Vertical Coordination in the Pork and Broiler Industries: Implications for Pork and Chicken Products. By Steve W. Martinez. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 777

Abstract

Recent changes in structure of the U.S. pork industry reflect, in many ways, past changes in the broiler industry. Production contracts and vertical integration in the broiler industry facilitated rapid adoption of new technology, improved quality control, assured market outlets for broilers, and provided a steady flow of broilers for processing. Affordable, high-quality chicken products have contributed to continual increases in U.S. chicken consumption, which has surpassed pork and beef on a per capita basis. Incentives for contracting and vertical integration in the pork industry may yield comparable results. If so, these arrangements might be expected to result in larger supplies of higher quality pork products at economical prices.

Keywords: Vertical coordination, vertical integration, contracts, transaction costs, technology, chicken, pork.

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Summary

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Continual reductions in inflation-adjusted (real) chicken prices and response to changing consumer preferences played an important role in the growth of per capita chicken consumption since the 1940's. An increase in the value of households' time, reduction in household size, and information linking diet and health have led to consumer preferences for convenient and nutritious food products; and the broiler industry has responded. Broiler products have become more convenient; from New York dressed birds (head, feet, and entrails intact), to eviscerated whole birds, to cut-up birds and parts. After World War II, supermarkets replaced specialty meat markets. Broilers were appealing to both the supermarkets and consumers because of their relative ease of handling and preparation. In addition, because chicken meat was a good value, they were used as a price item to attract customers. Expansion of fast food chains also provided an opportunity to cater to consumer preferences through further processed products, such as nuggets and patties.

Contracts and vertical integration have helped increase broiler supplies, reduce chicken prices, and improve product quality and consistency. Production contracts between broiler growers and feed suppliers encouraged rapid adoption of new technology that created economies of size and lowered production costs. Control over quality and uniformity, provided through production contracts and integrated operations, facilitated the industry's response to changing consumer preferences for quality and convenience-type products.

Similar structural changes in both the pork and broiler industries suggest that incentives for the growth in contracting and vertical integration might be similar as well. The changing structure of the U.S. pork industry is also characterized by advances in technology, economies of size, and gains in production efficiency. Since 1990, larger supplies have lowered real retail pork prices. In addition, changing consumer preferences and ability to control quality attributes through advances in hog genetics, create incentives for controlling the quality of hogs produced.

Efforts to respond to consumer preferences for quality and convenience of pork products, in addition to economies of size, may lead to more rapid increases in contracting and integration in the pork industry. While some progress has been made in improving pork quality, per capita pork consumption has been stable over the 1990's. Contracting and vertical integration can provide greater control over the quality and uniformity of hogs that is necessary for responding to consumer preferences.

Like the broiler industry, the pork industry has seen periods of depressed prices. Although policymakers proposed stabilization policies in response to broiler price depressions in the late 1950's and early 1960's, the industry chose to remain free from government intervention. At the end of 1998, cash hog prices in the Midwest fell to levels not seen in 50 years. Unlike the broiler industry, the hog industry has a large base of independent producers that make price discrimination and decline in market outlets highly visible issues.

Glossary of Terms

Asset specificity: The degree to which assets serve a special purpose, with little value outside of their intended application.

Asymmetric information: Situation whereby traders have different information that is important in determining efficient behavior or in evaluating performance of the trading partner.

Bounded rationality: Limitations on the human ability to foresee all future possibilities when formulating decision plans.

Broilers: Young chicken produced for meat instead of eggs.

Grower: Typically a small producer that provides the labor and facilities in a resource-providing contract arrangement.

Industrialization: Term used to describe significant structural changes in agriculture. It is characterized by increased levels of capital and technology and changing methods of vertical coordination.

Integrator: Firm that controls, through contracts, vertical integration, or other means, several stages of production and marketing. In a contractual relationship, also referred to as contractor.

Market specification contracts: Commonly referred to as marketing contracts, these contracts specify a market outlet for the product and a method of pricing. The farm producer provides the resources and makes decisions regarding the production process.

Moral hazard: Modified behavior of a contracting partner after a contract has been entered. Occurs when contract performance is not readily observable.

Open market exchange: Traditional method of resource transfer in agricultural industries, whereby a firm remains uncommitted to a specific market outlet until the production process has been completed. Prices serve as the coordinating mechanism, generating signals for adjusting quantity and quality of product.

Opportunism: Behavior unconstrained by morality for the purpose of gaining a more favorable outcome in an exchange relationship.

Quasi rents: The difference between returns to an asset in its current use and its next best alternative use. As asset specificity increases, so does the level of appropriable quasi rents.

Quasi-vertical integration: A single firm owns a specific asset used by a supplier, but does not own the entire supplying firm.

Transaction costs: Costs associated with trading, besides the price. These include costs of searching for "best" price, and costs of monitoring and enforcing agreements.

Transaction cost economics: A branch of the new institutional economics that attempts to explain alternative methods of coordination based on the costs of transacting under each method.

Resource-providing contracts: Commonly referred to as production contracts, these contracts approach vertical integration in degree of control. The integrator provides important inputs into the production process, management services, and a market outlet.

Vertical coordination: Includes all the ways of synchronizing vertical stages of a marketing system (for example, open market prices, contracting, strategic alliances, and vertical integration).

Vertical integration: Method of vertical coordination representing the greatest degree of control that a firm can gain over another stage of production. Coordination of two or more stages occurs under common ownership via management directive.