

Small country elevators, left, and large grain elevators, right, provide services of collecting wheat at harvest time and concentrating it in large elevators until the grain is needed by millers. These are some of the services that are required and contribute to the price of a loaf of bread.

by C. Curtis Cable, Jr. and

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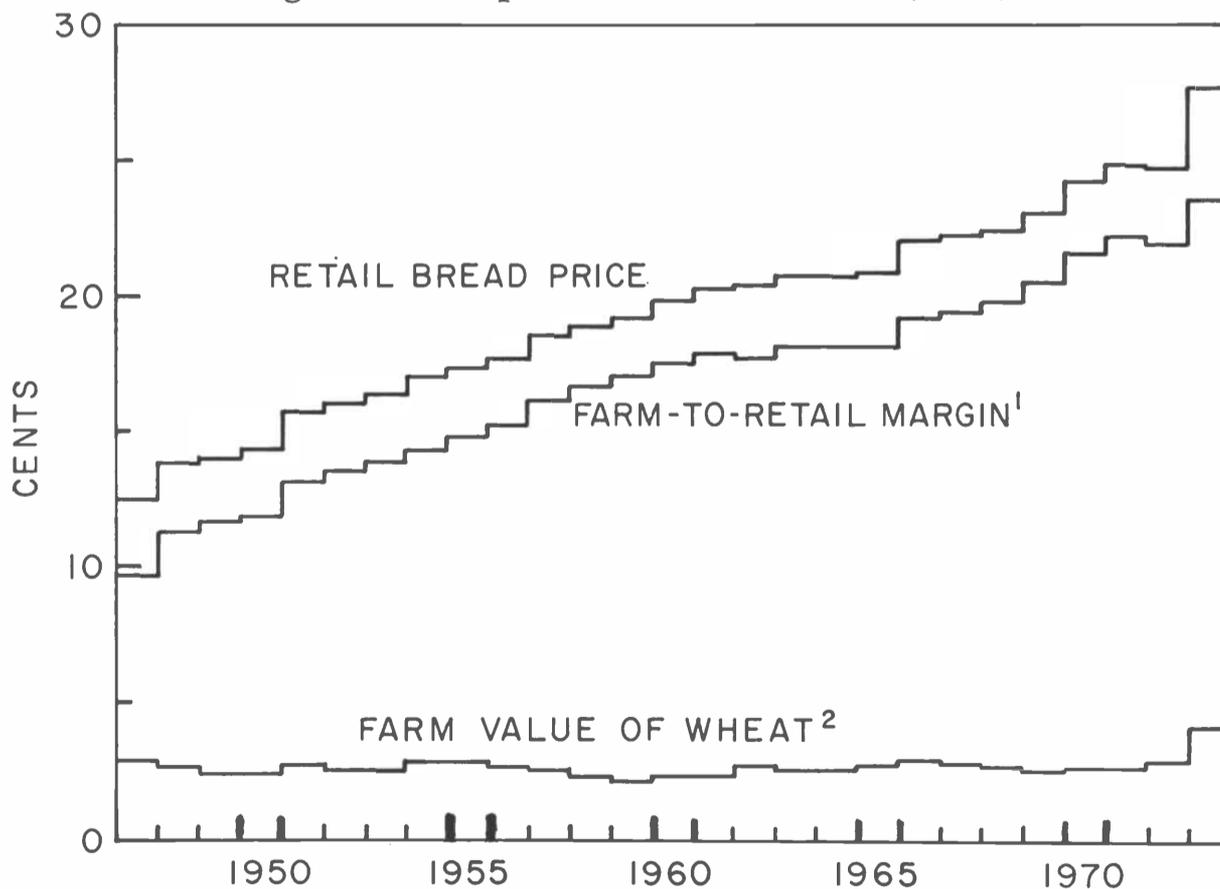
## A Second Look at Bread Prices

On July 8, 1972, the U.S. government announced a three-year grain sale agreement with the U.S.S.R. During the two months following this an-

nouncement, the U.S.S.R. purchased 400 million bushels of wheat, and the average price U.S. farmers received for wheat rose from \$1.32 per bushel

on July 15 to \$1.51 on August 15. Because of this relatively large price increase there was considerable speculation that U.S. retail bread prices would rise significantly. Many reports circulated in late-summer 1972 relative to the causes for rising bread prices, were based on a mixture of fiction, emotions and some economic facts.

