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The Status of Competition  
in the  
Food Manufacturing and Food Retailing  
Industries

by

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WP-6

August 1976

The author is a Visiting Professor at the University of Wisconsin, on leave from the Federal Trade Commission. This paper is to be included in the forthcoming book Political Economy of Food and Energy, ed. Louis J. Junker. Ann Arbor: University of Michigan Press.

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Era of Low Food Prices Ends

In 1975 Americans spent \$209 billion on food and beverages. This amount was 21.7 percent of total consumption expenditures and was more than any other category of expenditure.<sup>1</sup> In the four years beginning with 1972, the amount consumers spent on food increased by 50 percent, principally because of higher food prices. In this period food prices became a major cause of inflation. In the single year between 1972 and 1973, higher food prices caused over half the increase in the overall Consumer Price Index in the United States.

For a quarter of a century prior to 1972, a trend of slow-to-moderate food price increases caused a decline in the relative price of food products compared to other consumer products. This era of declining relative prices had seen the proportion of consumer expenditures for food drop from over a third at the end of World War II to less than a fifth at the end of 1971. Food became an increasing bargain according to a slogan widely promoted by the National Association of Food Chains.

Marketing Costs Increase

Stable farm prices were responsible for the long postwar trend of slower price increases in food products relative to other products. The U.S. Department of Agriculture index for the average farm price of raw

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<sup>1</sup> Economic Report of the President, 1976, Table B-16, p. 190.

food commodities in 1971 was identical to that of 1948. During the same period, however, the average price consumers paid for food products in grocery stores increased 35 percent. Higher marketing margins, which rose over 80 percent during the period, were solely responsible for the increase. Had farm prices for raw foods increased at the same rate as the marketing margins, the average consumer price for food would have led the overall consumer price index by a substantial amount rather than lagging behind as it in fact did.

The growth in marketing margins was little noticed because of the slow growth in overall food prices. As a result, food marketing was seldom found in the spotlight of public attention. The only noticeable event was the short-lived National Commission on Food Marketing which operated for a little more than a year during 1965 and 1966. The food price increases beginning in 1972 changed this focus.

The very sharp increases in farm prices for raw food products beginning in 1972 were passed on to consumers by processors and retailers. As they passed on the higher farm prices, processors and retailers also tacked on higher processing and retailing markups. This pyramiding caused the annual rate of increase in food prices between 1972 and 1974 to be over five times greater than the average annual increase over the previous 20 years. Between 1972 and 1974, the Government's retail price index for food rose nearly three times faster than the index for other CPI items. This was a marked departure from the trend of the previous 20 years, when food prices had lagged behind the CPI by 25 percent.

The major factors leading to the higher farm prices in the early 1970's are now well known. They include world wide feed grain and other commodity shortages; soaring petroleum prices, which increased not only

energy costs but also the cost of hydrocarbon based fertilizers; the devaluation of the U.S. dollar, which made U.S. food cheaper to foreigners; expanding real income outside the United States, causing further growth in foreign demand for U.S. produced food; and the general inflation in the United States which led to higher input prices to the food sector.

The reasons for the higher marketing margins charged by food processors and retailers during the 1972-74 period, however, are less well known. The USDA index for food marketing margins rose 31 percent<sup>2</sup> over the 1972-74 period; a rate of increase nearly three times greater than the overall rate of inflation in the economy as measured by the rate of increase in the Consumer Price Index for items other than food. This paper reviews the structure and performance trends in the food manufacturing and food retailing industries and examines the possibility of failures in competition as a cause of increasing marketing margins.

#### FOOD MANUFACTURING

The "Food and Kindred Products" major group of industries is the largest "two-digit" group within manufacturing. It employed 1.6 million persons in 1972 and its value of shipments of \$115 billion was 15.2 percent of all manufacturing value of shipments.<sup>3</sup> Most of the 47 separate 4-digit SIC "industries" that make up the group primarily produce consumer products. These are products like breakfast cereals and canned fruits and vegetables that are distributed directly to consumers. Value of

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<sup>2</sup> Published quarterly in the Marketing and Transportation Situation, U.S. Department of Agriculture.

<sup>3</sup> U.S. Bureau of the Census, Census of Manufacturers, 1972 General Summary, Table 3. The 15.2 percent is not comparable to the 21.7 percent shown in the first page. An important influence making the 15.2 percent lower is that a high proportion of total manufacturing value of shipments reflect producer good sales.

shipments of the 11 primarily producer goods industries among the 47 constituted only 14 percent of the group total shipments in 1972. Producer goods are products such as cottonseed oil and soybean meal which manufacturers sell primarily to other manufacturers for further processing. Most of the output of the consumer product industries is sold through food stores with the remainder going to restaurants and institutions. Food manufacturers supply about 90 percent of the food sold in grocery stores. The remainder is mainly fresh produce and fish, and bakery products baked on the premises.

Food processing and manufacturing from an early beginning grew rapidly in the 19th century to keep pace with the Nation's expanding population and also the shift in population away from farms and rural communities to large industrial centers. In recent years the increasing demand for prepared and convenience foods has helped sustain growth. As the food manufacturing industries became mechanized and as food manufacturers began to seek national markets, the food industries developed large scale organizations. The trend is particularly noticeable beginning in the 1920's and 1930's.<sup>4</sup> Since World War II the trend toward bigness and fewer firms has taken on a strong conglomerate character and has been the cause of major transformations in the structure of food manufacturing industries.

#### Number of Companies Declining

In contrast to all manufacturing, where the number of companies has

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<sup>4</sup> Large Scale Organization in the Food Industries, TNEC Monograph 35, 1940.

been increasing, the number of companies in food manufacturing declined between each quinquennial Census of Manufacturers of the post World War II period (Table 1). The rate of exit has been increasing.<sup>5</sup> The 1947 census enumerated over 40,000 companies in food manufacturing. In the most recent 1972 census, this number stood at 22, 172. Between the two earliest post World War II censuses, the rate of decline averaged a little less than .9 per year. Over the most recent decade, 1962-72, the rate of exodus averaged 3.2 percent annually. If this trend continues over the next decade, half the current number of food manufacturers will disappear.

An analysis of the decline in company numbers between the two most recent censuses, 1967 and 1972, reveals that the decrease was widely dispersed among the separate 4-digit food industries. Company numbers fell in 33 of the 42 4-digit food manufacturing industries defined within the 2-digit Food and Kindred Products group and for which a comparison could be made between 1967 and 1972. Company numbers increased in only eight of the industries. The increase for all eight of these industries was only 68 companies. Company numbers were constant in one industry.

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<sup>5</sup> World War II took a heavy toll of food manufacturers with little or no replacement by new entry according to the 1946 Smaller War Plants Corporation report on Economic Concentration and World War II (pages 212-3). The 25 percent reduction in the number of food processors and manufacturers that occurred between 1939 and 1944 "was due entirely to the elimination of very small food concerns." The heavy demand and high profits earned by food manufacturers in the immediate post war period permitted introductions of new equipment which had been prevented by war production priorities. This had an uneven effect on individual food industries. The fluid milk industry was hard hit by this because the new types of machinery and facilities needed to meet upgraded sanitation requirements caused scale economies to increase. Larger processing volumes were needed for efficient utilization of the new processing machinery and milk handling equipment. During the mid and late 1940's and early 1950's nearly all of the thousands of farmers, producer-distributors, who had processed and distributed their own milk were forced to close their processing operations. See Russell Parker, Economic Report on the Dairy Industry, Federal Trade Commission (1973).

Table 1

Number of Food and Kindred Products Manufacturers, Census Years 1947-72

Year	Number of Companies		Average Yearly Percentage Change from Previous Census Year	
	Sum of 4-Digit Industries (1)	Net of Duplication (2)	Col. 1 (3)	Col. 2 (4)
1947	41,147	N.A.		
1954	38,610	N.A.	-.86	
1958	36,545	N.A.	-1.31	
1963	32,617	N.A.	-2.06	
1967	27,706	26,749	-3.19	
1972	23,326	22,172	-3.00	-3.21

N.A. - not available

SOURCE: General Summary, 1972, Census of Manufactures and same publication for previous Census years. U. S. Bureau of the Census, Table 2.



### Small Plant Size - A Declining Cause of Company Exodus

The disappearance of very small inefficient-sized plants, particularly in the dairy industry and other local market industries, explained a large part of the early postwar exodus of companies. By the late 1960's, however, inefficiency due to small plant size does not appear to be the prime cause of the increasing rate of company exodus. The 24 industries that had declines in company numbers exceeding 10 percent between 1967 and 1972 were distributed randomly among all food industries with respect to average establishment size. The largest absolute declines in company numbers occurred, not unexpectedly, in the largest industries. Eight of the 11 industries in which company numbers declined by more than 100 between 1967 and 1972 ranked among the 10 largest food industries. Seven of the 11 industries with the largest numbers of company exits between 1967 and 1972 showed either a higher percentage of larger plants disappearing than small plants or an insignificant difference in the rates of exodus by plant size.<sup>6</sup> It is of further interest that in three of the four industries where there was a significantly greater exodus of smaller plants than larger plants, the total number of companies declined more than the total number of plants. Acquisitions were probably the reason. Acquisitions would cause a decline in company numbers and a lesser decline in number of plants if the acquired plants continued to be operated. In one of the three industries, soft drinks, the number of company exits exceeded the number of plant exits by 73. Soft drink bottling was an industry that experienced a substantial merger movement.

