The Many Faces of Power in the Food System

Comments by

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"… it is clear why manufacturers press down the prices of the raw products they purchase. Who, then, must make the concessions? The answer is those who are least able to resist pressure and who can take reductions and still stay in business. There is but one group that regularly meets these specifications—farmers." D. Howard Doane, 1950

"There isn't one grain of anything in the world that is sold in a free market. Not one!" Attributed to Dwayne Andreas, CEO of Archer Daniels Midland (ADM)[2]

"Agriculture is the most manipulated industry on the planet." Fortune*, 1990.*

I am honored to participate in this workshop on merger standards. As an introduction, I would like to point out that for the first two decades of my professional career I was essentially a traditional academic, conducting applied and theoretical research from my office and teaching graduate courses in microeconomic theory and industrial organization. However, for the past ten years, particularly the last five years, I have spent much of my time talking to agricultural groups and listening to their concerns about market power issues. What one learns in the field does not always correspond to what one assumes sitting in the office. Many of my comments reflect what I have learned by getting out of the office and closer to the food industry.

The workshop organizers have asked me to address the question of whether the creation of buyer power should be assessed differently from the creation of seller power. Conceptually and theoretically I do not see any compelling philosophical reason to treat buyer power differently from monopoly power for purposes of merger analysis. However, I believe the elements of theory relevant to empirical analysis and the complexity of buyer power exertion are often considerably different from similar considerations of seller power in the food system, particularly when contrasting potential seller power in the final consumer goods market from buyer power exerted over raw material suppliers. A unique characteristic of agricultural markets is that in some markets a single firm is both buyer and seller. Such a firm can use buyer power or seller power, depending on market circumstances. This alone adds considerable complexity to definition of merger standards and to antitrust analysis.

Here are a few general observations: First, monopsony, monopoly and economic power imbalances are all evident in the global food system. Second, power can and has been exerted in many, ever-changing and often complex ways. Third, the central economic issues facing the food system have little to do with economic efficiency, but a lot to do with fairness and economic freedom for farmers and ranchers. The food system is highly

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[1] Constructive comments of Mollie M. Taylor are gratefully acknowledged.

[2] Lieber, James B. Rats in the Grain: The Dirty Tricks and Trials of Archer Daniels Midland The Supermarket to the World, Four Walls Eight Windows, New York, 2000, p. 306.

efficient, but farmers and ranchers world-wide are increasingly squeezed by monopoly, monopsony and economic power. Furthermore, as contracting for supply of raw agricultural products increases, involvement in production agriculture comes by "invitation only," which I view as a potential constraint on economic freedom.

Economic models in textbooks and academic literature contain elements of the ways in which power can be exerted, but none adequately capture the combined—perhaps multiplicative—effects of the many ways in which power over farmers and ranchers is exerted globally. Because power is exerted in many ways that vary considerably from industry to industry, simple merger or antitrust guidelines are difficult to formulate. Complexity of issues poses definite challenges not only for merger analyses but for Judges and Juries adjudicating antitrust.

The Many Faces of Power

There are many faces to monopsony, monopoly and economic power in the food system. The faces of power include traditional power due to size and dominance in a market resulting in a non-competitive price or non-competitive contract terms, asymmetric information, price discrimination, barriers to entry and control of entry/exit, control of innovation, use of threats, agency capture, association capture, economic power to control or influence legislation aimed at restoring competition, and firms simultaneously being buyers and sellers in a market.

Time and space do not permit me to fully discuss the many ways in which power may be manifested in the food system, so I will discuss buyer power issues in two specific cases. One case is the beef industry which is only partially integrated vertically through many kinds of contracts between beef packers (slaughter and processing firms) and cattle feeders. The other case is the poultry industry which has been vertically integrated through contracting for about 50 years.

The Beef Industry

In the field of economics and industrial organization there is the near universal assumption that the buyer of a particular commodity is distinct from the seller of that commodity. In a sense, there is a fence separating buyers from sellers. Market transactions, whether they are over contract terms or cash transactions, occur over this fence. Merger standards and antitrust analyses generally reflect the mind set that there can be buyer power exerted by a firm on one side of the fence, or there can be monopoly power exerted by a firm on the other side of the fence, or perhaps there can be a balance of power with bilateral monopoly. But never the same firm on both sides of the market, routinely jumping back and forth across the fence.

