The Broiler Industry: Status and Potential

By

G. Wayne Malone,
Assistant Agricultural Economist

Department of Agricultural Economics
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The rapid growth of the commercial broiler industry in the United States is generally recognized and well documented (3, 4, 13, 16). Per capita consumption increased by almost 60% between 1960 and 1973—from 24.3 pounds to 38.3 pounds. This rapid growth in broiler production was accompanied by substantial increases in technical efficiency of both reductive and processing and by virtually complete vertical integration through the processor level. Given the current status of the broiler industry, what is likely to occur in the future? More specifically, since the industry is essentially integrated through the processor level now, what structural changes are likely to occur in this sector? What structural configurations may be developed and where are they likely to occur? Is there likely to be additional integration into the marketing sector? In addition to the questions about the potential structure and organization of the industry, the question of the growth potential of the industry exists. What will be the form of the product? What product derivatives will be developed and what systems will be used for handling these products?

Study Objectives and Procedures

The study was initiated to provide some indication of the potential of the Southern Broiler industry. Specific objectives of the study were to:

1. Review the existing organization of the industry with particular emphasis upon organizational and control arrangements, marketing policies and practices of firms.
2. Examine internal and external structural factors influencing the demand for broilers and the supply response of firms to this demand.
3. Examine alternative firm and structural arrangements in the industry and their potential impact on economic efficiency and attainment of market power, with special emphasis on the potential role of cooperatives and other arrangements currently developing within the industry.

Structure, Organization and Marketing Practices

The broiler industry has been described as a regionally-structured partial bilateral oligopoly (with competitive ringes) with relatively few buyers and sellers (16). Competitive emphasis is on price and, buyers are the overall power balance (6, 6). This power balance has been ranted to buyers by the broiler firms as a consequence of the rapid fusion of technology that resulted in rapid expansion of broiler production and processing facilities.

The National Commission on Food Marketing in 1966 projected that 31 firms would handle 70% of the broiler volume in 1972 (13). This projection was virtually substantiated by a report indicating that 34 firms sold 70% of the broiler volume in 1970 (12). These studies also indicated that the largest firms are expected to handle larger shares of future output. Even so, the National Commission found that concentration in the broiler industry was low relative to other branches of food manufacturing.

Most firms in the broiler industry have a corporate type organization. Only four of the major firms in the United States are recognized as cooperatives and only two of these are in the top 25 firms (13). Integrated cooperatives account for only about 10 percent of the broiler output (15). An additional segment of the industry resembles the cooperative structure in that a small number of integrators participate jointly in a processing operation.
Mississippi Broiler Industry: The survey of 13 processor-integrators in Mississippi indicated that over 60 percent of these had expanded during the last five years. Additionally, three-fourths of those expanding had plans for additional expansions.

Minor differences existed in the method of integration, starting with the procurement of live birds for the processing plant. Over two-thirds of the live birds were obtained from contract growers, Table 1. The major difference reported by firms was the higher percentage of supply obtained from contract growers by the medium size firms.

The 13 integrated operations studied in Mississippi reported similar patterns of production, processing and marketing. Differences were not important for large and small firms or for corporations and cooperatives.

One-fourth of the firms studied had processing capacities of 6,000 birds per hour or less and nearly 60 percent were at or above the 9,000 birds per hour capacity. For all firms, two-thirds of the birds processed came from within 25 miles of the plant and another 28 percent came from within a 50 mile radius - - - a somewhat smaller procurement area than was found in earlier studies (1).

Ninety-three percent of the broilers processed by Mississippi firms went to retail outlets through four intermediate channels. (Figure 1) Over one-third of the volume sold to retailers went directly from the processor to the retail outlet and 56 percent went through wholesaling intermediaries. The export market accounted for only slightly more than seven percent of the total volume marketed.

Broiler meat may be classified as either fresh or frozen or as whole and parts. Eighty-one percent of the production was marketed as fresh product; 19 percent as frozen, which is the form of most exports. More than 23 percent of the broilers were sold as parts, up four percent from the 1965 level (11). Expectations are that the proportion of cut-up will continue to increase, as evidenced by the growth of fast-food service and the decline of meat-cutting at the supermarket level.

The private survey of market merchandisers indicated the growing volume of broilers purchased as individual parts or as whole cuts (9). On the basis of tonnage sold, the volume moved as whole birds ranged from 30 to 60 percent, while cut-up ranged from 10 to 25 percent and parts ranged from 25 to 60 percent.