Food and kindred products industries have larger sized plants and companies than the average for the rest of manufacturing. The average

<sup>6</sup> The Census breaks down plants according to whether they had more than or fewer than 20 employees.

value of shipments reported in the 1972 census for food and kindred products manufacturing plants was \$4.1 million, 85 percent larger than the average of all other manufacturing industries.<sup>7</sup> The average size good manufacturing company in 1972, measured in terms of value of shipments, was \$5.2 million. This was twice the size of the average for companies in the rest of manufacturing.

#### High Concentration of Sales Weakens Competition

The best single, generally available measure for evaluating competitiveness of industries is the level of market concentration. Market concentration refers to the extent to which only a few companies account for most sales or production in a market. The degree of product differentiation between the outputs of competing sellers (that is, the extent to which buyers have preferences for specific brands and the difficulty faced by outsiders wanting to enter into a product area) is important but the existence of this leads to, and therefore is highly correlated with market concentration.

The level of concentration in a product market indicates the extent to which competing sellers are likely to be affected by the selling strategies of other competitors. For example, in the concentrated soft drink syrup industry, if Pepsi-Cola were undertaking a price promotion program to increase its share of the market it would be vitally concerned over how Coca-Cola would react in order not to lose market share. Competitors in unconcentrated markets are each so small they are not concerned with possible competitor reactions when choosing their marketing strategies. A Kansas wheat farmer is not concerned about the production or

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<sup>7</sup> U.S. Bureau of the Census, Census of Manufacturers, 1972 op. cit.

marketing decisions of his neighbors since the price he will receive is the result of interactions in a huge international wheat market to which he and his neighbors contribute only a minute amount of total wheat supplies. When concentration is substantial, the interdependence of leading firms is so great that strong communities of interest develop between competitors to identify and avoid those actions most likely to produce competitive reactions which would result in reduced profits for all. Price rivalry is usually the first to be identified. This situation is called oligopoly. When concentration is great enough -- that is, when firms can act without fear of effective dissent in achieving joint profit maximization -- shared monopoly exists.

#### Sales Concentration in Food Manufacturing is High

The Bureau of the Census computes concentration statistics that show the percentage of production or sales in a market accounted for by the 4, 8 or 20 largest producers. These measures are computed about three years after each regular Census year. The latest Census year for which complete concentration data are currently available is 1972. What do these concentration data show about the state of competition in food manufacturing?

Table 2 is an update of a similar table based on 1958 data appearing in the Federal Trade Commission staff report on the Structure of Food Manufacturing, published by the National Commission on Food Marketing as Technical Study No. 8. The table is a classification of food industries by level of concentration according to Professor Joe S. Bain's classification system.<sup>8</sup> Bain's highest concentration categories, very highly con-

<sup>8</sup> Joe S. Bain, Industrial Organization, John Wiley & Sons, 1959, pp. 124-133.

Table 2

**Classification of Food and Kindred Products Manufacturing Industries  
According to Bain's Concentration Types, 1972**

Bain's industry concentration type <u>1/</u>	Number of industries		Percent distribution of						
	National	Local 2/	Total	Value added		Value of shipments			
				National	Local 2/	Total	National	Local 2/	Total
I. Very highly concentrated	3	1	4	3%	7%	10%	2%	5%	7%
II. Highly concentrated oligopolies	8	2	10	11	9	20	9	9	18
III. High-moderate concentrated oligopolies	10	2	12	23	14	37	17	10	27
IV. "Low-grade" oligopolies	11	-	11	10	-	10	12	-	12
V. Unconcentrated industries	10	-	10	23	-	23	36	-	36
Total	42	5	47	70	30	100%	76	24	100%

1/ Joe S. Bain, Industrial Organization, John Wiley & Sons, 1959, pp. 124-133. Bain's type I, very highly concentrated class, includes industries whose top 8 firms control 90 percent or more of production or whose top 4 control 75 percent or more. The equivalent percentages for type II are 85-90 percent for the top 8 or 65-75 percent for the top Type III, 70-85 percent for the top 8 or 50-65 percent for the top 4. Type IV, 45-70 for the top 8 or 35-50 for the top Unconcentrated industries would fall below type IV.

2/ Industries identified as local market industries in The Structure of Food Manufacturing Technical Study Number National Commission on Food Marketing 1966, pages 31 and 37. Concentration data for the five industries are from same source and Economic Report on the Dairy Industry, Federal Trade Commission, 1973.

Source: Concentration Ratios in Manufacturing 1972 Census of Manufacturers, U.S. Bureau of the Census, Table 5.

centrated oligopolies (type I) and highly concentrated oligopolies (type II), correspond to concentration levels associated with significantly higher average profits than industries with lower levels of concentration according to the empirical relationship between concentration ratios and profit rates developed by Bain. A similar study of food manufacturing industries, reported in the FTC study on the Structure of Food Manufacturing, produced nearly identical findings. Thirty percent of all food industry value added and 25 percent of all food industry value of shipments fall within these two top concentration categories. Bain's two intermediate categories (types II and IV) represent ranges of industry concentration where profit rates increase significantly as levels of concentration increase. Three-fourths of the number of all food manufacturing industries, three-fourths of total food manufacturing value added, and almost two-thirds of total food industry value of shipments are from these two categories of oligopoly or the two highly concentrated categories. Only 23 percent of total food industry value added and 36 percent of total food industry value of shipments are from non-oligopolistic (i.e., competitive) industries.

#### The Level of Concentration is Increasing

Between 1958, the Census data year on which the original table was based, and 1972, there were several definitional changes which make many of the comparisons between the industries involved either impossible or unreliable. However, a reliable analysis of concentration changes is possible for about half of the industries currently defined by the Census. These are 24 national market industries whose definitions remained unchanged. Between 1958 and 1972, fifteen of the 24 comparable industries showed concentration increases of 2 percentage points or more while 7

Table 3. Weighted Average 4-firm Concentration  
in Food and Kindred Products Industries  
1958, 1967 and 1972

	National market industries 1/	National market industries plus average local market concentration for 5 industries 2/
1958	39	47
1967	41	50
1972	44	52

1/ Includes all food and kindred products 4-digit SIC industries except Food Products not elsewhere classified and 5 local market industries. In 1967 and 1972 poultry dressing, egg processing and frozen specialties were not included because of definition changes. The 1967 and 1972 data are for identical industries. 1958 tabulations use definitions which in several instances were changed by 1967. The purpose of the changes was to accommodate the changing character of products.

2/ Average local market concentration ratios for the late 1950's through the early 1970's, as reported in the Federal Trade Commission staff report, The Structure of Food Manufacturing, and in the staff economic report on the Dairy Industry. The same average weighted local concentration ratios were used in both 1967 and 1972. The increase in the average between 1967 and 1972 was due to higher national market concentration.

Source: Concentration Ratios in Manufacturing Industries, 1958, Subcommittee on Antitrust and Monopoly, U.S. Senate, table 2; and Concentration Ratios in Manufacturing 1972 Census of Manufactures, U.S. Bureau of the Census, table 5.

industries showed declines of that magnitude. Five of the 15 industries with concentration increases registered increases of 14 percentage points or more. None of the 24 comparable industries registered a concentration decline of that magnitude.

The change in weighted average concentration between 1958 and 1972 is shown in Table 3. The weighted average 4-firm concentration ratio for all national market industries, ignoring definition changes, increased from 39 percent in 1958 to 44 percent in 1972. Using estimates of average 4-firm local market concentration for five industries, the weighted average 4-firm concentration ratio for all food industries increased from 47 percent in 1958 to 52 percent in 1972.

Underlying these average changes is a great amount of diversity. Willard Mueller has shown that the producer good food industries have tended to decline in concentration, whereas consumer products industries have increased.<sup>9</sup> The consumer products industries registering the largest concentration increases were those with significant degrees of product differentiation as measured by the level of advertising expenditures by manufacturers. Examples of such industries are confectionery products, coffee, beer, wine, and breakfast cereals. Mergers were also important in several of these product areas. Significantly, industries where advertising was less important experienced only moderate or no increases in concentration.

Some very important food industries, such as meatpacking which falls in the lowest differentiation category, experienced significant concen-

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<sup>9</sup> Willard F. Mueller, statement before the Subcommittee on Monopolies and Commerce, Committee on the Judiciary, U.S. House of Representatives, July 19, 1973.

tration decreases. Meatpacking companies account for about 10 percent of all food industry value added and nearly one out of every five food dollars spent by consumers. Since World War II, 4-firm concentration in meatpacking has declined from 41 percent in 1947 to 22 percent in 1972.<sup>10</sup> The postwar decreases continued a trend initiated by the major antitrust actions in the industry in the early 1920's. At that time the industry was highly concentrated. Meatpacking is an area where advertising and other types of product differentiation activities have declined and are currently unimportant. Consumers are aided in their purchase of meat by U.S. Government inspection and grading. The story of the improving trend in meatpacking concentration has an interesting sidelight. In response to Commission actions that started the improving trend, the Commission and its staff were made the subject of a McCarthy-type persecution from members of Congress. These critics labeled the staff responsible for the actions as Bolsheviks and demanded that they be fired. They also caused the Commission's budget to be deeply slashed.

