends for each of the major meat groups.

Pork

Per capita pork consumption declined over the twenty-five years from the level of 57.3 pounds in 1980 (Figure 2). However, since the early-1980s, per capita pork consumption has been quite stable, rising and falling just a few pounds per person over that extended period. Lowest per capita pork

consumption occurred in 1997 at 47.9 pounds. Per capita consumption in 2004 was 51.3 pounds, almost the exact average for the last twenty-five years.

As with beef, consumption of individual pork items likely has changed over the twenty-five year period but is not addressed here. However, one could point to the increased use of bacon in deli sandwiches and on hamburgers as one example. Another is how pork items have appeared more frequently on many restaurant menus.

Chicken

A much different trend is evident for chicken consumption, which is primarily broiler chicken meat (Figure 2). U.S. consumption of chicken in 1980 was 45.8 pounds per person, trailing beef by a wide margin and pork by a smaller margin. However, per capita chicken consumption increased each year since 1980 except for two years over the twenty-five year period. Only in 1995 and 2001 did per capita consumption of chicken not increase compared with the previous year. Over the entire period, per capita consumption increased 38.4 pounds per person per year to a high in 2004 of 84.2 pounds. Note this is 10 pounds more per person per year than the total increase in per capita consumption for all meats. The increased consumption of chicken is equivalent to an added 11.8 ounces of chicken each week in 2004 compared with the level in 1980 for every American.

The poultry industry has been especially effective at finding markets and adding value to lower-valued chicken items. Two examples can be cited. First is exporting dark meat products such as thighs and legs to countries that value dark meat more than U.S. consumers. Second is taking chicken wings, adding appropriate spices and flavorings to market buffalo wings or hot wings.

Turkey

Per capita consumption of turkey was 10.3 pounds in 1980 (Figure 2). Between 1980 and 1990, per capita consumption increased to 17.5 pounds, but remained near that level each year since then. Turkey consumption ended the twenty-five year period in 2004 at 17.0 pounds per person.

The turkey industry continues to explore ways to increase consumption of turkey on more of a consistent year-round basis. The Thanksgiving and Christmas holidays are still peak periods for turkey consumption. However, as the trend toward deli restaurants has increased, consumption of turkey products other than whole turkeys has increased and aided the industry in maintaining turkey consumption.

Market Shares

Figure 2 also shows the approximate trend in market shares of meat consumption for the four meats. A brief discussion of the market share trends and a comparison among meats is presented here. Again, aggregate trends are noted here. Each is driven by changes for and trends in consumption of individual meat items.

Beef

Based on market shares, it could be argued beef was the preferred meat for about the first half of the twenty-five year period. However, beef's market share began declining in the mid-1980s, declined more sharply in the latter half of

the 1980s and more slowly since then. Over the entire period, beef's market share fell from 40.3% in 1980 to 30.2% in 2004, which was close to the lowest market share for beef over the entire twenty-five years.

Pork

Pork's market share fell slowly over the quarter-century period, not deviating greatly from the 25.6% average share since the mid-1980s. Pork's market share in 1980 was 30.2%; in 2004, it slipped to its lowest share in the twenty-five years, 23.5%. Pork's market share fell less than that for beef over the twenty-five years.

Chicken

The picture for chicken is much different. The market share for chicken increased steadily over the entire data period. Its market share began at 24.1% in 1980 and increased to its current peak of 38.5% in 2004. Chicken surpassed pork's market share in 1986 and then moved ahead of beef in 1993, continuing to increase in subsequent years. The last few years provide no indication of the trend reversing in the near future.

Turkey

The market share for turkey increased for about the first half of the twenty-five year period, reaching a peak of 9.1% in 1991. Since then, its market share has remained relatively stable, though dropping to its lowest level since the late 1980s of 7.8% in 2004.

Retail Price Trends

Figure 3 shows retail prices for the four meats not adjusted for inflation. These prices are nominal or unadjusted retail prices. All four price series have an upward trend though the trend is clearly more noticeable for some meats than others. The price trend for red meats — beef and pork — trended upwards more sharply than did prices for the poultry meats — broiler chicken and turkey. In particular, retail beef prices showed the sharpest upward trend in the most recent few years.

Each nominal price series also was adjusted for inflation by the gross domestic product (GDP) deflator (Figure 4). Deflated retail prices are discussed for each meat.

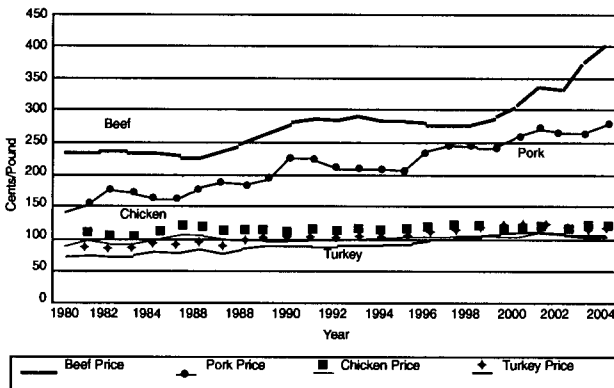


Figure 3. Retail meat prices not adjusted for inflation, 1980-2004.