Price discovery remains a major problem for the integrators. Price reporting is adequately handled by it remains "after the fact" for purposes of price decision-making. Most sales managers relied up on their knowledge of immediate price levels, marketable volumes anticipated, and telephone contacts with other suppliers and with buyers. Most of the product is ped and committed one week before delivery. Some firms have reported price commitments two weeks before delivery (9), but this appears to be the maximum lead time allowed by buyers, due to the fluctuating broiler prices.

### Table 1. Procurement of birds, by type of supplier, by size of firm, 13 broiler processing firms, Mississippi, 1971.

<table>
<thead>
<tr>
<th>Type of supplier</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>All firms</th>
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<tr>
<td></td>
<td>- - - - - -</td>
<td>Percent</td>
<td>- - - - - -</td>
<td></td>
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<tr>
<td>Contract growers</td>
<td>39.48</td>
<td>94.18</td>
<td>71.82</td>
<td>67.44</td>
</tr>
<tr>
<td>Company farms</td>
<td>44.77</td>
<td>4.09</td>
<td>26.54</td>
<td>27.30</td>
</tr>
<tr>
<td>Company leased farms</td>
<td>7.05</td>
<td>0.00</td>
<td>0.00</td>
<td>2.10</td>
</tr>
<tr>
<td>Officers and directors</td>
<td>8.70</td>
<td>0.00</td>
<td>1.64</td>
<td>3.16</td>
</tr>
<tr>
<td>All sources</td>
<td>100.00</td>
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<td>100.00</td>
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1/ Small, 6,000 and less (rated capacity, per hour); Medium, 6,001 to 9,000 birds; Large, over 9,000 birds.

Breeder flocks, hatcheries and feed mills were all controlled by the integrator-processor. This report focused on the processing and marketing phases.
Figure 1. Major marketing channels for broilers, 13 processing firms, Mississippi, 1971.1

1Adapted from “The Chicken Broiler Industry: Structure, Practices, and Costs”; USDA, ERS, Marketing Research Report No. 930, P. 30, Figure 4, May 1971.

2Includes stores, institutions, and restaurants.
Demand and Supply

The estimation of supply and demand functions and the question of potential demand for broilers and the supply capabilities of firms as viewed by the industry were examined. The latter approach solicited the greater reactions from industry personnel.

Supply and demand functions at the wholesale level were estimated with the use of a traditional two-equation model. This analysis indicates that, in addition to the traditional relationships, distinct patterns of seasonality of price and quantity have existed. In fact, the patterns appear to be of such short duration that variations exist within seasons. In order to more appropriately account for these patterns, zero-one (dummy) variables were used for each month in each equation. Within the system postulated, demand shifted either positively or negatively while the slope of the demand function remained constant.

The results conformed to logical expectations: prices of broilers relative to quantities supplied are influenced importantly by costs, price expectations, pork prices, consumer incomes and population. Thus, short term marketing plans must be made with regard to shifts in price-quantity relationships and to shifts in prices of red meats (8). Longer-term market changes depend largely upon changes in the number and characteristics of the population (14). Higher incomes will influence broiler demand positively as long as real income levels trend upward. Even though demand for beef is currently slowing, the long term demand trend is still upward relative to other meats (14). The strength of this demand will affect the demand for pork and, hence, poultry meat, adversely.

An additional evaluation of broiler demand was provided by the industry survey. Fourteen industry leaders provided their expectations of the potential demand for: 1) all broilers, 2) portions (cuts) and 3) further processed broiler meat products.

All but one respondent expected the demand for broiler meat to increase at a rate approximating the growth rate of the past ten years. Also, they expected that the demand for cut-up broilers will increase at a faster rate than that for whole broilers.

Several processors already are producing for a pre-determined market (such as a particular chain and are incorporating more and more product specifications. As a fact, the willingness or ability to meet buyer specifications has become a point of competition among firms.

The fast food service industry has experienced substantial growth and this growth is expected to continue. Hence, the demand for broiler parts or cut-up birds can be expected to increase. Additional new developments and new interests in packaging by processors along with a continued reduction in meat cutting by retailers, is expected to increase the output of processed cut products by broiler processing plants (2, 10).

Opinions expressed with regard to the potential for growth of further processed broiler meats were less consistent. Most of those interviewed expect some growth in such products. But only one respondent was highly optimistic as to potential growth. Increases in consumer income generally have a positive influence on the demand for such a product and forecasts by Jones support the expectations of continued growth in further processing, but at a relatively slow rate.