#### High Concentration Due to Multiplant Operations of Large Firms

Notwithstanding the generally larger size of food industry plants, scale economies at most explain only a fraction of the actual concentration levels observed in the food industries. Of the 23 national market food industries with 4-firm concentration greater than 40 percent in 1972, in none did the four top firms operate an average of less than 2 plants. In 16 of the 23 industries the four largest companies averaged more than 4

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<sup>10</sup> U.S. Bureau of the Census, Concentration Ratios in Manufacturing, 1972 Census of Manufacturers, Table 5.



plants each and in 9 of the industries the four largest firms averaged 7 or more plants each. The highest level of concentration justified on the basis of 4 plants of the average size operated by the top 4 firms was 43 percent. That industry was chewing gum, one of the very smallest food industries. The average level of 4-plant concentration justified for all 23 concentrated industries was 15 percent, one-fourth the 60 percent 4-company level actually observed.

Four plant concentration of 15 percent is probably a substantial overstatement of the level of concentration justifiable strictly on the basis of plant scale economies. The overstatement results because many of the plants operated by the 4 largest firms likely exceed the minimum optimal sizes for their industries. Diseconomies due to very large plant size are not a problem in most food industries. Usually the production capacity of a food processing plant can be increased without increasing average unit costs simply by adding more production lines. Thus, as a company's sales expand in an area it tends to accommodate the increase by expanding its existing plant supplying the area beyond the minimum optimal size. On the otherhand, it is very unlikely that the average size of plants operated by the four largest companies in food industries are ever reduced by averaging in the sizes of suboptimal plants. The four largest companies of food industries should be operating few if any suboptimal sized plants. If any of their plants were higher cost due to suboptimal size, these multiplant firms would have freedom to close them and consolidate production in larger plants.

#### A Few Large Firms Increasingly Dominate All of Food Manufacturing

Besides the high and increasing level of industry concentration there is also a trend for a few very large companies to control production

in all the food industries. The 50 largest food corporations owned 41 percent of all food manufacturing assets in 1950. By the end of 1974, this had increased to 56 percent. Concentration of profits and of advertising expenditures are even greater than assets. In 1964, when the 50 largest companies controlled 49 percent of assets, they accounted for 61 percent of profits and nearly 90 percent of television advertising.<sup>11</sup> The trend toward increasing aggregate concentration is caused by the increasing multi-industry participation of large food manufacturing corporations. The individual industry positions held by large companies are leading positions. A special census tabulation for 1963 showed that just 50 food manufacturing corporations control 70 percent of the top 4 producing positions in all 40 individual 4-digit food industries and nearly that percentage in the 116 5-digit food product classes.<sup>12</sup> Mergers since 1963 have likely enhanced further the very largest food manufacturing corporations' control of individual food industries and product classes.

#### Mergers - A Major Cause of Large Company Expansion

During the late 1950's and early 1960's, and coincident with an increasing merger trend for the whole economy, the merger activity of food companies accelerated rapidly. The increasing tempo of that activity in the years following 1963 (the year of the Census tabulation discussed above) and particularly the increasing acquisition rate of medium-

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<sup>11</sup> The Structure of Food Manufacturing, op. cit., pp. 25, 66 and 221.

<sup>12</sup> Ibid., pp. 44, 45. Considering that large food manufacturers tended to occupy high rank positions more than low rank positions (p. 47), positions in concentrated industries more than unconcentrated industries (p. 46) and that there were six unconcentrated or minor industries (ice manufacturing, grease and tallow, animal & marine oils, raw cane processing, rice milling and frozen fish) which they did not participate at all (p. 49), the percent of important food industry positions held by the 50 largest was likely to be substantially higher than 70 percent; possibly 80 or 90 percent.

sized and larger food companies began to threaten the survival of a viable middle tier of independent companies which compete with the very largest companies. As the trend of food company acquisitions continued its robust pace through the first half of the 1970's, aggregate concentration has continued to increase. There is a strong likelihood that leading positions in food product areas are headed toward a situation where nearly all will be held by just a few very large companies. Many acquiring companies are not only large food manufacturers but also are huge conglomerate enterprises whose activities include non-food grocery products and related trade and service areas.

The increase in aggregate concentration of food manufacturing company assets within the 50 largest food manufacturers between 1950 and 1965 was entirely due to mergers. In fact, the 1966 FTC Food Manufacturing study shows that were it not for mergers, the combined share of assets of the 50 largest food manufacturers would have declined between 1959 and 1965.<sup>13</sup> Although the data subsequent to 1965 have not been analyzed to indicate the contribution mergers have made to increases in aggregate concentration in recent years, the brisk continuation of mergers, and especially large mergers, suggests that they are making a continuing contribution to increasing food industry concentration. After 1965, the number of large food industry acquisitions increased not only absolutely but also as a percentage of all large manufacturing acquisitions (Table 4).

Prior to the mid-1950's many acquisitions had significant horizontal aspects. This trend changed as horizontal mergers were increasingly

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<sup>13</sup> Ibid., p. 120

Table 4. Number of Large Food Manufacturing Companies Acquired as a Percentage of All Large Manufacturing Companies Acquired, Selected Periods 1948 through 1974

Period	Number of years	Number of large food manufacturers acquired 1/	Percent of all large manufacturing acquisitions
1948-65	17	64	8.1
1966-68	3	47	12.1
1969-71	3	46	13.1
1972-74	3	29	14.4

1/ Acquired firm's assets of \$10 million or more at time of acquisition.

Sources: National Commission on Food Marketing The Structure of Food Manufacturing table 2, page 110, and table 4, page 112; Federal Trade Commission, Statistical Reports on Mergers and Acquisitions; 1972 (table 13), 1973 (table 14), 1974 (table 14); Large Mergers in Manufacturing and Mining, 1948-71 (table 3); and Economic Report on Corporate Mergers, 1969 (table 1-7).

challenged by Federal antitrust agencies. After the mid-1950's most food industry acquisitions were product extension in character.<sup>14</sup> While these mergers added to aggregate concentration they had no direct impact on concentration levels in individual industries.

The indirect effect of market extension mergers on industry concentration is another question. The 1966 FTC study on The Structure of Food Manufacturing reported that firms acquired by the 50 largest food manufacturers were typically large firms and often one of the four leading producers in one or more food product areas.<sup>15</sup> Many were substantial advertisers of well-known food product brands. Within a year after acquisition the acquiring companies doubled the average amount of advertising expenditure for the acquired brands, with television advertising showing the greatest percentage increase.<sup>16</sup> Though market share change data are not available it is hard to conceive that the additional advertising didn't increase market shares and the level of industry concentration.

Another interesting fact reported in the 1966 study was that acquisition was almost the sole route by which the largest companies entered new industries. FTC detailed product data for the 20 largest food manufacturers showed that nearly 90 percent of the product areas entered by the companies were directly traceable to merger. Others that could not be definitely traced were likely due to merger. The very low research and development expenditures of the largest food manufacturers are con-

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<sup>14</sup> Ibid., pp. 110, 111.

<sup>15</sup> Ibid., pp. 126, 127. The number and percent of leading food manufacturing positions held by large companies increased between 1954 and 1963 (p. 44). The number of leading non-food manufacturing positions also increased. In total, 50 large food companies held an average of 11.3 top 4 positions in both food and non-food product classes in 1963. This was a substantial increase from 1954 when they each held an average of 9.2 positions (p. 50).

<sup>16</sup> Ibid., pp. 125, 126.

sistent with this finding. In addition, Worley<sup>17</sup> found that food manufacturing was the only one of the 20 major industrial groups in manufacturing where there was an inverse relationship between size of firm and the number of research and development personnel per 1,000 employees. The picture that emerges from these data and others, such as use of field sales force personnel and advertising, is that large food manufacturers move into new products only after they are first developed by smaller firms. The acquiring corporations then enhance the market positions they acquired through competition-reducing advertising and other forms of product differentiation.

#### Lack of Competition Causes Higher Costs and Prices

To say that prices in an industry are too high, means that costs and/or profits are in some sense too high.<sup>18</sup> Lack of competition can contribute to both higher costs and higher profits. Higher costs result from lack of competitive pressures on managers to efficiently organize and diligently oversee company operations. Two hundred years ago Adam Smith noted this by observing that monopoly is "a great enemy to good management."<sup>19</sup> More recently observers have noted the tendency of oligo-

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<sup>17</sup> James S. Worley, "Industrial Research and the New Competition," The Journal of Political Economy, April 1961.

<sup>18</sup> This analysis of performance is limited primarily to prices, costs and profits. There are other performance characteristics but there are no generally accepted standards for inter-industry evaluation. Some of these other performance dimensions are: variety, convenience, reliability, availability, nutrient content, the composition of food products, safety, sanitation and consumer information about price, quality and availability. Many people feel that an equitable distribution of wholesome food to all socioeconomic groups is an important performance characteristic because food is essential to life and at the same time commands a very large proportion of income of the aged and low and moderate income families.