Historically there was a fence—a barbed wire fence—separating the buyers of slaughter cattle from the sellers of slaughter cattle. That barbed wire fence has been torn down with *partial* vertical integration and consolidation that has occurred primarily in the last two decades. The major packers—firms that slaughter and process cattle—stand on both sides of the fence—often jumping back and forth several times daily. Through ownership, joint ventures, and various contracts—collectively known as captive supply—the major beef packers own or control roughly 50% of their slaughter needs. The rest of their slaughter needs are obtained from the cash market. Captive supplies may be even higher, depending on the extent of unreported relationship agreements with feeders. The extent of captive supplies varies considerably from week to week.

Packers feed cattle, and packers often sell slaughter cattle to other packers. Roughly 5% of fed cattle are in packer owned or controlled feedlots and another 5% are known as forward contracts usually tied to the futures market for slaughter cattle. Most of the captive supply arrangements, which account for about 40% of slaughter, are called marketing agreements. In typical marketing agreements, the base price is tied by a "formula" to an announced cash price or an in-plant average price (generally cash) for slaughter cattle slaughtered in the same week. It is also typical for the feeder selling under a marketing agreement to commit cattle two weeks before actual slaughter.

It is critical to note that the base price in marketing arrangements is typically tied to an announced market price in which the packer is an active participant, usually as a buyer but sometimes as a seller. Such arrangements obviously distort packer's incentives and provide a "multiplier" advantage to manipulating the cash market.

The distorted incentive was noted in colloquial terms when a cattle feeder with a pen of high quality cattle was told by the buyer that:

> *"In the old days I would have been able to offer you $67.50 for these cattle (on a $66 market), but now paying more would screw up 20,000 formula cattle."*

In economic jargon, such arrangements increase the marginal cost of buying on the cash market, which causes cash price to fall below a competitive level. Use of such contractual arrangements throughout the industry may result in an aggregate effect that is significant and non-transitory, even in a market that is not highly concentrated by traditional standards.

Slaughter cattle should be viewed as a perishable commodity because there is a narrow window of one to three weeks in which they are optimal for slaughter. As a practical matter the cattle market is widely considered to be a weekly market, but the trading window for cash cattle is much narrower, often less than one hour wide on a day selected by the buyer. If an offer is rejected, the feeder will not typically see that packer's buyer until an unknown day the following week. If the packer's offer is rejected, the feeder may be feeding cattle for another week.

Being on both sides of the weekly cash market for a perishable commodity provides beef packers with many opportunities that may result in cash prices below a competitive level. For example, a packer may be able to satisfy daily slaughter needs or threaten to satisfy needs from their own cattle, from the cash market, from contracted supplies, or from all of these sources. If a packer expects price to be going down (or up) during the week, there is an obvious incentive for the buyer to enter the cash market late (or early) in the week. This ices down the feeder and affects the psychology of the market. The longer the packer waits to enter the cash market, the more worried the feeder gets that he will be feeding cattle past the optimum time for slaughter, thus being out feed costs and later receiving a lower price for the cattle due to quality discounts. Thus the feeder might accept a lower price than he would in a competitive market with a tightly strung fence between buyers and sellers. This also tends to reinforce the packer's expectation about cash price movements during the week because of their actions that tend to make price move in the expected direction.

A packer with a high commitment of captive supply may elect to sell cattle when price is high. If enough packer-owned cattle are dumped on the market, price is expected to go down. In the event that price actually does go down, the packer could then enter the market as a buyer. Thus the packer can be both a buyer and a seller in the market, even the same day or week. Packers can also call for slaughter cattle they purchased in the cash markets or through captive arrangements to be delivered to a feedlot and held for a week or so, thereby affecting supply available to other packers.

Each major beef packer has what is called a head buyer. Buyers assigned to cover specific feedlots in a region simultaneously call the head buyer several times a day to find out how much to offer. This gives the head buyer considerable power, perhaps more than category captains in retailing.

Price discrimination occurs in the fed beef industry. One effect of the preferential deals or sweetheart deals for the feeders "chosen" by the packer is that these feeders will expand production, which has the effect of lowering cash price below a competitive level. Not only are the sweetheart deals discriminatory, they allow the packer to subtly control entry and exit of feeders. Feeders selling on the cash market may be forced to exit due to the sub-competitive cash price, while the feeders with the preferential deals may continue to be profitable.