Figure 1. Average annual retail bread price, farm value of wheat, and farm-to-retail margin for a one-pound loaf of white bread, U.S., 1947-73.



An analysis of the historical relationship between wheat prices and bread prices, published in *Progressive Agriculture in Arizona*, September-October, 1972,<sup>1</sup> revealed the following: (1) the farm value of wheat used in a one-pound loaf of white bread remained fairly stable at about 2½ cents from 1947 to 1971, (2) the retail price for bread doubled during this 25-year period and (3) this increase was necessary to cover cost increases for non-wheat items required for making flour and for baking and distributing bread. The study concluded “. . . the cost of wheat has not been the major determinant of retail bread prices for at least 25 years (1947-71), and is becoming less and less important . . . wheat supplies, stocks, exports and total disappearance — in the U.S. and worldwide — along with government programs have

<sup>1</sup>See footnote 5, page 14, for definition of farm-to-retail margin.

<sup>2</sup>Gross farm value of wheat less allowance for by-products. Source: Forrest E. Scott and Henry T. Badges, *FARM-RETAIL SPREADS FOR FOOD PRODUCTS*, Miscellaneous Publication 741, Economic Research Service, U. S. Department of Agriculture, January, 1972, p. 135, and appropriate issues of *Wheat Situation*, U. S. Department of Agriculture.

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been the major determinants of wheat prices. An almost entirely different set of factors have been major determinants of retail bread and flour prices.<sup>22</sup>

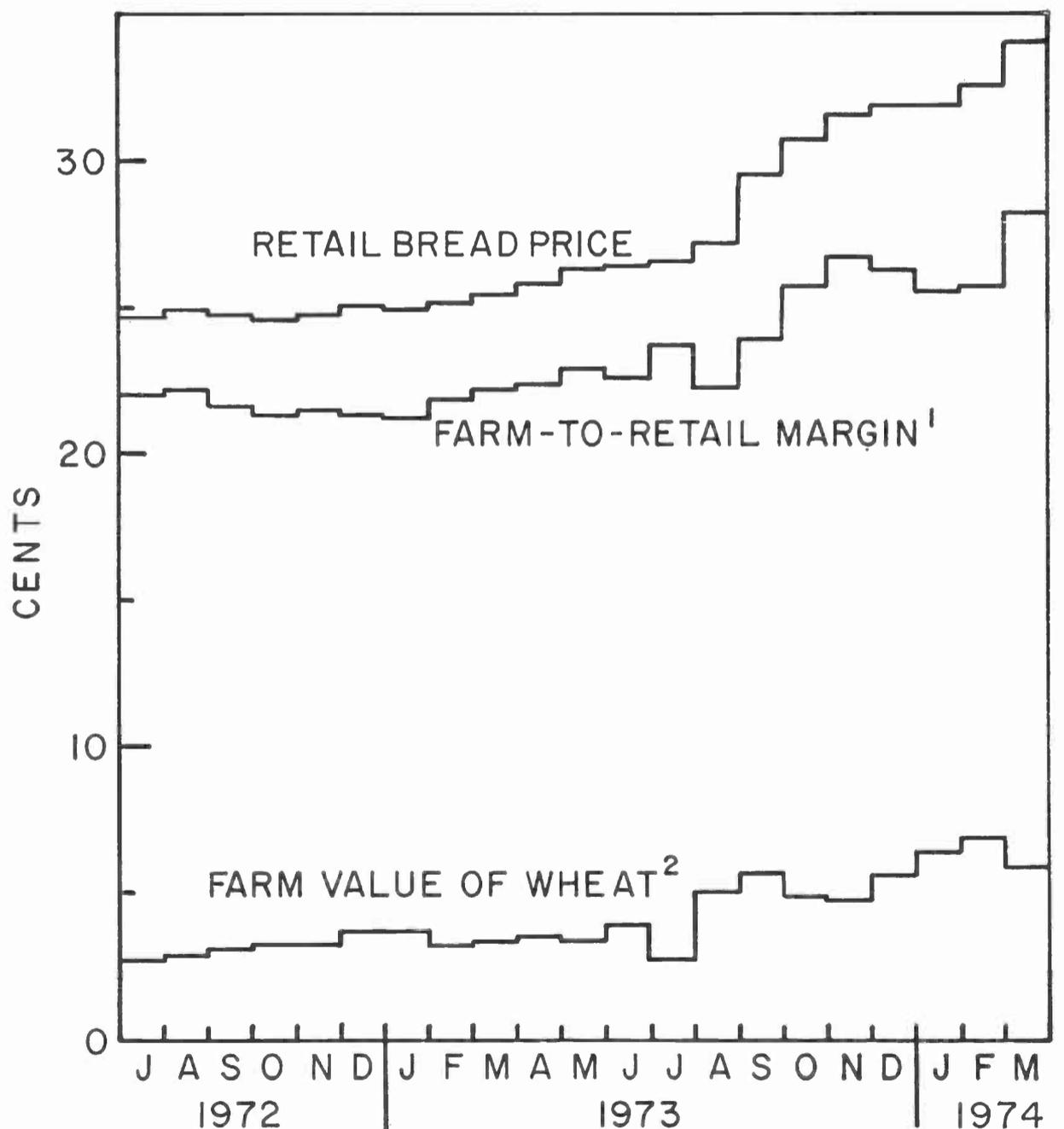
The price of wheat increased from \$1.51 in August, 1972, to more than \$5.50 per bushel in early 1974. During the winter of 1973-74 there were "reports" that U.S. bread prices would reach \$1 per loaf, allegedly because of a shortage of wheat. Again, as in 1972, the question has arisen as to the justification for bread price increases based on higher wheat prices. This report examines the price relationships in an attempt to determine whether or not the 1972 conclusions are still valid.