<sup>19</sup> Adam Smith, The Wealth of Nations, (1776), p. 147.

polistic industries to seek the tranquility of a "live and let live" existence and to avoid the threat of an outbreak of price rivalry by means of price leadership.<sup>20</sup> The implication of complacent conduct is not only higher costs in the present but even higher future costs due to the lack of progressiveness resulting from the lack of pressure on companies to innovate. An important aspect of slow technological change is the continued high labor intensity in many food industries. The minimal research efforts of food manufacturing companies noted above does not suggest strong pressures for innovation. Food retailers perform almost no R & D.

In the food industries, higher than competitive costs also result from high advertising and promotional expenses, packaging costs, other costs associated with creating product differentiation, and inefficiencies in delivery and service systems of some industries which are necessary to attract and hold certain classes of customers. The cost of maintaining excess capacity can be substantial. Excess capacity, particularly in the hands of larger companies in markets is a barrier to entry.

The main effect of the high promotion and product differentiation costs is that they cause consumers to have strong preferences for brands of particular sellers and most especially to brands of established sellers vs. new entrants. This creates insulation against the encroachment of actual and potential competitors and gives the company that advertises higher profits due to its ability to charge higher prices without losing market share.

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<sup>20</sup> Bain, op. cit., pp. 266-323.

The companies that are the heaviest users of advertising relative to sales are primarily engaged in the sale of soft drinks, confectionery products and miscellaneous food products. In the 1960's, advertising as a percentage of sales for large corporations (over \$50 million in sales) exceeded 8 percent in each of these areas.<sup>21</sup> It should also be noted that several food industries have low advertising expenditures. These include companies producing producer goods like sugar and flour, and consumer product companies selling fresh meats, white bread or canned vegetables. These are products where federal grade labeling or uniformity of product characteristics makes the creation of perceived differentiation difficult.

Advertising by food manufacturers increased dramatically after World War II. Relative to sales, advertising had doubled for all food manufacturers between the end of World War II and the 1960's. The rate has not increased as dramatically since the mid 1960's. However, the data picture is clouded by the increasing conglomeration of the largest food companies whose consolidated public reports give little or no information on their separate food industry activities.

#### Food Manufacturer Profits Are Increasing

Profits of food manufacturers have undergone a sustained upward trend over the last quarter of a century. Over the 25-year period from 1951 through 1975 the profit rate of food manufacturers expressed as the ratio of after tax profits to stockholders' equity increased by 50 percent (Table 5). The similar profit rate for all U.S. manufacturers over the same

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<sup>21</sup> Structure of Food Manufacturing, op. cit., p. 71.



Table 5

Profits after Taxes as a Percentage of Stockholders' Equity for Food  
Manufacturing Corporations and All Manufacturing Corporations,  
Five Year Periods, 1951 through 1975

Profits after taxes as a percentage of stockholders' equity			
5-year Period	Food manufacturing	All manufacturing	Food profit rate as a percent of all manu- facturing profit rate
1951-55	8.3%	11.2%	74%
1956-60	8.9	10.3	86
1961-65	9.5	10.7	89
1966-70	10.9	11.6	94
1971-75*	12.3	11.8	106

\* Includes only the first three quarters of 1975.

Source: Quarterly Financial Report for Manufacturing Mining and  
Trade Corporations, Federal Trade Commission.

period showed no discernible trend. Food manufacturer average profits were a fourth less than all manufacturer profits at the early 1950's. During the most recent five-year period, the average profit rate of food manufacturers exceeded that of all manufacturers by 6 percent.

Caution should be used in comparing reported profit levels of food companies with all manufacturers. Cooperatives which generally do not have reported taxable income, make about 8 percent of the total sales of food companies.<sup>22</sup> Cooperatives make less than a quarter of one percent of sales of non-food manufacturing companies. Another significant factor in positioning the relative levels of food manufacturer and all manufacturer profit levels has been the consistently much lower level of profits earned by companies in the very large, competitively structured, meat packing sector of the food industries.<sup>23</sup>

#### Price Fixing is a Problem in Some Food Industries

Why are food manufacturers profits higher than all manufacturers and increasing? A possible reason for high profits is explicit price fixing. This is where company executives meet secretly to work out price fixing and market sharing agreements. Not only does this kind of conspiracy still take place, but the records of antitrust actions show that some food industries have been prone to price fixing. Two food industries with such a history are the bread baking and fluid milk processing industries. The high level of concentration in regional markets of the

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<sup>22</sup> U.S. Bureau of the Census, Enterprise Statistics 1967 Part I, Table 5-1.

<sup>23</sup> Structure of Food Manufacturing, op. cit., Table 6-4 and data for subsequent years from Source Book Statistics of Income, Internal Revenue Service.

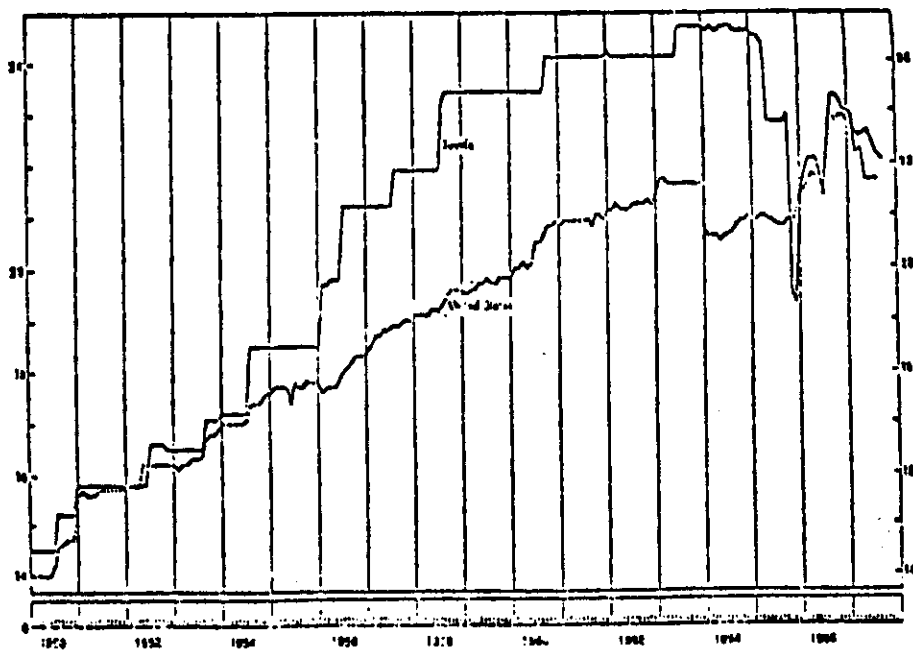
baking and dairy industries and relative similarity of products of rival sellers enhances the opportunity for firms to collude and fix prices.

The Bakers of Washington case, successfully prosecuted by the Federal Trade Commission in the mid-1960's, is an example.<sup>24</sup> During the period of price fixing, the leading bakers of the State of Washington conspired among themselves and with the largest food chains in the area, one of which operated its own baking plant, and succeeded in raising the price of bread by 15 to 20 percent over a 10-year period extending from the mid-1950's to the mid-1960's. An antitrust investigation was ultimately begun and, upon conviction of the companies involved in price fixing, prices dropped. The Federal Trade Commission found that the wholesale bakers and the leading retailers in the conspiracy area had met frequently at State trade association meetings and through agreements or understandings reached at those meetings, had suppressed price competition at both the wholesale and retail levels and established and maintained uniform and noncompetitive prices. Figure 1 presents a picture of what happened. Prior to the conspiracy, Seattle prices were nearly identical to the national average. During the period of the conspiracy, however, prices were (as can be seen in the figure) between 15 and 20 percent higher than the national average. Consumers in the State of Washington paid approximately \$30 million more for their bread than they would have paid if local prices had been the same as the national average during the period of the conspiracy. Following the conclusion of this antitrust action, vigorous price competition

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<sup>24</sup> Russell C. Parker, "The Baking Industry," Antitrust Law and Economics Review, Summer 1969; Russell C. Parker, Economic Report on the Baking Industry, Federal Trade Commission (1967), pp. 66-73.

Figure 1. Average retail prices for white bread, Seattle and United States, 1950-67.



Source: Economic report on the Baking Industry, FTC, 1966.

developed; the Seattle price level immediately dropped well below the overall national average and, as time passed, returned to the national average. It is interesting to note that, although the vigorous price competition reduced bakers' profits, its main effect was to reduce inefficiency by driving out inefficient firms and excess capacity that had been protected by the high price umbrella created by the conspiracy.

The same Federal Trade Commission Economic Report that analyzed the State of Washington situation also reported the results of five other in-depth market investigations. These markets were chosen for study without regard to any information about conspiratorial conduct. In two of the five markets, analyses revealed prices above the national average or trends similar to that found in the Bakers of Washington case. In both instances, the Department of Justice brought suits based on the analysis and won antitrust victories. In Baltimore, where subsequent price data have been analyzed, the average price of bread appears to have dropped approximately 15 percent. This eliminated an estimated \$5 million a year in consumer overcharge which had existed for a 10 year period.

The frequency of explicit price fixing is not well documented since its clear illegality causes it to be cloaked in secrecy. Investigations are initiated only in those rare instances where data exist showing pricing patterns which strongly suggest collusive behavior or when someone privileged to information about a price fix becomes an informer.