Another entry/exit complication is that even with economies of size for the most efficient supplier, a packer who can practice price discrimination and make selective all-or-nothing offers to suppliers may not want to force the exit of all but one of the suppliers, because it would be rational for the packer to keep a sufficient number of suppliers to prevent any single supplier from gaining countervailing power. Thus, such a buyer can indefinitely maintain their position of power over suppliers.

Another effect is that exclusive preferential deals—and there are some—may also reduce competition because they preempt other buyers from accessing those cattle.

The issue of merger standards or antitrust analysis appropriate to packers being both buyers and sellers in the cash market is further complicated by the fact that there is a futures market for cattle. Major packers routinely buy and sell cattle futures, and some even have seats on the Merc. As is well known, cash and futures prices tend to move together; directly manipulating one of these markets will indirectly manipulate the other market. Thus, there are many opportunities for large packers, operating as buyers and sellers in both markets, to engage in practices that would result in a sub-competitive price for slaughter cattle.

Some of the large beef packers also own or control a significant number of cattle in other countries, especially Canada, Australia and New Zealand. These international captive supplies provide additional opportunity to manipulate cattle and meat markets.

Although many cattlemen express concern about the cattle industry being "chickenized," I do not think this will happen for two important reasons. First, ownership of cattle would take a huge capital investment in animals, land and equipment, unlike the poultry industry. Second, by continuing to be "partially" integrated vertically through various types of contracts, packers not only have opportunities to manipulate the cash market, but they can also transfer demand risk to what remains of the market. If demand for boxed beef suddenly falls, the packers can slaughter the cattle they own or control and pull out of the cash market. This transfers risk largely to independent feeders who sell on the cash market. Hence, their business practices may not only lower cash price below competitive levels, but their practices may also increase market risk above competitive levels.

Asymmetric information may also be an important consideration in merger analyses. Packers hold a clear information advantage over feeders and undoubtedly use that information to their advantage. Even under mandatory livestock price reporting begun in April 2001 and revised in August 2001, some large transactions might not be reported. A merger of packers could thus result in even less price and captive supply information reported due to confidentiality requirements involved more often. Thus, a merger could strengthen the information advantage packers already hold over cattle feeders.

The CR4 ratio for domestic slaughter of fed cattle is presently 84%, and the HHI is over 2460, which are high enough by current merger standards to warrant considerable concern yet mergers and acquisitions continue. We do not have extensive data on the extent of international captive supplies, but my guess is that a HHI computed on the basis of international trade flows of slaughter cattle and boxed beef would be much higher than the HHI based on domestic slaughter.

Because of distorted incentives facing packers with captive supply arrangements and packers operating on both sides of the fence, cash prices may be depressed even when traditional concentration indices—CR4 or HHI—do not reach existing standards to block a merger or acquisition. Current indices are inadequate to reflect the complexity of power in cattle markets.

The Poultry Industry

The poultry industry vertically integrated in only a few years in the mid 1950s. There has not been a viable cash market for broilers in the United States since then. Integrators contract with growers to provide production facilities (houses) and labor for the day-to-day management and care of the birds. Initially, integration provided higher quality, more uniform, and lower priced poultry products to consumers. Up until the last decade or two, the integrator and the growers were "family" and tried to take care of each other. Now, however, the system can best be described as feudal, with master (integrator) and servant (contract producer).

Houses require a huge investment. Four to six houses, which are a full-time job for one person, cost from $500,000 to $1,000,000. Poultry houses generally have a 20-30 year economic life. Poultry houses have no practical alternative use; without a contract, the houses have essentially no salvage value.

The integrator owns the birds and feed, and fully controls the breed, quality of chicks, feed deliveries and quality of feed, timing of chick delivery and time at which birds are processed. The pay system for growers has bonuses for performance, but the integrator determines in large part the ranking of the grower and fully controls computation of performance. Economists call this a tournament pay system, but it is closer to a lottery and, at the whim of the integrator, can be a rigged lottery.

One becomes a contract producer "by invitation only." Expansion of production occurs only with approval of the integrator. Thus, the integrator can force the grower into an all-or-nothing decision. As I have shown in another paper, a monopsonist who forces competitive suppliers into all-or-nothing decisions results in a socially efficient outcome, but with the monopsonist appropriating returns from the input supply industry[3].

Growers can be instantly bankrupt if the grower delivers a few batches of bad chicks, or chooses to not deliver any chicks. Thus, the integrator largely controls production as well as pay for growers. Consequently, textbook monopsony models and textbook tournament models are not appropriate for analysis of the poultry industry.