Industry View of the Future

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Industry View of the Future

4. relative power position of processors versus retail buyers,
5. grow-out contracting versus company-owned farms, and
6. potential for cooperative firm organization.

Operational Practices and Management: Expectations about changes in management and operating practices revolve around potential gains in efficiency for upgrading management, streamlining marketing and advance automation. All respondents view future efficiencies as those that will slow the rise in total costs as opposed to lowering unit costs of processing.

One key word summarizes expectations—automation. Automation will be necessary, but in handling live birds and in

Footnote:

processing plants. Industry personnel point to the problems with shortages, turnover and absenteeism—as the major impetus for the continued search for automation. Thus, labor problems other than direct labor costs are a source of inefficiencies (and hence, higher indirect costs). Respondents expect the productivity of the remaining labor force, in combination with new equipment, to be higher than current levels.

Other potential areas for efficiency gains include improved management and improved marketing practices. In-plant automation is expected to improve overall working conditions. Management will better trained in both technical matters and in personnel management. Some individuals indicated a more decentralized management authority and responsibility, the various stages and in multilink operations, will improve managerial efficiency.

Some respondents indicated that management is becoming more market-oriented as the industry moves into “second generation management.” This management up is relatively better trained in market planning than are their predecessors. The increasing market orientation will include attempts at more coordination, streamlining and direct marketing. Efficiency gains are possible through the use of a standard cut-up broiler. Standardization is a basis of streamlining marketing and creating production economies for machine manufacturers.

Buyer-Contracting: Retail buyers of broiler meat generally face the balance of power and little incentive to enter into long-range contracts with suppliers. Additionally, neither buyers nor sellers have much incentive to contract as a consequence of widely fluctuating prices from week to week.

The major exception is negotiation with institutional buyers for volume contracts with price to be determined on a formula basis according to current market prices. Most of these arrangements are used for specific cuts (such as portions used by fast food outlets), for locally accepted brands or for prepackaged products. As market demands increase for cut-up and prepackaged broilers, the need for steady and dependable suppliers tends to increase. However, the consensus is that basic product contracts with price to be determined in accordance with market price likely will remain as the predominant type of contract.

Intrafirm Linkages: The consensus is that prospects for linkages are slight regarding the ready-to-cook broiler product. Marketing of this product is reasonably competitive and leaders expressed the desire to remain independent. A possible exception may be joint venture activity for regional or national promotional activities.

Prospects for additional linkages or joint ventures are better in the area of processing and marketing speciality items in the “further-processed” category. The basic reason expressed for this possibility is the need for scale-economies and risk-sharing for new products. However, some respondents indicated that small-to-medium sized firms have had better success with speciality products and that the processing and marketing activities associated with these products do not lend themselves to larger scale plants or large market areas.

Recycling poultry waste as feed or fertilizer materials appears feasible. Joint activity is likely in the processing and handling of waste products. Even if the waste products are not reusable, some joint effort is still possible in establishing waste treatment facilities.

The best potential for joint ventures in the broiler industry is in the area of supplying inputs. Recent examples of such efforts are the market information inputs from the National Broiler Marketing Association, centralized fish meal purchasing, centralized purchasing of plastic coops and the soybean processing facility planned for Vicksburg, Mississippi. It is also noted that NBMA and the soybean processing plant are both formed as organizations with cooperative features.

Retail Power Versus Seller Power: Retailers currently have the power balance, according to the respondents. Any deviation from their normal or expected purchasing pattern can either create a strong demand or cause a back-up in the broiler pipelines.

All respondents expect retailers to continue to have the balance of power, although some modifications are expected. Two factors may bring modification or a lessening of the retail power position: 1) the trend toward a stronger demand for more cut-up broilers, and 2) supply management by processors. The demand for parts continues to increase while retailers are doing less cutting. Thus, more coordination will be necessary between buyers and sellers. Processors have probably been partly responsible for allowing retailers to have the power balance. Supply management will give the processor more control over the market and result in reducing the influence of the retailer.

Company Owned Farms Versus Contracts: Currently, a majority of broilers are grown under contract with growers. The industry leaders anticipate very little change, primarily because the capital investment required to move to company-owned farms can be put to better use elsewhere. Alternatives include expenditures for automated plants and waste treatment facilities. Disease problems in complexes and the difficulty of finding competent management were other reasons given. For the
near future, contracts appear to be satisfactory and most firms have a waiting list of competent growers. In the distant future, if new firms enter or existing firms relocate, a strong possibility would be company-owned broiler complexes with all operations at a single site.

