Market Access, Structure, Contracts, and Prices

Janet E. Perry, Economic Research Servcie, USDA James D. Johnson, Economic Research Service, USDA

Background

People often express concern over the loss of market access in agriculture as local auctions disappear, increasing distances that commodities have to be transported to a new point of sale, or the dwindling number of buyers of farm products. The emerging importance of market coordination methods, such as contracts, combined with other approaches, such as alliances or buying or selling clubs, puts some producers at risk of being left behind or left out altogether. Another concern is that loss of access may have an adverse affect on prices received by farmers. Unease expressed about the loss of markets springs from structural changes in U.S. food production, processing, and distribution. Issues include changes in consumer food preferences, consumption patterns within the U.S. and other countries, technology and production systems at all levels of the food system, size of operations, and the geographic location of buyers and sellers (Boehlje and Doering; Martinez and Reed).

Although the issues are not new (Rhodes), some of the underlying forces that contribute to structural adjustment in the farm sector have changed, raising concern about market access. Unrest with the resulting relationships with non-agricultural firms and physical access to facilities remain a principal part of the discussion, as they have been for many years. Joining these traditional concerns are efforts to differentiate products through genetic alteration or branding products, to develop convenience foods, and to create trace-back for food safety issues.

Adoption of new technologies has contributed to farming and the food system becoming more industrial, manufacturing-oriented production processes. Firms have aligned through ownership, contracts, alliances, joint ventures, or other means to create food supply chains that stretch from seed or breeding stock to finished consumer products.

Farms are changing as the food supply system itself is changing. A highly diverse sector, farms range from retirement and residential operations which rely on traditional cash markets to million dollar farm businesses which use state of the art technology and a variety of means to access the market. Ongoing changes in the structure of the U.S. agricultural system contribute to a grouping of farms based on cost structure, supply chain connections, and degree of off-farm work (Edelman; Saxowsky and Duncan). Recent empirical work shows that farms can be classified based on the ways that farmers access markets, their ownership and investment structure, and labor allocation choices (Johnson and Perry). Gloy and Akridge segment the market for agricultural inputs into four groups of farmers consisting of price buyers, performance buyers, convenience buyers, and balanced buyers. These studies illustrate that there is no one all-encompassing way that farmers and farm families organize their farms, purchase their inputs, produce their commodities, or make allocation decisions about their labor and ownership structure.

Issues

There is little doubt that the industrialization of agriculture, including the increasing use of contracts, is likely to continue, with potential positive and negative consequences. Following are questions that address some of the issues.

Where can farmers sell and who will buy their commodities?

Today's farmers see themselves as surrounded by concentrated market power from the companies that sell them inputs and buy their products. Sector by sector (farm, agribusiness, wholesale, and retail foods), fewer firms control a larger portion of the market. Yet, these changes have not reduced the means that farmers are using to participate in the market. Farmers have developed a wide range of connections with input suppliers, and typically depend on more than a single market at the first handler level to sell their products (Perry and Johnson). It may be the case that in some communities and geographic locations, market outlets have become fewer and more dispersed. Farmers in these locations could have additional search costs to discover new outlets and opportunities.

What happens to the market when prices become less visible?

Price signals convey messages to producers and consumers concerning available quantities, qualities, cost, and value. The traditional network that developed around U.S. agriculture considered products low-valued, perishable, and produced on millions of geographically dispersed farms. Farmers sold those fungible products to assemblers, traders, brokers, processors, and wholesalers who then sorted, processed, and distributed food products to retailers who sold them to consumers. Pricing and demand for many differentiated commodities now occurs at the consumer level, and signals are transmitted back through the supply chain via contracts and other agreements. Price signals are thus less transparent than in an open-auction type market. Less market information is publicly available for those that choose to remain in the spot market, and price discovery may become problematic.

How does the sharing of entrepreneurial activities affect farming?

Contracting and vertical integration, in which farmers share many of the traditional entrepreneurial activities and decisions with non-farmers, is expanding.

Day-to-day management still plays an essential role in returns to farmers, although contracting may limit farmers' roles in marketing and production decisions. Decisions made for a specific commodity are not the only decisions that the farmer makes. In addition to producing for the cash market, farmers can and do have marketing and production contracts for the same or other commodities. Some farmers contract with other farmers for inputs, such as, for feed or replacement heifers. Others access markets through the Internet, by forming buying clubs, and by developing niche markets. The farmer's skills in financial management, acquiring other inputs, combining and coordinating the production of an array of commodities, and allocation of time provide returns to successful entrepreneurship.