#### Oligopoly Pricing - A Major Problem

The above is an illustration of an explicit price conspiracy. Although I do not intend to minimize the importance of such conspiracies when they occur, structure-performance analyses indicate that tacit price

collusion is much more pervasive. Tacit price collusion is the typical form of conduct in markets where there are few sellers, i.e., oligopolies. It results from the various forms of price leadership found in oligopolistic industries. A large and growing number of statistical studies are demonstrating the existence of a relationship between the dimensions of market structure and profit rates, gross markups and cost-price margins. The relationships are very similar in widely different industrial sectors and in statistical formulations that use different data sets and statistical techniques.<sup>25</sup>

The staff on the Federal Trade Commission conducted two such analyses that are particularly relevant to the food industries. One develops the relationship between concentration, advertising intensity, market share, and the level of profits of food manufacturers<sup>26</sup> while the other employs a similar model in food retailing. The relationship for food manufacturing is summarized in Table 6. Where 4-firm concentration averaged 40 percent and advertising-to-sales ratios averaged 1 percent, companies earned an average profit rate of 6.3 percent. On the other hand, in industries where 4-firm concentration averaged 70 percent and advertising expenditures averaged 5 percent of sales, there was an average net profit rate of 15.9 percent. Another variable in the analysis (not summarized in Table 6) shows that firms holding the dominant po-

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<sup>25</sup> Leonard Weiss, "Quantitative Studies in Industrial Organization" in Frontiers of Quantitative Economics, Michael D. Intriligator (Ed.), Amsterdam: North Holland Publishing Co., 1967. Also, by the same author, "The Concentration-Profits Relationship and Antitrust," in Industrial Concentration: The New Learning, (1974), Ed., N.J. Goldschmid, H.M. Mann, J.F. Weston.

<sup>26</sup> Economic Report on the Influence of Market Structure on the Profit Performance of Food Manufacturing Companies, Federal Trade Commission, 1969, p. 7.

TABLE 6 - Profit Rates of Food Manufacturing Firms Associated with Various Levels of Industry Concentration and Advertising-to-Sales Ratios.

Advertising-to-Sales Ratio (Percent)	1.0	2.0	3.0	4.0	5.0
	Associated net firm profit rates as a percent of stockholders' equity <sup>2</sup>				
4 Firm Concentration: <sup>1</sup>					
40 -----	6.3	7.4	8.5	9.6	10.7
45 -----	8.0	9.1	10.2	11.3	12.4
50 -----	9.3	10.4	11.5	12.6	13.7
55 -----	10.3	11.4	12.5	13.6	14.7
60 -----	11.0	12.1	13.2	14.3	15.4
65 -----	11.4	12.5	13.6	14.7	15.8
70 -----	11.5	12.6	13.7	14.8	15.9

<sup>1</sup> The average concentration ratio (weighted by the company's value of shipments) of the product classes the company operated in in 1950.

<sup>2</sup> Profit rates were calculated from the regression equation shown in appendix table 4-2. Other variables influencing company profitability were held constant at their respective means. These variables were the firm's relative market share, growth in industry demand, firm diversification, and absolute firm size. Profit rates are averages for the years 1949-52. Advertising-to-sales ratio is for the year 1950.

Source: Federal Trade Commission, "Economic Report on the Influence of Market Structure on the Profit Performance of Food Manufacturing Firms," 1969.

sitions in the industries enjoyed even higher profit rates.<sup>27</sup> In short, this means that the high frequency of moderate and high concentration industries in food manufacturing is likely having a great effect on consumer prices. The Federal Trade Commission staff report was based on data from the early 1950's. Imel and Helmberger using data from the 1960's have observed a very similar relationship for that period.<sup>28</sup>

#### GROCERY RETAILING

Grocery retailing has experienced a major shift toward larger companies since World War II. This shift, which generally followed the "supermarket revolutions" of the 1930's and 1940's, saw concentration increase in both the nation as a whole as well as in individual city markets.

#### Large Chains Are Getting a Bigger Share of Grocery Sales

National concentration in grocery retailing is showing a strong upward trend. Just 20 large grocery chains accounted for 37 percent of total grocery store sales in the United States in 1975, (Table 7). This was an increase of more than a third over the 27 percent controlled by the 20 largest chains in 1948. The increasing national concentration in grocery retailing occurred despite the declining sales share of A & P, the Nation's largest grocery retailer until 1974. Organized in 1859, A & P followed an aggressive course during most of the first 100 years

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<sup>27</sup> Influence of Market Structure on Profit Performance, op. cit., pp. 31-32.

<sup>28</sup> B. Imel and P. Helmberger, "Estimation of Structure-Profit Relationships with Application to the Food Processing Section," American Economic Review, September 1971, pp. 614-27.



Table 7.-Market Share of 20 Leading Grocery Chains and A & P,  
1948-74.

(Percent of total grocery store sales)

	1948	1954	1958	1963	1967	1972	1973	1974	1975
20 Largest	27	30	34	34	34	36	NA	NA	37.0
A & P	11	11	11	9	8	7	6	5*	4.9
2nd to 20th Largest	16	19	23	25	26	29	NA	NA	32.1

Source: National Commission on Food Marketing, Organization and Competition in Food Retailing (June 1966) table 2-4 page 41. Percentages for 1967 are based upon Federal Trade Commission survey data for that year and Census of Business grocery store sales totals for 1967. The 1972 percentages are based on company data supplied to a Congressional Committee and data from the 1972 Census of Business, Retail Trade, Establishment and Firm Size and Merchandise Line Sales. Both the 1967 and 1972 percentages include sales of food departments operated in non-food stores. The 1973 and 1974 percentages are based on A & P annual reports and grocery store sales totals reported in the Census of Business Annual Survey for these years. Percentages for 1975 were tabulated by the American Institute of Food Distribution and are for sales of grocery stores and food departments covering the period of March 31, 1975 to April 1, 1976.

of its existence. In the 1950's more than one out of every \$10 spent in grocery stores was spent at an A & P (Table 7). Since then, and particularly since the mid-1960's, A & P's share of national grocery store sales has declined. Currently, its share of sales stands at less than 5 percent. A & P underwent a major reorganization beginning in late 1974. Post-reorganization operating results suggest that the company may be on the verge of halting its downward trend.

#### Most City Markets Have Moderate to High Levels of Sales Concentration

Competition in grocery retailing does not occur at the national level except in procurement. Regional concentration is of importance because when grocery chains invade new city markets they usually do so from bases in nearby cities. Local concentration is of prime importance because the city or metropolitan area is the main arena of competition for consumer purchases. Few consumers consider traveling to another city to buy groceries. At the city level, concentration in grocery retailing is high and has been increasing gradually.

For the 200-plus standard metropolitan statistical areas for which the Bureau of the Census calculates grocery store sales concentration, the four largest grocery firms on average accounted for 52 percent of sales in 1972 (Table 8). In 1954 the 4-firm average was only 45 percent. The 8-firm ratio increased faster than the 4-firm ratio. From an average 54 percent in 1954 it increased to an average of 64 percent in 1967. (1972 data for other than four-firms are not available as of this writing.) The average 20-firm ratio went from 64 in 1954 to 77 percent in 1972.

Table 8

Unweighted Average 4, 8 and 20 firm grocery store concentration percentages in Standard Metropolitan Statistical Areas, 1954-1972.

	1954	1958	1963	1967	1972
CR4	45	49	50	51	52
CR8	54	60	62	64	NA
CR20	64	71	74	77	NA

Source: Special Tabulations by the Bureau of the Census for the National Commission on Food Marketing and the Federal Trade Commission. Averages for comparable SMSA's.

The Census tabulates sales of stores of voluntary and cooperative food chains on an individual store ownership basis rather than on a consolidated group basis. Although non-corporate food chains vary in the extent to which their individual member stores act in a highly coordinated manner, the Census tabulation method of always treating stores of non-corporate chains as separate units probably results in a significant understatement of the effective level metropolitan area concentration in a number of SMSA's.

On the average, Census concentration ratios are higher in smaller cities. To a significant degree this may reflect an understatement of concentration in large cities. Large cities, particularly very large cities like Los Angeles and New York, are in fact comprised of distinct submarkets populated by different food chains and served by different advertising media. Concentration in smaller metropolitan areas may also be understated because of times which include counties having a large part of their population in outlying areas.

The concept of all grocery store sales is too broad for defining relevant markets. Most industry observers consider supermarkets as competing primarily among themselves. Convenience stores, such as 7-Eleven stores, and the large number of pop and mom stores that exist especially in central cities are considered in separate markets and not competitive in any substantial way with supermarkets. For example, the Supermarket Institute in attempting to measure the extent of competition faced by new supermarkets asks respondents to the SMI survey to list only the numbers of supermarkets. A special Census tabulation of grocery stores operated in 4 large U.S. cities (New York, Los Angeles, Chicago, and Washington, D.C.) shows that between 96

percent and 100 percent of the sales of the largest 4 chains in those cities were made from supermarkets with over \$1 million in annual sales. Whereas the 4 largest chains accounted for an average of 50 percent of all grocery store sales in the 4 cities they accounted for 60 percent of sales of stores with over a million in annual sales. The same sets of four chains on the average accounted for 70 percent of sales of stores with more than \$4 million in annual sales. Because of the general bias toward underestimation of concentration levels, Census grocery store concentration ratios for metropolitan areas should be considered as minimum estimates of the actual level of concentration in metropolitan areas.