Potential Role of Cooperatives: Using the term cooperative to indicate a form of internal organization and ownership, no change is expected in the broiler industry. Collective action on the part of growers may increase but it is expected to focus upon terms of contract (bargaining) rather than collective action for cooperatively moving into processing and marketing. However, integrators do not expect a great deal of collective bargaining by growers—especially since most firms have a grower waiting list.

Cooperative action, cooperative efforts, or cooperative joint ventures may take a different direction (10). Cooperative organizations, such as the National Broiler Marketing Association (NBMA), are expected to have an increasing influence on the broiler industry. The majority of respondents indicated that NBMA had helped the industry by its educational programs (marketing patterns, price-quantity relationships and relationships with other segments of the food industry). In addition to its informational efforts, NBMA has been successful as a central agent in the acquisition of selected inputs and as a central agency for pooling products for export. Thus, a cooperative venture for supplying market information and operating supply and marketing cooperative has been successful and is expected to be of greater importance.

Joint procurement of inputs probably offers the best potential for cooperative organization. A final product side is more competitive and the success of some specialty products rests with local or area market acceptance, which does not lend itself to larger scale operations. Some respondents felt that small to medium-sized plants in “further processing” of broiler meat. Thus, the primary potential for cooperation will be input procurement followed by coordinated activities in marketing ready-to-cook products.

Broiler processing firms continue to get larger and the broiler industry somewhat is concentrated, but it does not represent a strong oligopolistic situation.

Grocery retailing appears to be more concentrated than the broiler processing industry—especially in regional and local market areas. This, plus the influence of national chains, generates a power balance in favor of the retail outlets. Added to this buyer segment is the highly concentrated fried chicken, fast-food industry which absorbs a substantial portion of the broiler output.

Fresh product for consumption is largely undifferentiated. Even where quality differences are present, consumers are generally unable to detect the better quality product. This is a major factor hindering the development of long-term contracting between processors and retailers. Retailers are generally reluctant to become dependent upon a single supplier of an undifferentiated product.

Broiler consumption follows a fairly consistent seasonal pattern, and a similar supply pattern has developed. These consistent market patterns are likely to remain strong. Overall, demand will probably remain reasonably strong in the future considering the relative price position of broilers and the projected short supplies of red meat. Minor changes in market patterns may occur which will add some stability to the marketing process. These will be due to increased sales of cut-up broilers, increase in processed products and continued promotional campaigns directed to the various year round methods of preparing chicken.

Thus, two major shifts related to the broiler product are visualized. One is a desire to move away from fresh undifferentiated broilers in order to gain market premiums associated with the competitive advantage of brands. The other appears to be an interest in shifting the total demand curve outward. Opportunities to lower broiler cost have largely been exploited and much of the consumption increases gained from lower relative prices have already been achieved.

The industry repeatedly has been documented as being highly vertically integrated, regardless of type of ownership. This would suggest a high degree of control over the production and marketing system. However, vertical integration is not complete and the industry consensus is that it probably will not be complete through the retail stage. The integrations at the integrator level are either through ownership or contracts, but marketing functions are largely handled via spot transactions. Broiler firms are becoming more market oriented, yet the industry presently has little control over marketing. Thus, there is opportunity for cooperative effort in this area.

Further coordination of a broiler industry offers potential and the industry goal of stability can probably be partially achieved by more horizontal coordination at some stage in the system.

Summary and Conclusions

The National Broiler Marketing Association (NBMA) has been successful as a central agent in the acquisition of selected inputs and as a central agency for pooling products for export.
association is one such example of kind of horizontal coordination that may be effective in achieving market stability. Another example is the cooperative effort in the acquisition of common inputs. Potential exists for some perative action in handling the marketing functions and a manager potential exists for improved procurement of inputs. Yet, the question of whether or not this potential will be realized depends upon forces outside the broiler industry. The definition of a "producer" remains unsettled and the outcome of the anti-trust suit pending against NBMA will significantly affect future structural changes. With increasing market orientation and the low margins prevailing, there appear to be potential gains from increased vertical and horizontal coordination. Although the exact form of organization to achieve coordination is unknown, the potential exists for "cooperative action."