Concern continues to focus on returns to management and on what portion of those returns the farmer may earn. Contracts may create an opening for firms to exert influence over the terms and conditions of production and or marketing, particularly when contracts require a large capital investment in specific (non-transferable) assets. Contract risk may occur when prices in the open market exceed those specified by the contract. Finally, growers operating under a relative performance system may be at a disadvantage; especially if companies do not maintain strict accuracy in the accounting and allocation of inputs among growers. These "relationship risk" issues between growers and integrators have led to legal action on various occasions, and several states have adopted some form of legislation regulating production contracts in agriculture.

How does the adoption of new technologies and managerial systems create new markets and different market channels for some farmers?

Technology has always influenced production systems. Today, changes in crop and livestock production systems lend themselves to meeting the quality and quantity standards demanded by processors and consumers. Information technology is perhaps the most pervasive new technology in agriculture. For example, mechanized production systems used in irrigation, tillage practices, pest management, and animal monitoring frequently are computer controlled. Aided by computers and satellites, weather forecasts and global positioning systems help farmers monitor soil fertility, soil moisture, and harvest yields. Farmers use computers to develop accounts to follow costs of production more closely, to obtain loans, calculate mortgages, or find production budgets. Farmers use this technology to create, locate, or participate in markets, as evidenced by the one-in-ten large farms having used Web sites to purchase inputs in 1999, according to USDA's Agricultural Resources Management Survey. Other marketing technologies, such as refrigerated containers and breathable films to improve shelf life, allow the continued differentiation of products and access to markets far from the local area.

Many new technologies in the past have helped farmers produce more on larger acreage. Ecommerce technology may be at least as helpful for smaller operations using niche markets, forming alliances, and contacting buyers. The appeal of the "net" is that searches for inputs and product markets can extend across the globe. In addition to connecting buyers and sellers, it can give a seller more control over the sale of their products. If the price offered by a potential buyer is not acceptable for whatever reason, the farmer can search for another buyer, or wait and sell later that day or week, versus consigning the product to an auctioneer who sells on one day at one particular place. Contacts are timeless in that no one has to be physically present at the point of contact, and access to these markets operates essentially free (after start-up costs are paid).

How do changes in market access, pricing, and farm structure affect rural communities?

Issues of market access extend past the farm. While economic incentives within agriculture, and across agricultural and non-agricultural sectors, continue to encourage structural change, environmental concerns, corporate farm laws, and conflict with nonfarm neighbors will help shape the direction of change. In addition to changing location and function of markets, contracting changes who does business with whom. E-commerce has many of the same effects. Other arrangements such as joint ventures, alliances, or clubs affect where and how farmers buy and sell merchandise. Thus, a concern is that farmers are becoming less likely to get financing, purchase inputs, and market output in their local community. As farms consolidate and deal in more geographically dispersed markets, rural communities with close ties to commodities could have fewer farms and fewer businesses to support a healthy local economy. Because farmers are sharing the value of production with other businesses, a portion of farm profits may not benefit the local economy.

Policy Alternatives and Consequences

Farmers, rural communities, and public policy makers have a long history of interest and action in assuring access to farming by those wishing to enter the business. Opponents of the developing structure of ownership away from individual proprietorships and towards shared decision-making believe that competition in agriculture is reduced under the current process. In capitalism, government intervention in market processes is somewhat limited, however oversight and regulations can provide a framework to guide the process and insure access. Three alternative policy stances come to mind.

Continue Current Program of Market Information.

The current program of market information and analysis provides information about supply, demand, and prices for selected market transactions. Programs have oversight responsibilities with regard to changes in input and processing industries. Generally, access to market channels is left to private parties for resolution. This policy option presumes that farmers would continue to make the choices that they consider most appropriate for their farm operational plans. Current evidence indicates that farmers make use of a variety of market channels in their businesses. The cost of acquiring information about new markets and alternatives emerging in today's farming could likely be lower for some farms, depending on the transaction costs of seeking out and engaging in new markets. As the sector becomes characterized less by atomistic producers selling undifferentiated products in open cash markets and more by private transactions involving differentiated products and formula pricing, the rationale for this public role and the ability to carry it out becomes a controversial issue.

Leveling the Playing Field in a New Era.

The marketing component of the farmers' management function is becoming more complex, and the opportunities and rewards of incorporating new channels and marketing tools likely differ by type of farm and geographic area. Changes in agricultural product and input markets may give rise to disparities among farm groups, especially if there are differences in a farm's cost structure and ability to access different marketing channels. With more exchanges becoming proprietary, the role of government in price discovery becomes even more important. Rather than simply asking what price was paid for what quantity, the key questions are becoming:

- Who is buying from whom,
- Who is selling to whom,
- At what price are products sold, and
- What quality attributes do the products have?

