11-1-1992

Farm Prices and Consumer Food Prices: What are the Facts?

B.F. Jones
Farm Prices and Consumer Food Prices: What are the Facts?

B. F. Jones, Department of Agricultural Economics*

Summary

Rising food prices have drawn much attention in recent months. The outcome of the battle against inflation has seemed to hinge on how well consumer food prices have been kept under control. In the search for "profiteers" in the system, attention has focused at various times upon farmers, food retailers and food processors.

This publication brings together data on (1) how the rise in food prices compares to cost increases for other consumer goods, (2) the forces related to rising retail prices for agricultural products, and (3) the consistency of higher farm product prices with the new economic policy for controlling inflation. The major conclusions can be summarized under four main points:

1. Rising food prices at the retail level can be explained by interaction of several factors.
   a. Changes in consumer demand as influenced by consumer preference, level of income and distribution of income.
   b. The supply of specific products.
   c. Changes in the cost of marketing food products. Rising labor costs at both the retail and processor or manufacturing levels are the single most important factor in higher marketing costs and are passed on in higher retail prices.

2. Recent changes in consumer demand in conjunction with current supply have increased the farm value of some commodities, notably beef. Given agriculture's current market structure and its past supply performance in response to higher prices, it is not certain that current relative prices can be maintained over a long period of time.

3. Higher farm prices for some farm products do not seem inconsistent with operating rules as expressed by the Price Commission and Pay Board and which are applicable to other sectors of the economy.

4. Prices paid by farmers for production inputs have increased more rapidly than prices received by farmers for their products quite consistently from 1965 until mid 1972. During July 1972, prices paid and received indexes moved together at an index of 127 (1967 = 100). This would indicate an improvement in agriculture's income position, viewed by many as economic justice for farmers in that their "prices received" have lagged their "prices paid for inputs" for nearly a decade and they are just now catching up with the non-agricultural segments of the economy.

Disposable personal income available to the consumer during the second quarter of 1972 advanced at about the same rate as did the cost of food. The share of the consumers' disposable income going for food was 15.8 percent compared to 20.0 in 1960. The current slight hesitation in the long-run downtrend in food expenditures as a percent of personal disposable income is probably only temporary.

Those who have been most vocal in their alarm over rising consumer food prices might reflect a bit and in their most introspective moments borrow a phrase from Pogo, the comic strip philosopher, "We have met the enemy, and he is us!"

*The author wishes to acknowledge helpful comments from H. V. Courtenay, P. L. Farris, and H. A. Wadsworth.
Table 1. Changes in the consumer price index at annual rates for selected items

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
</tr>
<tr>
<td>All items</td>
<td>1.6</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Food</td>
<td>-3.3</td>
<td>5.8</td>
<td>3.2</td>
</tr>
<tr>
<td>All items less food</td>
<td>3.2</td>
<td>2.8</td>
<td>2.9</td>
</tr>
<tr>
<td>Meat, poultry, fish</td>
<td>-2.0</td>
<td>12.0</td>
<td>7.7</td>
</tr>
</tbody>
</table>


Introduction

In recent months there has been much publicity over rising consumer prices. Food prices have been at the forefront of attention and have aroused consumer concern. The food store is one place where the consumer observes the price changes most quickly, in part because of the frequency of visits there and because of the importance of food expenditures in the total consumer budget.

Another reason the consumer is concerned is that he notices food prices rising when he thought that retail food prices were covered by price ceilings established by the Price Commission. It is not well understood by consumers that the prices of raw agricultural products at the farm level are free to fluctuate and that higher prices can be passed through to the consumer. This aspect of price controls has generated exchanges between the chairman of the Price Commission who heads the organization with responsibility for controlling the rate of inflation and the Secretary of Agriculture who has been the recent champion of higher farm prices. This interchange and accompanying publicity have heightened consumer interest in the controversy.

The press has not done a particularly outstanding job in clarifying the reasons for price increases. For example, a recent article in the Wall Street Journal referred to the prices farmers "charge" for live beef animals. Given the market structure in which producers operate, they are not able to "set" the prices of their animals. They can influence prices at the farm level only through increasing or decreasing the quantities offered on the market and then only in the aggregate -- not individually.

The consumer movement is another factor affecting agriculture's public image at this time. Consumer spokesmen with their pronouncements on the dangers in food and their concern over additives used in livestock feeding add to the chorus. Put all these factors together, top them off with rapidly rising meat prices, and you can begin to understand why consumers are perturbed.

Clearly we are dealing with complex issues, and no explanation that deals with one small part of the problem is going to be satisfactory. We will need considerable detail if we are to do an adequate job of sorting out the facts and avoid the trap of oversimplifying a complex problem.