In the vertically integrated poultry industry, innovation is controlled and mandated by the integrator. Growers rarely have any input into mandated changes in the house and equipment specifications.

Historically there has been surprisingly little public information on the actual returns to production. USDA publicly provides morning and afternoon cattle prices for many area markets, but provides no information on price and returns for contract poultry production. Available farm business records show that contract producers who once had acceptable income from their poultry operations now put up a few hundred thousand dollars of equity and borrow several hundred thousand more to hire themselves at minimum wage with no benefits and no real rate of return on their equity[4].

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[3] Taylor, C. R. "Monopsony and the All-or-Nothing Supply Curve," 2003. Available at www.auburn.edu/~taylocr

[4] Taylor, C. R. "Restoring Economic Health to Contract Poultry Production," Agricultural and Resource Policy Forum, Auburn University, College of Agriculture, May, 2002.

Technically the contracts typically call only for the integrator to deliver the first batch of chicks, but growers as well as their bankers expect the arrangement to continue indefinitely. Even though contracts only provide for one batch of chicks, bankers approve loans because they will cash flow, because they get their cut off the top, and because the loans are generally guaranteed by the federal government.

Opportunities for a grower to switch to another integrator are few, partly because integrators cluster grower houses in specific areas. Contract terms for a new grower as well as changes in contract terms for existing growers are determined wholly by the integrator. Growers have no bargaining power and attempts by growers to organize to develop countervailing power have been quashed by the integrators, often with grower organizers bankrupted. The age old threat system appears to be alive and well in the poultry industry. Efforts by poultry growers to get state or federal contract reform legislation have been killed by the more powerful integrators.

Simple merger guidelines, such as those related to the HHI or CR4 do not adequately reflect the power of integrators over poultry growers. The CR4 for the broiler industry is now about 50%, suggesting that concentration is not a problem. However, when viewed from the standpoint of a cluster of growers in a particular region, a proposed merger could mean that a grower who had at most one alternative integrator to contract with now has none. Some might say that this is just a matter of antitrust market definition, and to some extent this is true. But the fundamental problem is obtaining information on such issues. Due to the feudal nature of the system, most growers will not talk to USDA/GIPSA, DoJ or FTC economists about what is going on in the system; to do so could mean instant bankruptcy for the grower. The control of information by monopsonistic buyers poses distinct difficulties for merger and antitrust analyses.

Merger or antitrust analysis is further complicated by relationships between firms that may compromise competition. Examples of such relationships include: (a) genetics for the dominant breed of broiler is owned by the largest integrator, and the genetics are commonly used by other integrators, (b) one integrator processing birds for another integrator, and (c) some integrators cross-test birds and feed. Such relationships make specification of standards and analyses complex. Cross-testing of birds and feed by integrators poses an unusual tradeoff in that it may increase production efficiency of other integrators. Furthermore, such an increase in efficiency, *ceteris paribus*, may benefit consumers, but it may also compromise competition eventually resulting in consumer harm.

Concluding Remarks

I see no fundamental philosophical reason for treating buyer power differently from seller power in merger analysis. However, the faces or characteristics of buyer power may differ considerably from seller power in the food system, and buyer power can differ considerably from industry to industry as the beef and poultry examples illustrate. Because power can be exerted in so many ways, the tools of merger analysis--threshold indicators, elements of economic theory, quantitative analysis techniques, and data needs-

-may be totally different from industry to industry, or from one market level upstream or downstream to another market level.

While I realize that this workshop is focused on merger analysis and that the Department of Justice and the Federal Trade Commission do not have the power and authority to restructure an industry, I would be remiss if I did not issue a warning about the rapidly evolving global food system. Farmers and ranchers world-wide are being squeezed by monopsony power and to some extent by monopoly power. Through exertion of market power, large corporations appropriate profits normally earned by agricultural producers. This not only strains the economic viability of the global farm community, but also siphons profits out of rural areas and moves them to international financial centers. It must be recognized that the emerging vertically integrated system, viewed from the perspective of farmers and ranchers, has more features of a feudal system than of a competitive market system. Loss of economic freedom and other social issues should not be ignored. Giant transnational agribusiness corporations have used economic power to change the rules of the competitive market game in their favor, further strengthening their power in specific markets. We are rapidly nearing realization of the self-destructive nature of a competitive market economy. Preventing destruction of a competitive market economy—and along with it loss of the American Dream and American Democracy—should take legislative and regulatory precedence over tinkering with existing merger standards.