The national average of all cities hides the fact that in many individual metropolitan areas concentration is very high while in others it is low. Washinton, D.C. is one of the cities where concentration is very high (Table 9). In the Washington metropolitan area, four chains accounted for 76 percent of grocery store sales in 1972. The four chains accounted for 90 percent of sales of supermarkets, grocery stores with over \$1 million in annual sales and 96 percent of sales of large supermarkets having annual sales of over 4 million. The Washington areas level of concentration is higher than nearly all manufacturing industries, including many that are considered virtual monopolies. High concentration in the Washington market gave the leading Washington area chains a strong position from which they could engage in tactics to discourage entry<sup>29</sup> of new chains. Another highly concentrated large SMSA is Denver, Colorado where the four largest chains accounted for 80 percent of total metropolitan area grocery store sales in 1972.

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<sup>29</sup> Economic Report on Food Chain Selling Practices in the District of Columbia and San Francisco, Federal Trade Commission, 1969, p. 4.

Table 9 - Share of Grocery Stores Sales by 4 Largest Chains in the 20  
Largest U.S. Standard Metropolitan Statistical Areas.  
Census Years 1954-1972.

Metropolitan areas ranked by 1970 pop- ulation	1954	1958	1963	1967	1972	Percentage point change 1954-1972
New York.....	41	37	34	33	31	-10
Los Angeles.....	30	25	30	28	36	6
Chicago.....	49	52	52	54	57	8
Philadelphia.....	53	60	61	60	54	1
Detroit.....	38	50	52	49	50	12
San Francisco-Oakland ..	27	29	33	40	41	14
Washington, D.C.....	56	60	67	70	76	20
Boston.....	56	48	50	47	49	-7
Pittsburgh.....	45	53	52	45	43	-2
St. Louis.....	35	43	43	39	46	11
Baltimore.....	48	50	54	55	57	9
Cleveland.....	51	53	56	58	52	1
Houston.....	35	33	35	32	35	0
Newark.....	53	48	40	42	44	-9
Minn.-St. Paul.....	31	38	39	44	42	11
Dallas.....	53	47	46	42	*	-11
Seattle-Everett.....	40	38	41	42	49	9
Anaheim-Santa Anna.....						
Garden Grove.....	40	47	43	39	44	4
Milwaukee.....	43	47	40	32	57	14
Atlanta.....	54	56	60	60	55	1
Simple Average.....	44	46	46	46	48	4

\* The Census merged the Dallas and Fort Worth SMSA's in collecting data for the 1972 Census of Retail Trade. The 4-firm concentration ratio for the combined SMSA's was 47 percent in 1972. The Dallas-Fort Worth concentration ratio was not used in computing the average for 1972 which was adjusted to be comparable to the 1967 average.

Source: Special Tabulation by the U.S. Bureau of the Census, for the Federal Trade Commission, 1972 data are preliminary.

Major studies of grocery retailing, including those of the staff of the Federal Trade Commission<sup>30</sup> and the National Commission on Food Marketing,<sup>31</sup> have found significant barriers to entry and significant pecuniary advantages of size to the largest established food chains in local markets. Pecuniary advantages of large size are especially important in newspaper advertising and in procurement. The largest established chains in cities and regions also have advantages in the selection of store sites and, when their market shares are high, have strategies available in neighborhood pricing that can discourage new entrants. Given these, there is little hope in sight of a quick erosion of existing levels of grocery retailing concentration in metropolitan areas or even a dampening of the present upward trend.

#### Markups Are Greater When Food Chains Have Large Market Shares

Approximately 20 cents of every dollar spent by consumers in supermarkets is retained to cover costs of operations and profits. The 20 cents is the average markup. On food chain financial statements it is referred to as the gross margin. On the average, a little over 17 cents of the total 20 cent gross margin is used to cover operating costs and a little less than 3 cents generally go to profits. The income tax rate on food chain profits averages slightly less than 50 percent, leaving a little less than 1-1/2 cents for after tax profits. The total gross margin as well as the cost and profit components are each influenced by the competitive structures of grocery retailing markets.

<sup>30</sup> Federal Trade Commission, Economic Report on Food Retailing, 1966, Ch. II.

<sup>31</sup> Food From Farmer to Consumer, Final Report of the National Commission on Food Marketing, 1966, p. 75.

The level of a food chain's gross margin in a city is strongly related to the share of the market it controls in the city. Tabulations of data submitted by food chains to the Federal Trade Commission (Table 10) and to the National Commission on Food Marketing (Table 11) show that grocery chains use higher markups or gross margins in high market share areas and have lower markups where they have low market shares. This means that the price consumers pay for food retailing services goes up as the retailers' market shares increase. For the 9 chains whose aggregated data are shown in Table 11, the difference in average gross margin from the lowest market share class to the highest is 7 to 8 percent.

#### Gross Margins Have Increased Substantially

Average gross margins of food chains have been subject to significant upward and downward trends over the last several decades (Figure 2). Between the early 1930's and the early 1950's, the average gross margins of large food chains decreased from 23 percent to about 15 percent of sales. This large decline was due mainly to the efficiencies introduced by the supermarket revolution. The downward trend ended in the early 1950's and reversed itself. From then until the late 1960's food chain gross margins increased and by the late 1960's had climbed back to the pre-supermarket revolution level of the early 1930's. Beginning in the late 1960's gross margins leveled off and have since declined about a percentage point.

The increase in the 1950's and 1960's was due to many factors. Chains added in-store services and began to focus expenditures on other non-price elements of competition.<sup>32</sup> These included: 1) increased promotional ex-

<sup>32</sup> Increased services included check cashing, carry out, and increases in service departments such as a delicatessen and in-store bakeries.



TABLE 10 - Distribution of the Market Share Ratios for National Tea Co.'s  
Operation in 399 Cities - 1958

Market Share (percent)	Number of Cities	Average gross profit ratio	Average Con- tribution ratio <sup>1</sup>
Under 5 -----	48	14.9	2(2.3)
5 to 9.9 -----	93	16.4	1.0
10 to 14.9-----	83	17.0	3.7
15 to 19.9-----	55	17.0	4.0
20 to 24.9-----	47	17.5	5.7
25 to 34.9-----	44	17.5	5.5
35 and over-----	29	17.3	6.5
Total -----	399		

1 Ratios in percentages. Simple average of the arithmetic means of the cities.

2 Negative ratio in parentheses.

Source: Federal Trade Commission, In the Matter of National Tea,  
Docket No. 7457.

Table 11. Estimated Dollar Subsidy From High to Low Market Share Areas by the 50 Largest U.S. Food Chains.

Market Share	Percent of Stores <sup>1</sup>	Gross Margin Index <sup>1</sup>	Profits to Sales Index <sup>1</sup>	Estimated Profit to Sales Ratio <sup>2</sup>	Estimated Dollar Amount of Profit Subsidy to Low Market Share Areas by the 50 Largest U.S. Chains <sup>3</sup> (subsidy in millions)
4.9 percent & under	4	95	-78	-2.0	\$92.0
5 to 9.9	13	98	41	1.1	97.5
10 to 14.9	19	99	64	1.6	95.0
15 to 19.9	24	100	100	2.6	.....
20 to 24.9	9	100	116	3.0	.....
25 to 34.9	17	100	119	3.1	.....
35 and over	14	102	158	4.1	.....
Total	100	100	100	2.6	284.5

<sup>1</sup> Average percent of stores, gross margin index and profit to sales index for 9 large food chains providing data to the National Commission of Food Marketing (index equals 100 for food chain average). Individual chain data are shown in Tables 10-5 through 10-13 (pp. 191 through 199) of Technical Study No. 7, National Commission on Food Marketing, 1966. In computing the 9 chain averages all chains were assumed to be of the same overall size. Market share averages were weighted by percent of stores in market share size classes. The average index for the nine chains was applied to average gross margin for corporate chains with over \$100,000,000 in annual sales as reported in the Harvard-Cornell report, "Operating Results of Food Chains" 1963-64 Table 11-2, p. 222 and absolute margin difference was then applied to the estimated 1974 grocery store sales of the 50 largest food chains.