To be more specific, let's look at changes in the Consumer Price Index (CPI), since this is the yardstick most frequently referred to when consumers are being advised of price changes (Table 1). Data are presented for the period August 1971 to November 1971 when the price freeze was in effect and for the period November 1971 to June 1972 following the freeze.
Table 2. Changes in the consumer price index, at annual rates, selected periods

<table>
<thead>
<tr>
<th>Item</th>
<th>2nd quarter 1972 (1967=100)</th>
<th>1st quarter 1972 to 2nd quarter 1972</th>
<th>2nd quarter 1971 to 2nd quarter 1972</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL ITEMS</td>
<td>124.7</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>ALL ITEMS LESS FOOD</td>
<td>125.3</td>
<td>3.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Food at home</td>
<td>120.5</td>
<td>2.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Housing</td>
<td>128.6</td>
<td>3.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Apparel and upkeep</td>
<td>122.1</td>
<td>4.6</td>
<td>1.9</td>
</tr>
<tr>
<td>Transportation</td>
<td>119.4</td>
<td>2.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Non-durable goods</td>
<td>121.0</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Durables</td>
<td>118.4</td>
<td>4.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Medical care</td>
<td>132.0</td>
<td>3.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Health and recreation</td>
<td>125.8</td>
<td>3.6</td>
<td>3.4</td>
</tr>
</tbody>
</table>


For the 7 months ending in June 1972, the CPI for all items increased at an annual rate of 3.4 percent. This compares to an annual rate of 1.6 percent for the 3 months when the freeze was in force. The total index is separated into two groups, food and all items less food, which puts the focus on the issue at hand. From November to June food prices increased at an annual rate of 5.8 percent, compared to 2.8 for all items less food, indicating that during this short period food prices did rise at a rate about double that for all other items. The category meat, poultry and fish, which makes up about 30 percent of the market basket, accounted for a large part of the increase inasmuch as meat prices advanced at an annual rate of 12.0 percent from November to June.

During the period when the initial freeze was on, food prices decreased at an annual rate of 3.3 percent while all items less food increased at a rate of 3.2 percent. Meat prices declined at a rate of 2.0 percent from August to November during the initial freeze.

Emphasis on recent price developments can give a very distorted picture of food prices and agriculture's implied income position. Attention which focuses on only month-to-month changes in the CPI can distort the picture even more. To get a more balanced view and to get recent developments in perspective, a longer run view is needed. To do that, we need to answer three main questions:

1. How do increases in retail food prices compare with increases in other prices?
2. What is behind rising retail prices for agricultural products?
3. How do recent price changes fit in to the new economic policy (Phase II) for controlling inflation?

Food Prices Compared to Prices for Other Consumer Goods

Changes in prices of selected major commodity groups are shown in Table 2. The second column shows changes as annual rates from the first to the second quarter of 1972. All items increased at an annual rate of 3.2 percent. The index for all items less food increased at a 3.6 percent rate
while food advanced at a 2.4 percent rate. These data contrast to those shown in Table 1 for November 1971 to June 1972, which indicate that the more rapidly advancing food prices were in part a seasonal price phenomenon.

The longer view, i.e., from the second quarter of 1971 to the second quarter of 1972, shows that the CPI for all items increased at a rate of 3.2 percent; food at home increased at a slightly faster rate, 3.3 percent. Prices for housing, non-durable goods, medical care and health and recreation all increased at a rate of 3.0 percent or more for the year. Of the items listed in Table 2, prices of apparel and upkeep, transportation, and durables increased at an annual rate of less than 3.0 percent. The index for transportation shows such a small increase due largely to removal of the Federal excise tax during the period.

Retail food prices still have some catching up to do if price changes are to equal changes in recent years in other major components of the index. Over the period since 1967 all categories included in Table 2, except for transportation and durables, have increased more in price than have food prices. Clearly, food price hikes are not a unique case and, in fact, have tended to hold down the rate of inflation until very recent months, but attention remains on them.

A Look at the Food Market Basket

Let's turn more specifically to the food market basket. The market basket represents average quantities of food purchased annually per household by urban wage earners and clerical worker families calculated from retail prices collected by the Bureau of Labor Statistics. For a given month the basket is valued as if retail prices were expected to continue for 12 months. Using this approach, the basket cost $1,299 at the retail prices existing during the month of June 1972. This was an increase of 3.6 percent from a year previous (Table 3). The cost in June was up 0.9 percent from May, and was 0.6 percent above the figures for 3 months previous.