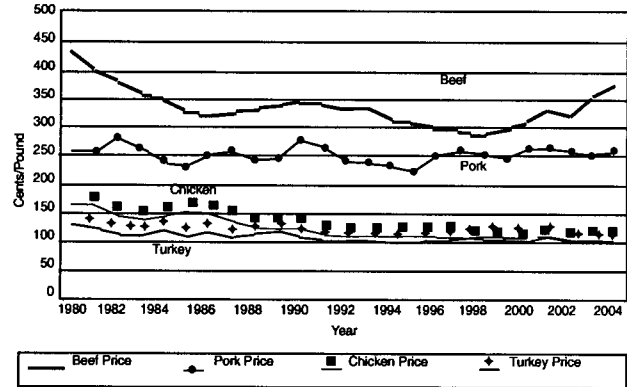


Figure 4. Retail meat prices adjusted for inflation, 1980-2004.

Beef

Inflation-adjusted retail prices declined fairly sharply at the beginning of the twenty-five year period, then rebounded slightly before declining again and reaching the low point in 1998. Since then, retail beef prices have increased both in nominal and deflated terms. Importantly, throughout the period, retail beef prices have remained the highest of the four meats. Higher retail prices represent a higher cost of producing beef but suggest to some that beef has remained the preferred meat. They argue that consumers are willing to pay more for beef than for other meats. Since 2001, beef is the only meat to experience increased retail prices after accounting for inflation.

Pork

Deflated retail pork prices have varied somewhat but ended the quarter-century just about where they began in 1980. Pork became less of a bargain for consumers relative to beef throughout much of the period. However, in the last three years, pork prices have changed little while beef prices have increased sharply, making pork a more attractive alternative compared with beef than previously.

Chicken and Turkey

The trends for chicken and turkey prices at retail are very similar. Deflated retail prices for both meats declined steadily over the past twenty-five years, though retail turkey prices declined even more than chicken. Consumers have been able to purchase both poultry meats for considerably less than either beef or pork. Both poultry meats have become even less expensive compared with beef over the most recent three years as a result of the sharp rise in retail beef prices.

Demand Implications

The supply and demand trends for each meat are shown in Figures 5-8. Economists would expect to find a tendency for a mirror image relationship to occur between per capita consumption and nominal retail prices. That relationship is essentially the inverse relationship expected due to supply and demand. Large or increasing supplies (per capita consumption) are associated with low or decreasing retail prices. Similarly, small or decreasing supplies (per capita consumption) are as-

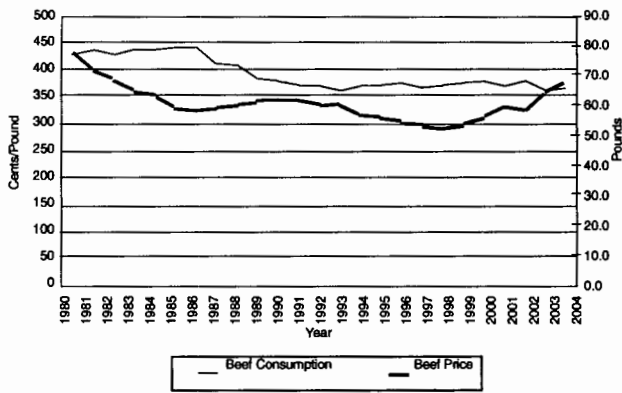


Figure 5. Real retail beef prices and per capita beef consumption, 1980-2004.

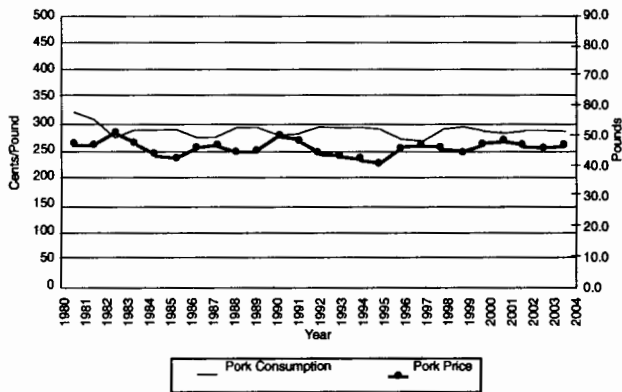


Figure 6. Real retail pork prices and per capita pork consumption, 1980-2004.

sociated with high or increasing retail prices. Consequently, supply-demand relationships over time should appear to have a mirror or opposite appearance, all other factors being unchanged.

Beef

The mirror supply-demand relationship is evident in the twenty-five years shown in Figure 5. Periods of higher or increasing production (shown as per capita consumption) are typically associated with lower or declining prices. At those times, the two lines diverge. The two lines tend to converge or move toward each other when supplies are falling and real retail beef prices are increasing.