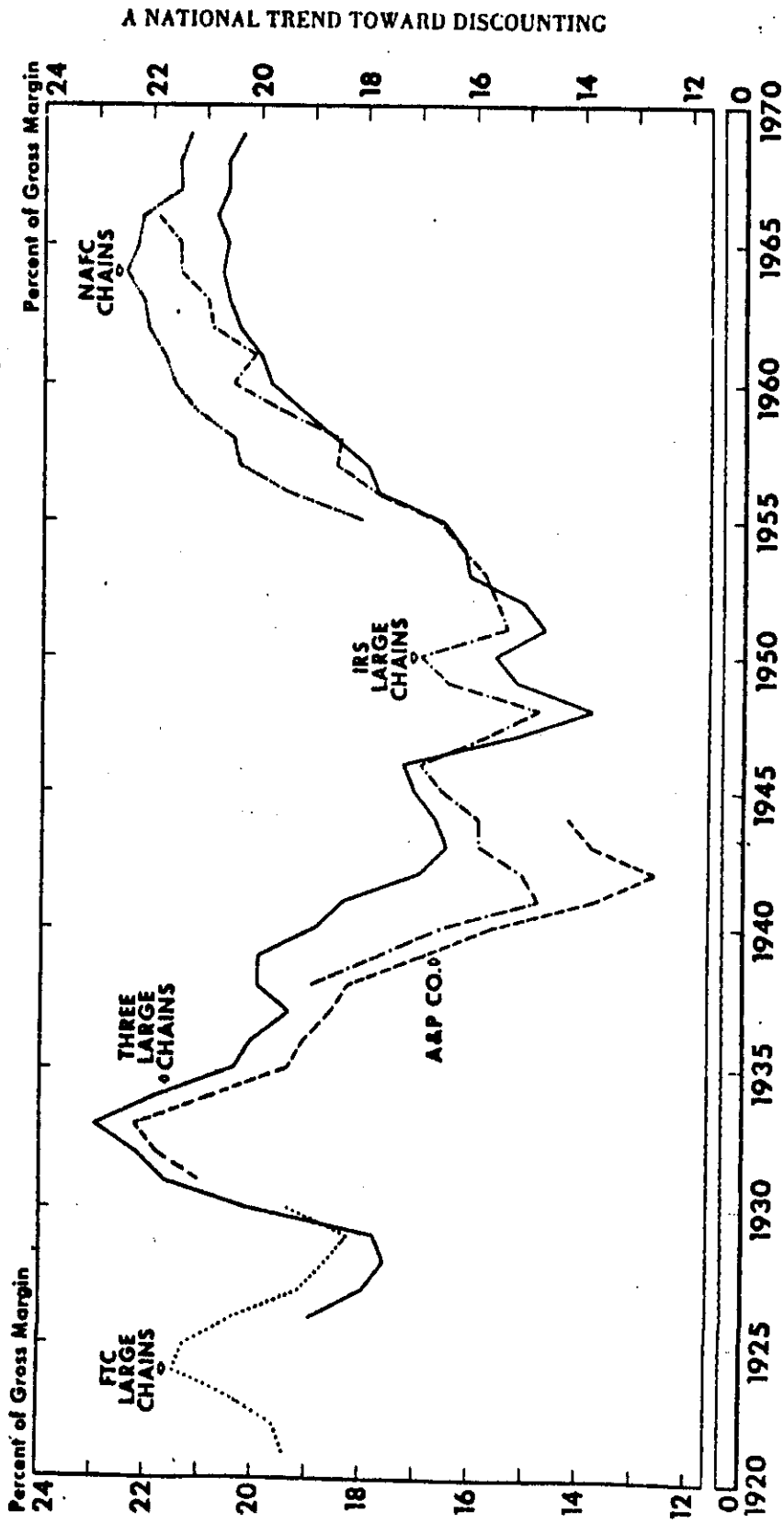
<sup>2</sup> Obtained by applying the average index for nine chains to the Harvard-Cornell series average before tax profit to sales ratio for large food chains. Five year average of data from Tables 13-6 and 13-11 of that series was 2.6 cents per dollar of sales.

<sup>3</sup> Estimate based on the estimated 1974 grocery store sales of the 50 largest U.S. food chains. It assumes the 9 chains are a representative sample of the 50 largest.

Source: Russell C. Parker, "Competition in Food Retailing and Manufacturing," The Market Functions and Costs for Foods Between American Fields and Tables, U.S. Senate Committee on Agriculture and Forestry (1975), p. 85.

# RETAIL GROSS MARGINS OF LARGE FOOD CHAINS, 1921-1969

Figure 2.



Source: Staff Report to the Federal Trade Commission, Discount Food Pricing in Washington, D.C., Figure 1, p. 17.

penditures on trading stamps, and games of chance and 2) increased advertising expenditures. The introduction of trading stamps in grocery stores in the 1950's and 1960's cost chains not only the purchase price of the stamps but also the added cost at check out stands for dispersing them. The total cost of stamps was frequently in the range of 3 cents per dollar sales. As other chains adopted stamps, the sales volume increases that the original chains had initially realized disappeared and the total cost of dispensing the stamps had to be passed on to customers.<sup>33</sup> Chains also began building more expensive stores and parking lots.<sup>34</sup> In recent years chains have created considerable excess store capacity. This is referred to in the trade literature as overstoring. Overstoring caused cost increases similar to trading stamps. The report of the Canadian Royal Commission on Consumer Problems and Inflation estimates that excess capacity or "overstoring" in food retailing in Canada caused consumers in Canada "to pay an average of 4 cents more than necessary per dollar of sales..."<sup>35</sup>

Underlying this shift from price competition to non-price forms of rivalry, which resulted in higher costs and higher retail food prices, was an extensive merger movement in food retailing which began in the 1950's. The increase in mergers and the increase in gross margins began almost

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<sup>33</sup> For the decade from 1955 through 1964, the period's greatest increase in gross margins, about 41 percent of the increase was due to trading stamps costs and other promotional expenses. Food From Farmer to Consumer, op. cit., p. 78.

<sup>34</sup> The upgrading of physical facilities often included air conditioning, freezer space, and, in general, an expansion of all shelf space to carry a greater variety of products.

<sup>35</sup> Queen's Printer 1968, p. 200.

simultaneously. The effect of the movement was to eliminate the pro-competitive force of actual and potential entry of chains from nearby cities. This kind of entry is a very significant force directing food retailers to compete on a price basis as a means for carving out and holding onto market shares. When large chains chose the merger route for expansion into new markets, price rivalry subsided.<sup>36</sup> In the mid-1960's, court victories in federal antitrust cases curtailed mergers. The leveling off and slight decline in gross margins in the final years of the 1960's and the early 1970's may be evidence that some of the price competition which had been muted by the merger movement had resumed.<sup>37</sup> Several of the most active acquiring food chains of the 1950's and 1960's continued their growth objectives after the new merger enforcement policy was achieved. In place of acquiring growing concerns these chains were forced to enter new markets by building new stores. To attract customers to these new stores, many of the new entrants offered themselves as low margin "discount" sellers. Since 1965, gross margins have not only stopped going up but dropped by a little more than a percentage point (Figure 2). Considering that annual grocery store sales are currently about \$125 billion, savings to consumers due to the decline in margins since the late 1960's are likely in the area of \$1.5 billion a year. If it is assumed that food chain gross margins would have continued increasing after 1965 at the same

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<sup>36</sup> During the period of the most rapid increase in food chain gross margins, 1955 and 1965, large chain gross margins increased 3.5 times as fast as those of small and medium sized chains. Organization and Competition in Food Retailing, op. cit., Table 11-2, p. 223.

<sup>37</sup> Discount Food Pricing, op. cit., p. 14-17.

rate as during the 1950's and early 1960's, then the estimated annual savings to consumers due to the decline in margin would be considerably more than \$1.5 billion.

#### Food Retailing Profit Rates Have Been High

Long run profit to stockholders' equity ratios for food retailers have averaged 50 percent higher than other retailers. For the two decades from 1952 through 1971, the most recent year for which Internal Revenue Service data from corporate tax returns are available, food retailers earned an 8.9 percent average after-tax profit rate on stockholders' equity compared with 6.0 percent earned by other retailers.<sup>38</sup> Food retailers' rate of return averaged about 20 percent higher than that of food manufacturers over the 20 year period.

Profits of large food chains generally averaged higher than other food retailers. For the first part of the period, 1952 to 1964, food chains having more than \$50 million in assets earned an average 10.3 percent return on equity -- 15 percent higher than all food retailers. During the 7 years between 1964 and 1971, the average profit rate of large chains dropped to a level comparable with the industry as a whole.<sup>39</sup> The declining

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<sup>38</sup> Economic Report on Food Chain Profits, Federal Trade Commission (1975), p. 11.

<sup>39</sup> There was a marked change in the distribution of food retailer profit rates by asset size of company in 1964. This is shown in appendix figure 1 of the Federal Trade Commission Staff Report on Food Chain Profits (1975). Prior to 1964, average profit levels of food retailers were correlated with assets size. From 1964 onward, the correlation disappears. The only significant change that occurred between 1963 and 1964 was a change in the Internal Revenue Service Tax Code eliminating penalties for consolidated reporting of separately incorporated subsidiaries. The geographic divisions of corporate chains are often separately incorporated. Some chains incorporate individual supermarkets.

level of large chain profit rates in these years was due in significant part to the sagging profits of the Nation's largest food retailer, A & P.<sup>40</sup> Since 1972 food chain profits have been greatly affected by A & P's WEO discount program and A & P's massive accounting write-off in 1974.<sup>41</sup> Except for A & P, profit rates in 1974 and 1975 have shown a trend toward a return to previous higher levels.<sup>42</sup>

Industry spokesmen have generated a great deal of confusion regarding the level of food chain profits by diverting attention from profits as a percent of stockholder equity to profits as a percent of sales. The latter ratio is low in food retailing because of the relatively thin layer of capital and other inputs provided by food retailers compared with firms in other industries.<sup>43</sup> The level of the profit-to-sales per-

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<sup>40</sup> A & P's fortunes during this period were very atypical of other large food chains. While A & P's share of national sales declined from 11 percent in 1958 to about 5 percent in the mid 1970's the share of the remainder of the 20 largest U.S. grocery chains increased from 23 percent to 32 percent (Table 7).