Traditional market reports focus on supply, demand, and price received in auction, elevator, or other such markets. However, these traditional sources may not be sufficient to provide accurate reporting for all segments of agriculture. Production and marketing of grains, broilers, hogs, or processed vegetables, as well as other commodities, may be affected by private party transactions or contract arrangements. Prices under arrangements such as direct sale, banding, or pooling of products might not be readily observed. On the input side, public reporting has focused on prices paid at traditional dealers and suppliers of production inputs. Farmers are finding economies in purchasing inputs as part of a cooperative, or other purchasing arrangement away from local cash markets.

Recognition of the diversity of marketing channels points toward traditional market information suppliers revisiting what data they provide for public use, how they collect their base data, and which clientele base they are serving. Smaller farm operators report that they tend to obtain information about market activities from neighbors, elevators, and input suppliers. Larger farms report using information primarily from elevators, brokers, on-line market information sources, banks, and accountants (Perry and Johnson). Coupling these differences in running the gamut from low-cost, high volume operations to farms with complex supply chain linkages, to farms with significant off-farm incomes and investments — suggests that farmers are likely to have different market information needs. Helping to provide or maintain a level playing field among segments of the farming industry will require the public role in research, education, and outreach

beyond traditional supply, demand, and price reporting to include information about diverse market channels.

Providing Expanded Oversight of Market Transactions.

Government can use legislative action and regulatory authority to govern market access. Some states have laws against corporate or foreign ownership of farms to control who buys and who sells, and these regulations can be expanded to further regulate market conduct among participants. For example, in contracting, government can provide additional standards for redress of grievances, enforce fair labor laws, and provide public scrutiny of contracts. Government actions can address the sharing of liability-particularly for environmental and food safety related issues. Government can provide stepped up oversight/scrutiny of mergers and firm actions with regard to acquisition of agricultural commodities. Government could take a more active oversight role by restricting or the eliminating use of contracts in some business arrangements - captive supply arrangements in the livestock industry, for example.

To provide increased monitoring of farm organizational change and examination of relationships among business entities across supply chains requires different data, different data collection instruments, and perhaps mandatory compliance. In particular, a new rule requires that large cattle, swine, and lamb packers and importers provide contract information, including pricing, for public dissemination.

Conclusion

Economists and policy makers have traditionally relied on prices as signals of health for the industry. However, spot prices found in competitive markets are relevant only to extent that they provide information about the value of products moving through the system. As stages of food production are coordinated more by supply chain contacts and less by cash markets, this information is less useful in assuring the efficiency of markets. Changes in market structure require new approaches to generating price information, measuring the distribution of risk and returns through the coordinated system, and ensuring against abuses of market power. Three alternative policy stances to meet these new challenges have been outlined — continuing traditional market information services, leveling the playing field among segments of the agricultural sector, and providing extended oversight and reporting of market and contractual transactions.

References and Suggested Readings

- Boehlje, Michael and Otto Doering (1999). "Market Performance and Price Discovery Issues in an Industrialized Agriculture," Paper presented at USDA's 1999 Agricultural Outlook Forum, February 22, 1999.
- Edelman, Mark A. (2000). "Alternative Future for Iowa Farms in an Evolving Agricultural System," Ames: Iowa State University. url:isufarmeconomyteam.org/help/structure/ edelmanJan52000.html
- Gloy, Brent A. and Jay T. Akridge (1999)."Segmenting the Commercial Producer Market for Agricultural Inputs," Selected Paper for the 1999 AAEA Annual Meetings, Nashville, Tennessee.
- Martinez, Steve and Al Reed (1996). From Farmers to Consumers: Vertical Coordination in the Food Industry. Washington, D. C.: USDA Economic Research Service, Agricultural Information Bulleting No. 720.
- Johnson, James and Janet Perry (1999). "Business Differentiation: Discovering the Boundaries of the Modern Farm Business," Washington: Economic Research Service, working paper.
- Perry, Janet and Jim Johnson (1997)."Farmers' Risk Management Strategies in a Changing Environment," poster presented at the Risk Management Summit, Kansas City, Missouri, September 16-17.

- Rhodes, James V. (1972). "Policies Affecting Access to Markets," Chapter 5 in Who Will Control US Agricultural?, North Central Regional Extension Publication No. 32, August, pp.37-43.
- Saxowsky, David M. and Marvin R. Duncan (1998). Understanding Agriculture's Transition into the 21st Century: Challenges, Opportunities, Consequences and Alternatives. Fargo: Department of Agricultural Economics, North Dakota State University, Miscellaneous Report No. 181.