During the twenty-five years, the downward trend both in beef production and real retail beef prices suggests a gradually declining demand for beef. However, a potential change occurred in the late 1990s. Beef production remained relatively flat while real retail beef prices increased. The last year, 2004, is the most notable example. Per capita beef

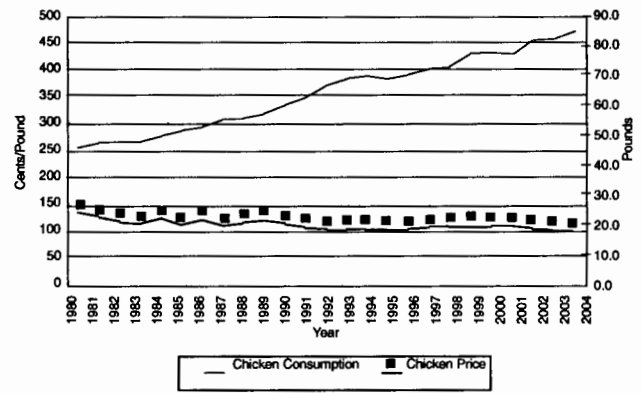


Figure 7. Real retail broiler chicken prices and per capita consumption, 1980-2004.

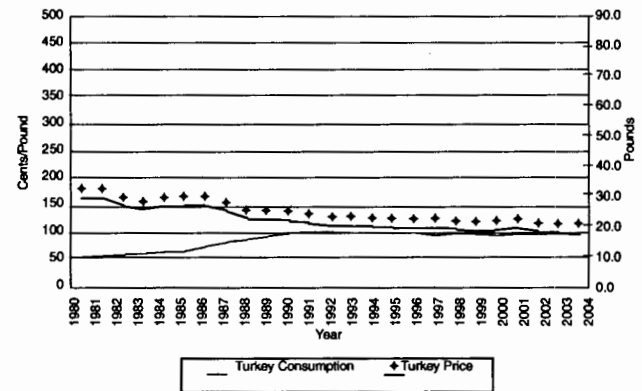


Figure 8. Real retail turkey prices and per capita turkey consumption, 1980-2004.

production increased slightly while real beef prices increased quite sharply. That apparent change or strengthening of prices relative to production lends support to the increased demand for beef often shown with scatter diagrams or measured with a demand index (see <http://www.aaec.vt.edu/ri/p/>). Several factors may have contributed to the increased demand for beef. Among them are new product development, including case ready packaging; several popular high-protein, weight-loss diets; effective advertising and marketing efforts through beef checkoff programs, such as the “Beef – Its What’s for Dinner” advertising campaign; and a renewal of self-indulgence consumption spending.

Pork

The mirror supply-demand relationship is perhaps more evident in Figure 6 for pork. As production (shown as per capita pork consumption) increased, real retail pork prices declined. The reverse occurred when production decreased. Apart from the first two years of the twenty-five years shown,

both pork production and real retail pork prices varied around a relatively flat trend line. This suggests no strong evidence of either a stronger or weaker demand for pork during the twenty-five years. Checkoff campaigns such as "Pork – the Other White Meat" and new product development have likely combined to keep demand for pork relatively constant, both in relation to beef and poultry.

Chicken

Figure 7 shows a much different picture for chicken. First, the mirror relationship between production (per capita consumption) and real retail prices is difficult to see in the graph. Broiler production increased consistently with only a minor inverse movement in real retail chicken prices. This combination suggests a strong demand has existed for broiler chicken during the twenty-five years. Demand for chicken can be traced directly to growth in chicken menu items (nuggets, strips, sandwiches, buffalo wings, etc.) in nearly all restaurants, but especially the fast food industry. New product development also has contributed to the increased demand for chicken.

Turkey

Turkey production (per capita consumption) and deflated retail turkey prices again show somewhat better, more of the expected inverse relationship over the past twenty-five years (Figure 8). Relatively little year-to-year variation is evident since the latter 1980s. Demand for turkey may have slipped slightly in the past decade as real retail prices have fallen, but with virtually no increase in turkey production.

Summary and Conclusions

This fact sheet summarized several trends in meat consumption and retail prices during the twenty-five years from 1980 to 2004. Per capita meat consumption in the U.S. has increased steadily. Increases in per capita consumption of chicken more than compensated for the reduction in per capita beef and pork consumption. This rapid gain in per capita chicken consumption also translates into a sharp increase in market share for chicken compared with beef, pork, and turkey.

Without adjusting retail prices for inflation, retail prices for all meats trended upwards during the twenty-five years. However, beef and pork prices increased significantly more than for chicken and turkey. Accounting for inflation, beef prices declined, but in recent years have increased relatively sharply. Pork prices remained remarkably steady and both poultry meat prices have declined slightly.

Overall, demand for chicken has outstripped demand for the other meats. Beef demand appears to have reversed in recent years and is increasing, while pork and turkey demand has remained relatively constant. Recall again that demand for each of the meats is discussed here in an aggregate sense. Processing and retailing firms devote considerable effort to segmenting the consumer marketplace and determining where to target sales of individual meat cuts and products. Therefore, demand for each of the meats in total arises from the demand for individual cuts and products. How trends in our taste for and consumption of the myriad of individual meat products have changed is not addressed in this fact sheet.

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