Of the total retail cost of $1,299, consumers paid $771 marketing costs with the remaining $528 representing farm value. For the year ending June 1972, farm value was up 10.6 percent with the farm retail spread down slightly, 0.8 percent. Given the nature of both farm prices and retail prices, the spread can increase, decrease or remain constant. Comparing June 1972 to 3 months previous, farm value was up 5.3 percent while the farm-retail spread was down 2.4 percent.

For the month of June, farm value or the farmer's share of the consumer's food bill amounted to 40.6 percent of total costs; marketing cost took up the remainder, 59.4 percent. This is not an unusual division of costs for recent times. For the period 1960 to 1971 farmer's share has been relatively stable varying from 37 to 41 percent.

It is retail meat prices, particularly beef, which have been making the news and receiving the most headlines. A look at the anatomy of those prices is helpful in understanding why retail food prices have been rising. Although beef prices at the retail level show an irregular pattern for the periods shown, in June they were up 7.4 percent from a year earlier (Table 3). More recent market news reports show beef cattle prices peaked in July and have trended downward since.

Retail pork prices were up 3.3 percent from May to June which put them 17.8 percent above prices a year earlier. Market price changes for hogs since June will likely contribute to the upward movement in the consumer price index.

In the effort to pin down sources of rising meat prices, attention has focused on the "middleman." To better understand "who gets what" from a dollar spent on beef, price spreads for beef are presented in Table 3 in considerable detail. In June, the average retail price per pound of beef was $1.135. Of that total, 85.1¢ went to pay for the amount of carcass required to produce a pound of retail beef. From that
### Table 3. Price spreads for U. S. farm foods: market basket and selected foods

<table>
<thead>
<tr>
<th>Item</th>
<th>April 1972</th>
<th>May 1972</th>
<th>June 1972</th>
<th>1 month ago</th>
<th>3 months ago</th>
<th>1 year ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market basket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail cost</td>
<td>1,283</td>
<td>1,288</td>
<td>1,299</td>
<td>0.9</td>
<td>0.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Farm value</td>
<td>498</td>
<td>513</td>
<td>528</td>
<td>2.8</td>
<td>5.3</td>
<td>10.6</td>
</tr>
<tr>
<td>Farm-retail spread</td>
<td>785</td>
<td>775</td>
<td>771</td>
<td>-0.4</td>
<td>-2.4</td>
<td>-0.8</td>
</tr>
<tr>
<td>Beef, choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail price per lb.</td>
<td>112.0</td>
<td>111.4</td>
<td>113.5</td>
<td>1.9</td>
<td>-2.0</td>
<td>7.4</td>
</tr>
<tr>
<td>Carcass value</td>
<td>77.3</td>
<td>81.1</td>
<td>85.1</td>
<td>4.9</td>
<td>7.7</td>
<td>12.1</td>
</tr>
<tr>
<td>Farm value</td>
<td>70.2</td>
<td>73.0</td>
<td>77.5</td>
<td>6.2</td>
<td>7.8</td>
<td>14.1</td>
</tr>
<tr>
<td>Farm-retail spread</td>
<td>41.8</td>
<td>38.4</td>
<td>36.0</td>
<td>-6.2</td>
<td>-18.0</td>
<td>-4.8</td>
</tr>
<tr>
<td>Pork</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail price per lb.</td>
<td>78.2</td>
<td>79.4</td>
<td>82.0</td>
<td>3.3</td>
<td>3.3</td>
<td>17.8</td>
</tr>
<tr>
<td>Wholesale value</td>
<td>58.3</td>
<td>61.1</td>
<td>63.5</td>
<td>3.9</td>
<td>4.6</td>
<td>23.3</td>
</tr>
<tr>
<td>Farm value</td>
<td>40.4</td>
<td>45.0</td>
<td>47.6</td>
<td>5.8</td>
<td>13.9</td>
<td>48.3</td>
</tr>
<tr>
<td>Farm-retail spread</td>
<td>37.8</td>
<td>34.4</td>
<td>34.4</td>
<td>0</td>
<td>-8.5</td>
<td>-8.3</td>
</tr>
</tbody>
</table>


Total 77.5¢ represents farm value,* i.e., paid to the beef producer for the live animal. This leaves a spread of 36.0¢ from the farm to the retail price.

Just as the farmer’s share can rise or fall, marketing costs (farm-retail spread) can increase or decrease. Considering beef for the month of June, the farm-retail spread did narrow by 6.2 percent from the previous month, and for the year was down 4.8 percent. But over the long run this spread shows a definite upward trend. Figure 1 shows the irregular, dramatic upward movement over time in the carcass-retail spread, the major component of the farm-retail spread for beef.