### Wheat Prices Soared to Record Highs

During the 25 years from July, 1947, to July, 1972, the highest average monthly farm price for wheat was \$2.81 per bushel in January, 1948, and the lowest was \$1.15 in July, 1969. There was a downward trend in the monthly average farm price of wheat throughout this period. Month-to-month price changes seldom exceeded a few cents per bushel. The 19-cent July-to-August jump in 1972 was the largest one-month price increase since 1947. The August, 1972, farm price of \$1.51 per bushel was the highest since May, 1967.

The farm price of wheat continued to rise during 1972 and averaged \$2.37 per bushel in December. From January to February, 1973, the price fell 41 cents, then rose continuously to \$4.62 by September, 1973. Continued strong U.S. and foreign demand, and

Figure 2. Average monthly retail bread price, farm value of wheat, and farm-to-retail margin for one-pound loaf of white bread, U.S., July, 1972, through March, 1974.



<sup>1</sup>See Footnote 5, page 14, for definition of farm-to-retail margin.

<sup>2</sup>Gross Farm value of wheat less allowance for by-products. Source: Appropriate issue of WHEAT SITUATION, U.S. Department of Agriculture, beginning November, 1972, through May, 1974.

Figure 3. Monthly marketing margins and values of ingredients for a one-pound loaf of wheat bread, U.S., July, 1972, through March, 1974.



<sup>1</sup>Gross farm value of wheat less allowance for by-products. Source: Appropriate issues of WHEAT SITUATION, U. S. Department of Agriculture, beginning November, 1972, through May, 1974.

transportation bottlenecks, were primarily responsible for the rapid price increases in the summer of 1973 that set new records daily. The July-to-August increase amounted to \$1.98 per bushel, compared to the 19-cent increase a year earlier!

Prices receded slightly in October and November, 1973, but strong world demand and supply uncertainties ignited another upward price surge in the winter of 1973-74. A new record high of \$5.52 per bushel was established in February, 1974. This was more than four times the July, 1972, price. From February, 1974, prices began to decline and had dropped to \$3.52 by May.

### What Happened to Bread Prices?

Given the rapidly changing prices for wheat, how have bread prices changed?

The average monthly price for a one-pound loaf remained fairly stable at 24.5 to 25 cents from July, 1972, to January, 1973, (Figure 2).<sup>3</sup> However, from February, 1973, to June, 1974, the retail price increased steadily to 34.7 cents, an increase of 22.2 cents from 1972, or 178 percent.

Although the farm price of wheat quadrupled from mid-July, 1972, to mid-February, 1974, the retail price of

bread in February, 1974, was only about one-third greater than in July, 1972. The fact that bread prices did not increase in proportion to the increase in farm wheat prices helps to confirm the earlier conclusion that cost or value of wheat is not a major determinant of retail bread prices. If cost of wheat was the major determinant of retail bread prices, price for a one-pound loaf conceivably could have been expected to have quadrupled to approximately \$1 by February 1974!