<sup>41</sup> Federal Trade Commission, Quarterly Financial Report for Large U.S. Food Chains - Fourth Quarter 1975, May 3, 1976. Also Food Chain Profits, op. cit., Appendix Table 3.

<sup>42</sup> See Ibid., Food Chain Profits for an in depth analysis of this period, pp. 14 through 20.

<sup>43</sup> The ratio of profits to stockholders' equity is the rate of return suggested by economic theory as superior to the ratio of profits to sales as a measure of the economic performance of an industry. Within an industry, different levels of profits to sales ratios may indicate comparative company performance since capital and net worth structures of companies in the same industry are usually similar. Between industries, however, there are generally wide variations, with grocery retailing being a far outlying observation because of its low capital to sales ratio. Because of its low capital to sales ratio, the ratio of profits to sales in grocery retailing should be and is low compared with other industries. Food retailing as a stage of production and distribution has very limited functions. Food retailing is a high volume and fast turnover operation. From purchase to sale the average grocery store item stays in the hands of the food chain only a few days. Inventories are held by grocery manufacturers. Low inventory holdings by food retailers substantially reduces the capital costs. The most extensive single function of food retailers is the operation of check out stands.

centage referred to by these spokesmen as typical for food chains is "a little more than 1 cent per dollar sales." It is implied that an industry earning this low a profit rate must be highly competitive. As a justification for the continued reference to profit-to-sales ratios when their inapplicability for inter-industry comparisons is pointed out by economists, food chain spokesmen say that the ratio has relevancy in that it represents the maximum amount that food chains as a group could cut prices without making losses. Since the ratio is in the range of one percent on sales food chains could not be responsible for high food prices, according to industry spokesmen.

The truth of this justification is subject to question. First of all, the one to one and a half cent per dollar sales figure quoted by food chain spokesmen is a ratio computed after income taxes are subtracted. The amount that prices could be cut, assuming no change in costs, would be the before tax ratio of profits to sales which for most large chains has averaged about 3 percent of sales.

The second problem concerns the use of national averages. Grocery retailing markets are local. Levels of profits vary considerably from market to market with companies in some markets earning profit rates significantly higher than the national average of all markets. Data in Tables 10 and 11 indicate that company profitability is significantly related to market position. Profitable markets are large market share markets and unprofitable markets are small market share markets. In fact, available data show that large chains typically lose money in small market share markets and subsidize these operations with high profits earned in large market share markets (see for example the decision in In the Matter of National Tea, FTC docket 7457).



The total amount of the subsidy by large chains is currently in the range of a quarter billion to a billion dollars depending on the estimating assumptions used. If the nine chains selected by the staff of the National Commission on Food Marketing in its 1966 study of grocery retailing<sup>44</sup> are a representative sample with respect to the subsidization activities of all large U.S. food chains, it is possible by means of rather simple calculations to compute an estimate of the dollar amount that large food chains subsidize their operations in low market share areas. The amount conservatively estimated for the year 1974 is over a quarter of a billion dollars (Table 11). A less conservative estimate based on 1975 or 1976 grocery store sales would be closer to one billion dollars. If indeed, even the minimum estimate is anywhere near correct it is not surprising that independent food retailers with small market shares, operating in only one market, and who must compete against these subsidies are disappearing in large numbers. Nor is it surprising that metropolitan area concentration of grocery store sales with large food chains is increasing. If large food chains would discontinue subsidizing low market share markets, prices and profits in the remaining areas could be lower and still achieve the same average. In sum, the amount that food chains could cut prices particularly in concentrated food markets without losing money (and assuming no change in costs) is probably several times the one to one and a half percent suggested by industry spokesmen.

In addition to the understatement of the level of profits as a percent of sales, particularly in concentrated markets, there is an even

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<sup>44</sup> Op. cit., Organization and Competition in Food Retailing, pp. 190-99.

more significant error in using this ratio as a proxy for how much prices could be reduced. The use of profit to sales ratios fails to account for the fact that the outbreak of competition that would cause the lower prices would also result in reduced costs. The first kinds of costs usually cut when price competition breaks out in a market are those associated with non-price forms of company rivalry. A Federal Trade Commission staff study of the Washington, D.C. Metropolitan area market indicated that a 1970 outbreak of discounting led to more than a 3 percent reduction in prices but that cost reductions allowed the food chains to maintain the profit rates close to the previous levels.<sup>45</sup> Records which show profit rates earned following the break up of price conspiracies quite commonly show prices falling several times the profit to sales levels existing during the conspiracies. This is because of the elimination of excess capacity and other inefficiencies which were necessary in order to maintain the conspiracies. We are reminded again of Adam Smith's admonition that monopoly is a great enemy to good management. In food retailing, A Canadian study of the cost of excess capacity or overstocking placed the costs in the range of 4 percent of sales. This high level is

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<sup>45</sup> Discounting Food Pricing in Washington, D.C., 1971, p. 9 and data submitted to the Joint Economic Committee of the U.S. Congress, 1974. Also see Russell C. Parker, testimony on Washington area food pricing before the District of Columbia City Council in February 1975. The Washington area price reduction was temporary, probably in response to an attempted entry of a new supermarket chain into the area and to an FTC monopoly investigation of large Washington area food chains underway at the time. The Federal Trade Commission investigation was dropped in the summer of 1973. Following the dropping of this monopoly investigation, food prices in Washington, compared to other cities, returned to their pre-1970 level.

particularly significant in light of the sharp decline of sales per square foot of floor space in grocery retailing in the United States in recent years.

### CONCLUSION

The frequency of high market concentration in both food manufacturing and food retailing is cause for serious concern. Furthermore, there is no reason to believe that its upward trend in both areas is not likely to be sustained in the future. The sustaining force is a combination of factors that increasingly frustrate consumer choice and blunt the forces of competition. In food manufacturing, the sustaining factors include:

- (1) Increasing consumer real incomes and the employment of women outside the home have made information search to save small amounts on individual item purchases not worth while;
- (2) Increasing numbers of products from which consumers must choose. This proliferation is caused by technological developments, a demand for new types of products resulting in higher consumer incomes, a change in consumer tastes in favor of more highly prepared foods and, most importantly, a desire of food manufacturers to differentiate their outputs. The average number of products in grocery stores increased from about 4,000 at the end of World War II to about 10,000 today. The proliferation was accompanied by a replacement of simple products by more complex products, further increasing the information needs of consumers;
- (3) Increased food advertising expenditures aimed at building brand identification and consumer preference for brands rather than providing useful information.
- (4) A continued merger trend which is having an important effect on the disappearance of medium-sized companies. Many of the acquiring firms are potential competitors in the area of the acquired firms.

Because of these factors, competition in food manufacturing is increasingly controlled by a few large corporations whose special expertise is in creating new product variations, advertising and promoting

them and using field sales personnel to see that their new product variations get favorable treatment on grocers' shelves.

To counter this trend: (1) More convenient and useful information about food products is needed by the consumers. (2) Increasing attention should be placed on the regulation of advertising for both content and amount. (3) Mergers which consolidate positions of market power in a few large grocery products corporations should be carefully regulated. (4) Deconcentration remedies should be pursued by antitrust agencies, or possibly by legislative fiat, in those food product areas where concentration is highest. (5) A high level of price-fixing surveillance should be made, particularly in local market industries which have a history of being conspiracy prone.

In grocery retailing, concentration is increasing and already has reached serious proportions in a few of the Nation's largest metropolitan areas. High concentration is a frequent problem in smaller cities. Most alarming is the apparently unthwarted upward trend in concentration. The trend appears to get its thrust in part from the market subsidization by large corporate food chains and by the moderately difficult entry conditions in food retailing. Barriers to new entrants appear to be higher in more concentrated markets and are raised further when established corporate chains use neighborhood price discrimination against the stores of would-be entrants. The rewards of such discriminatory pricing are related to market concentration. Firms holding very large market shares have more to gain from keeping out new competitors. Also, firms with large market shares are more effective in discrimination because they are likely to have stores in nearly all the neighborhoods that new en-

trants would enter. A bold antitrust program should be undertaken that would impose heavy penalties on dominant food chains attempting to blockade entry. Such an effort would strongly complement the Federal Trade Commission's current effective regulation of mergers in food retailing.

In addition to improving the competitive structure of retail food markets, there is also a need for current, easy to use, market basket price information to enable consumers to make effective choices among supermarket chains. With increasing numbers of items to choose from, frequent price changes, confusion due to price specials, emphasis on differences in quality and service, the consumer (whose lack of knowledge is increasing because of more frequent moves from one city to another) finds it more and more difficult to make rational choices on the basis of price. As the situation continues to deteriorate, price competition will be further weakened unless outside efforts are made to provide the necessary information.

Finally, I endorse the 1966 recommendations of the National Commission on Food Marketing contained in its final report, Food From Farmer To Consumer, and especially the recommendation regarding financial disclosures and the recommendation that the Federal Trade Commission make an annual report to the President and Congress regarding competition in the food industries.