Before we look further into the explanation for the increasing costs of marketing beef, let’s take a quick look at pork prices in Table 3. For June 1972, retail prices were up 17.8 percent from a year earlier; wholesale value was up 23.3 and farm value was up 48.3 from the very low prices of June 1972. (On a monthly basis, i.e., comparing one month with the same month a year previous, it would not be difficult to find a price movement in the opposite direction of a similar magnitude in the recent past.) The farm-retail spread had narrowed by 8.3 percent from a year earlier with all of the decrease at the farm-wholesale level.

---

*This represents payment for 2.28 pounds of live animal less an allowance for by-products.
Figure 2 shows the long-run trends in the farm-wholesale spread and the wholesale-retail spread, the sum of which comprise the farm-retail spread for pork. For pork, farm-wholesale spreads narrow as packers bid up the price of hogs when supplies are short and there is pressure to keep facilities in operation when a high proportion of costs are fixed. When supplies increase over the production cycle, margins are widened when it is possible to do so.

Likewise, retailers may absorb part of the cost increases which result in narrower margins. But retailers, too, tend to widen margins as pork supplies become more plentiful and competitive pressures permit them to do so.

Food Marketing Costs

Marketing spreads are made up of two parts: marketing costs and profits. We have already noted that food marketing costs have been rising as implied by changes in the farm-retail spread. These rising costs have been reflected in higher retail food prices. Widening marketing spreads and higher food costs have been caused largely by rising costs for inputs such as labor, packaging, materials and transportation (Figure 3).

Direct labor costs amount to about one-half of all marketing costs incurred by firms processing and distributing farm products. The share due to labor increases if labor costs involved in the transportation of products is included.

From 1960 to 1971 average hourly labor costs for employees in firms processing and distributing food products have been increasing at an increasing rate (Figure 4). Output per man hour or productivity for non-farm firms shows very small increases in recent years. Hence, unit labor costs have increased 44 percent from 1960 to 1971.

Analysis of marketing costs for beef and pork is quite similar to that for food products in general. Widening price spreads for beef and pork have accompanied rising marketing costs since 1962. The farm-retail spread for beef and pork increased about one-third from 1962 to 1971. At the same time hourly earnings for meat packing and meat processing employees rose nearly 50 percent. Hourly earnings of food retailing employees rose 58 percent.

Now, what about profits in the food processing and distributing industry? How have they been faring?

For all food manufacturers profits as a percent of sales rose from 2.2 percent in 1960 to 2.6 percent in 1965.* Since reaching the peak, rates have leveled off fluctuating in a narrow range of 2.3 to 2.5

percent. Profits as a rate of return on stockholders' equity in food processing have followed a similar pattern. They trended upward from 9.2 percent in 1960 to a peak of 11.5 percent in 1966. Since that date profit rates have moved irregularly in a very narrow range.

Profits of retail food chains have trended down since 1960. Profits as a percent of sales have moved from 1.3 percent in 1960 to 0.9 percent for 1971. Also, as a percentage of stockholders' equity profits have trended downward, moving from 13.0 percent in 1960 to a low of 10.3 percent in 1967 and have continued at about that level through 1970.

These data then indicate that the rising marketing spreads are caused much more by rising marketing costs, associated principally with higher labor costs, and are not due to significant changes in profit rates.

**Farm Value Components of the Market Basket**

To round out this part of the discussion, it is necessary to look at the farm value component of the market basket. The focus is on beef and pork since these are the prices that are attracting most consumer attention. Emphasis is on beef prices although hog prices are perhaps more important to Indiana producers. The reason for giving very limited attention to hog prices is because current hog prices can be largely explained as a cyclical supply phenomenon and by the support they are getting from strength in the beef market. But the case for beef is different. Here one has to give much more attention to the demand side.

Beef prices are up because of strong consumer demand for red meat, beef in particular. Current strong consumer demand is a continuation of consumer preference for beef, a preference which has been exerting itself for 20 years. Annual beef consumption per person has doubled in 20 years from 56 pounds per person to 115 pounds per person today.

The present strong demand for beef is a result of at least six important factors:

1. Steadily rising real wages. Per capita real income continues to increase, giving consumers the means with which to exert their preferences. This is the single most important factor explaining the growth in demand for beef and is related to other factors which follow.

2. Growing population. In the past 20 years the U.S. population has increased by 34 percent or at a rate of about 1.5 percent per year. This factor alone would not be so significant in the demand for beef, but when a rising per capita demand for beef is multiplied by substantially larger
population, the implications for growth of total demand should be obvious.