### Value of Wheat in a Loaf of Bread

During the years 1947-1972 the

value of wheat in a one-pound loaf of bread fluctuated between 2.2 and 2.9 cents (Figure 1). This value figure represents costs and profits realized by farmers for growing and harvesting wheat and delivering it to local country grain elevators.<sup>4</sup> This stable value of wheat combined with an increasing price for bread resulted in a declining relationship between value of wheat and price of bread. The 1947 value of wheat in a pound of bread was 23 percent of average retail price, whereas in 1972 wheat accounted for only 11 percent of retail price of bread.

The year 1973 was different! As a consequence of rising wheat prices, farm value of wheat in a one-pound loaf averaged 4.1 cents but still accounted for less than 15 percent of the average retail price.

By February, 1974, when the farm wheat price reached record levels, value of wheat in a pound of bread reached a high of 6.9 cents (Figure 2). However, even at this level, it accounted for only 21 percent of the retail bread price.

### Sharp Increase in Farm-to-Retail Margin

Farm-to-retail bread margin must cover costs and profits for all non-wheat ingredients, plus costs and profits involved in processing, packaging, wholesaling and retailing (Figures 1 & 2).<sup>5</sup> In 1947 the margin was 9.6 cents for a one-pound loaf of bread, or 77 percent of the price consumers paid for bread. By 1972 this margin had risen to 21.9 cents or 89 percent of the retail bread price. From April through September, 1973, the margin fluctuated between 22.3 and 23.9 cents, but, by November and December it rose to more than 26 cents. It declined slightly in January and February, 1974, and then rose to 30.2 cents by June, 1974.

Farm-to-retail margin for a one-pound loaf rose 8.2 cents in the 24 months from July, 1972, through June, 1974. For the same period increase in farm value of wheat was 1.9 cents, for a total increase of 10.1 cents in retail bread price paid by consumers.

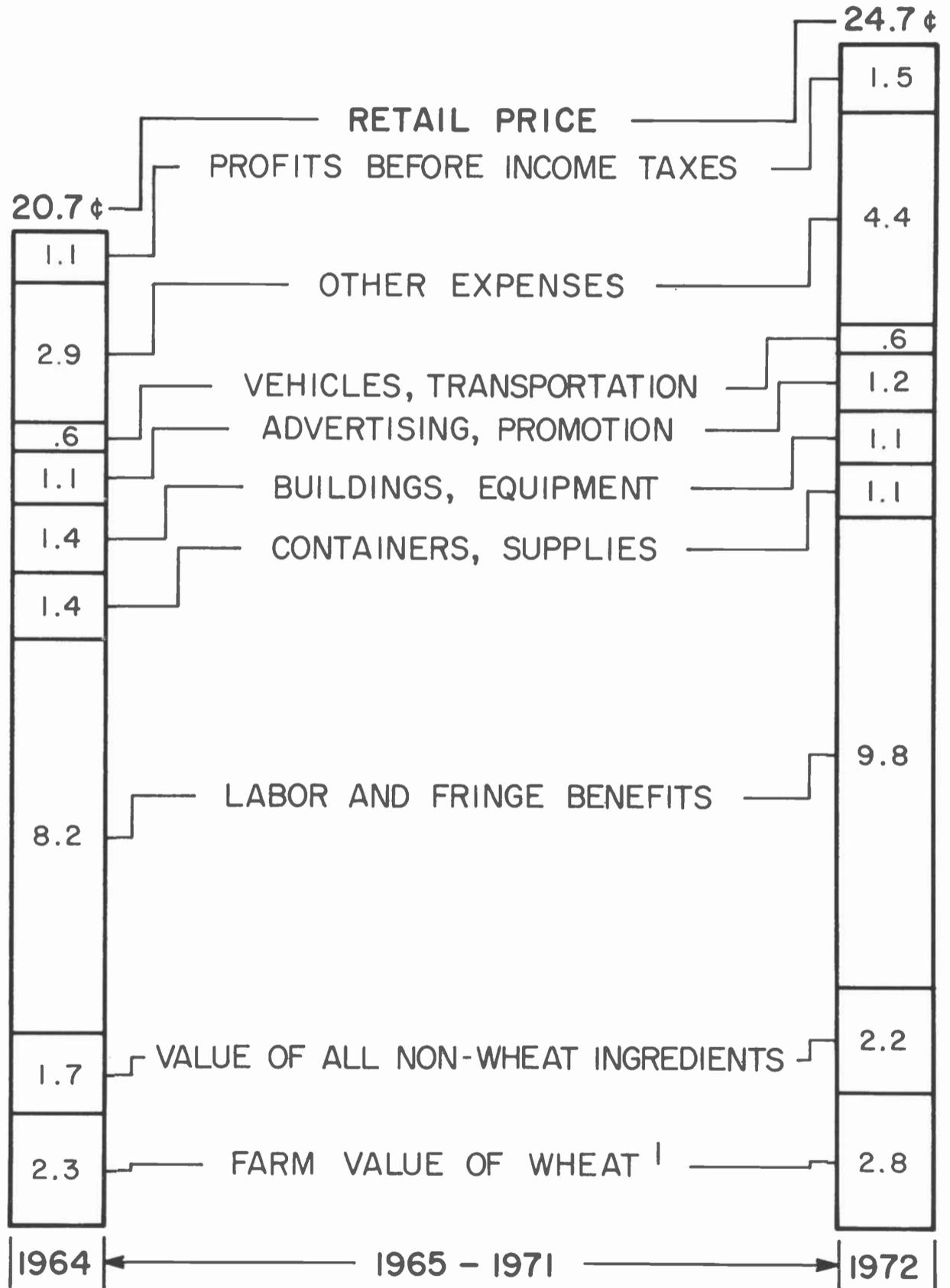
The significance of effect of farm-to-retail margin on retail price for bread, as compared to effect of value of wheat, is evident. Note the following:

1. Difference between highest and lowest levels of cost of wheat in a one-pound loaf of bread, between 1947 and June, 1974, was 4.7 cents.
2. Highest cost of wheat was just under 7 cents for a one-pound loaf in February, 1974.
3. Farm to retail margin increased from less than 10 cents for a pound loaf in 1947 to 30.2 cents by June, 1974.

4. Farm-to-retail margin for June, 1974, by itself, exceeded the retail price of bread 9 months earlier.
5. If farmers received "zero price" for wheat, the retail price would have risen from 21.2 cents in January, 1973, to 30.2 cents by June, 1974 for a one-pound loaf of bread.

(Turn to page 14)

Figure 4. Value of ingredients and cost of other input items for a one-pound loaf of white bread, U.S., 1964 and 1972.



<sup>1</sup>Gross farm value of wheat less allowance for by-products. Source: National Commission on Food Marketing, COST COMPONENTS OF FARM-RETAIL PRICE SPREADS FOR FOODS, Technical Study No. 9, June, 1966, p. 52, and U. S. Department of Agriculture, DEVELOPMENTS IN MARKETING SPREADS FOR AGRICULTURAL PRODUCTS IN 1973, Economic Research Service, April, 1974, p. 26.

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On the basis of these data it is clearly evident that the non-wheat ingredients plus costs and profits involved in handling and milling wheat and flour and in baking, wholesaling and retailing bread are major determinants of retail bread prices.

## Baker-Wholesalers Take Biggest Slice

For several years prior to 1973, slightly more than half of the retail price paid for bread went to baking-wholesaling business firms. Typically, these businesses bake, wrap, and distribute the bread to grocery stores and other retail outlets. For performing these services in 1964, they received an average of 11.65 cents, or 56 percent of retail price for a one-pound loaf.<sup>6</sup> By July, 1972, this baker-wholesaler margin had risen to 14.3 cents, or 58 percent of the retail price (Figure 3). The baker-wholesaler margin increased to 18.7 cents by May, 1974, and accounted for 55 percent of the retail price.

Retailing has accounted for the second largest portion of retail bread price for several years. For 1964, 18 percent of the price paid by consumers went to retailers, and in 1972 retailers received 19 percent. For the period July, 1972, to June, 1974, the amount going to retailers increased from 4.4 cents to 6.2 cents. In September, 1973, and in January and February, 1974, retailing accounted for just slightly less than the value of wheat (Figure 3).

Baking, wholesaling and retailing combined accounted for approximately three-fourths of the retail bread price from 1964 through 1972. However, by June 1974 only about two-thirds of the total retail price was going to retailers and baker-wholesalers.

Items such as milling, processing, and other ingredients account for a relatively small part of the retail price. In July, 1972, the total of these services and ingredients accounted for 13 percent of the retail price, or 3.3 cents. By June, 1974, they amounted to 6.3 cents, or 18 percent of the retail price.

## Labor Is Biggest Cost Item in Bread

Non-farm labor costs, including wages and fringe benefits, amounted to 40 percent of retail price of a one-pound loaf of bread — in both 1964 and 1972. Total labor cost in 1964 was 8.2 cents (Figure 4), 96 percent of which was used in baking, wholesaling and retailing functions. By 1972, labor costs had risen to 9.8 cents.<sup>7</sup>

Total cost of a one-pound loaf in 1964, including the value of wheat and all other ingredients was 19.6 cents, leaving 1.1 cents for all non-farm, pre-tax profits. This is approximately 5 percent of the retail price. By 1972, costs had risen to 23.2 cents, and non-farm profits amounted to 1.5 cents or about 6 percent of the retail price.

It should be emphasized that this profit must be shared by the retailer, baker-wholesaler, flour miller, central and country market grain dealers, and suppliers of all non-wheat ingredients. In 1964 and again in 1972, total non-farm profits were equivalent to about one-half of the value of wheat in a one-pound loaf.

## Conclusions

Data summarized in this analysis supports the earlier conclusion based on the 1947-1972 data that cost of wheat was not a major determinant of retail bread prices.

The situation changed appreciably in 1973. The average retail price of bread rose to 27.6 cents per pound, which was 2.9 cents greater than for 1972. Higher farm prices for wheat resulted in the value of wheat in a one-pound loaf rising to 4.1 cents in 1973, or 1.3 cents more than for 1972.

This *increase* in the value of wheat accounted for 45 percent of the 1972-to-1973 *increase* in the average retail bread price. The value of wheat in the one pound loaf in 1973 accounted for 15 percent of the retail price and in February, 1974, it rose to 21 percent.

Data for this period tends to invalidate the 1972 conclusion that cost of wheat was a small and declining determinant of bread prices. However,

if it is argued that value of wheat is a major determinant of bread prices, then housewives could have logically expected bread prices to decline during spring of 1974, when the farm price of wheat dropped from an average of \$5.52 in February to \$3.52 in May.

Instead of declining however, the retail price for a one-pound loaf *went up* 1.5 cents from February to March 1974, while value of wheat in the loaf fell 1.0 cent! Thus, *non-wheat* cost items and profits went up a total of 2½ cents from February to March.

The sharp decline in the farm wheat price in March, April and May tended to reduce retail cost of bread. However, the costs for non-wheat items such as labor, fuel, rents and other ingredients continued to rise, and more than offset the decline in cost of wheat.

Since non-wheat items account for more than 80 percent of retail price of bread, it is logical to conclude that these items are the major determinants of bread prices.

## Footnotes

<sup>1</sup> C. Curtis Cable, Jr. and Elmer L. Menzie, "Wheat Supplies and Exports Have Little Effect on Price of Bread." *Progressive Agriculture in Arizona*, Vol. XXIV, No. 5, September-October, 1972, p. 6.

<sup>2</sup> *Ibid.*, p. 15.

<sup>3</sup> This analysis and our 1972 study of bread prices were confined to the popular one-pound loaf of white pan bread, and the use of the word "bread" in this report refers to only this one specific product.

<sup>4</sup> A minor portion of farm costs and profits associated with wheat is attributable to by-products.

<sup>5</sup> The farm-to-retail bread margin is defined as the difference between the farm value of wheat and the retail price for a one-pound loaf of bread. This concept of the farm-to-retail bread margin differs slightly from the commonly used concept of the farm-retail spread for white bread. For example, in computing the latter, Scott and Badger (see source for Figure 1) included the values for wheat and all other farm-produced ingredients to arrive at their "farm value" figure, whereas in this analysis the value of all other farm-produced ingredients was excluded from the "farm value" figure.

<sup>6</sup> National Commission on Food Marketing, *Cost components of Farm-Retail Price Spreads for Food*, Technical Study No. 9, June 1966, p. 52.

<sup>7</sup> U.S. Dep't. of Agric., *Developments in Marketing Spreads for Agricultural Products in 1973*, Economic Research Service, April 1974, p. 26.