3. Changes in food culture. More people are eating out as incomes rise, and food eating habits change. When people eat out there is a tendency to eat more beef than at home.

4. Availability of ready-to-eat beef. The number of hamburger stands and beef sandwich shops has literally grown like mushrooms in recent years. This couples the ready availability of quick-serve, ready-to-eat foods to consumer motivation. As a result, the number of hamburgers sold by such establishments has exceeded all expectations. This proliferation of hamburger outlets has made meat snacking more popular than the old time ice cream soda was at the corner drug store.

5. Increases in the food stamp program. Food stamp expenditures have gone from $250 million in fiscal 1969 to $1.9 billion during fiscal 1972. In March of 1972, 11.5 million persons were participating in the food stamp program. Food stamp recipients are required to pay about 30 percent of their own income for stamps. Moving down the income scale, the value of "bonus" stamps increases to the point where persons below certain income levels receive stamps at no cost to the recipient. This represents a net increase in real income.

The stamp program permits consumer expenditures on a wide range of foods. This range of choice is in contrast to that under the former food distribution system which limited recipients to a much more restricted array of foods deemed to be in surplus.

6. Boosts in welfare payments. Increased welfare payments now go to a larger group of people. It is a well-known fact of economics that people with low income spend a high proportion of additional income on food and that they upgrade their diets when additional income is available in the form of stamps or from other sources. With an increase in income the intake of protein is increased. Increased beef consumption is one of the first manifestations of increased protein intake.

On the supply side, beef production has increased 2 1/2 times in the past 20 years. This has been accomplished through (1) increased beef cow numbers, (2) change from dairy to beef production, (3) increased beef cattle feeding, and (4) increased beef imports. The increase in production has been at a fairly steady rate and has not caused major price declines except for those associated with the beef glut of 1963-1964. Since that time, expansion has been more orderly and more nearly in line with increases in consumer demand.

Rising producer prices for beef are the signal for producers to increase the rate of expansion of beef production. Given rising production costs, it will take these higher prices to bring forth the desired production, a process which takes time. Although limited government action to expand beef supplies in the form of temporarily removing quota import restrictions has been taken, ceiling prices at the farm level have not been resorted to at this time.

Prices Received by Farmers and Prices Paid

We turn now to a more general view of prices received by farmers. Figure 5 shows the index of prices received for all farm products, for livestock and for crops. In 1971, the index of prices for all farm products was 111 percent of 1967. By July 15, 1972, the index had advanced to 127. The livestock price index had risen to 136. On the same date, the index of crop prices stood at 116. Except for livestock prices, price levels remained below those of 1952.

The index of prices paid by farmers has advanced steadily since 1955 (Figure 6). The advance has been at an increasing rate since about 1967. Comparing the index of prices paid to the index of prices received, the two advanced at the same rate from 1967 through 1969. Prices received lagged for the next 2 years. More recent data than that, shown in Figure 6, indicate the gap had narrowed by July 15, 1972 with the index of prices paid at 127 while the index of prices received had
advanced to 127. This would indicate improvement in agriculture's income position.

In view of improvement in agriculture's income position and consumer complaints over rising food prices, how are these developments to be interpreted with respect to current economic policies for controlling inflation as expressed through the Price Commission and the Pay Board?

Consistency with Phase II Controls

In developing operating rules, the Price Commission and the Pay Board, which have responsibility for controlling prices, wages, profits, dividends and interest, appear to have accepted two important assumptions relative to application of controls.* One was that productivity gains would be, at least in part, reflected in higher incomes to labor, capital and management. That is labor, capital and management would be permitted to retain efficiency gains rather than pass them on to consumers in the form of lower prices. Retention of efficiency gains is generally consistent with past behavior in many industries, but is opposite to that which has occurred in agriculture. In agriculture, efficiency gains tend to be passed on rather promptly to consumers rather than be captured by farmers. It is not because farmers are any more benevolent than other participants in the economy. It is that differences between the sectors in market structure produce these results. The second assumption was that incomes such as wages and salaries would be allowed to rise to offset the purchasing power lost because of inflation.

The recent increases in prices received by farmers are consistent with the goal of economic justice for farmers and furthermore, do appear consistent with the assumptions laid down for the new economic policy in force since August 1971. Agriculture has experienced substantial productivity gains in recent years, most of which have been gained by consumers in the form of lower prices. Current price rises represent a catching up and are not widespread throughout the whole array of farm products. The extent to which this catching up will continue depends on further interpretation of the existing rules, any changes which may be made in the rules as well as producer and consumer responses to the new higher prices.