The Structural Transformation of Agriculture*

—by Neil E. Harl**

A major concern as we move into the Twenty-first Century is the structure of the agricultural sector. By structure, is meant considerations of size and scale as well as who is to manage, control and finance farming and agribusiness operations.

Agriculture in the United States faces four major problems in the new century—(1) formulation and reformulation of price and income policy, including meaningful limitations on farm program payments; (2) the structural transformation of the agricultural sector; (3) consumer acceptance of genetically modified foods; and (4) bioterrorism. All four problem areas are discussed in papers posted at www.econ.iastate.edu/faculty/harl. The discussion following focuses only on the more pressing aspects of the structural transformation issue.

As with most sectors of the world economy, agriculture in recent years has been a sector of great change. Closed markets are giving way to free trade (albeit with some speed bumps encountered along the way), open democratic systems with decentralized decision making are gaining ascendancy over despotic regimes, technology is revolutionizing every facet of production and distribution and competition is assuring that consumers everywhere are elevated to a high pedestal faintly reminiscent of the kings of old.

It is assumed that the governing policy goals for the food and agriculture sector will continue to include—(1) availability of an abundant supply of food, at reasonable prices; (2) maintenance or enhancement of the productivity and environmental integrity of natural resources; and (3) a prosperous and productive economic climate for producers (including family farmers). It is this last goal that I would like to address today.

Structure of the agricultural sector

With the dramatic increases in concentration in recent years of input supply and output processing firms and with striking increases in the level of vertical integration (the proportion of slaughter hogs sold under some type of marketing or production contract approaching 70 percent for example), it is important to assess the implications for producers. Such a structural transformation of a subsector is not unknown—the broiler industry went that direction several decades ago—but it is a first for the Middle West.

The critical question: is it important to farmers—and to society—whether agriculture is populated by independent entrepreneurs or serfs? The structural change now occurring will determine which direction agriculture takes. A producer without meaningful competitive options is a relatively powerless pawn in the production process.

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The evidence is overwhelming that the agricultural sector is undergoing the greatest structural transformation in the history of the sector. Without much doubt, low commodity prices have contributed to the structural transformation of the sector. A low risk, low return choice looks attractive if the alternative is bankruptcy.

Competition is the most critical element of a price oriented, market economy. Without competition, firms become complacent, are less likely to innovate, tend to become arrogant and indifferent and are inclined to produce less and obtain a higher price for their output.

To a considerable extent, structure will be driven by economic considerations. This country has been committed for some time to the notion that if someone can develop ways to produce goods or services at a lower cost, barriers are unlikely to be erected to prevent that from happening. In large part, the consumer is king and generally rewards the best value with purchases. However, for the economic system to function properly, it is critical to have—

- Policies in place to deal with cost externalities such as odors and stream and groundwater pollution, and
- A system of market protection (or antitrust) to penalize collusion and to prevent undue concentration of economic power.

*The era of contract agriculture.* The signs of increasing use of contracts are commonplace—especially on the production side of agriculture. Specialty grains, feeder livestock, milk production, even fruits and vegetables, are being produced under contract and have for some time. So what’s the concern about the rising tide of contract agriculture? Basically, the concern is a tilt in market power with a possible shift in bargaining power as input suppliers and output processors (and first purchasers otherwise) gain greater economic power, undoubtedly at the expense of producers.

*Concentration in input supply and output processing companies.* Mergers, alliances, and various other types of arrangements are reducing the number of players in input supply and output processing and handling and increasing the level of concentration. While the level of mergers, alliances and consolidations is not a completely reliable indicator of competition, the fact that nearly $15 billion of such amalgamations occurred during the five years from 1995 to 2000 in the seed business, some at price levels difficult to justify under present economic conditions, suggest that—(1) some are discounting revenue from a pot at the end of some unknown rainbow; (2) irrational behavior is being displayed; or (3) some acquiring firms are assuming that a greater share of the world’s food bill can be claimed by those who control the germ plasm involved in food production.

Increasing levels of concentration among firms do not tell the entire story. The revolution in ownership of germ plasm, the feature of cells that determines the characteristics of offspring, is moving rapidly toward concentration in a few hands. The high-profile alliance (and now

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merger) between DuPont and Pioneer Hi-Bred International, the Monsanto acquisition of DeKalb, the Monsanto acquisition of Delta and Pine Land Company (since terminated) and the formation of Syngenta by Novartis and AstraZeneca are recent examples of how the ownership and control of genetic material in crops are falling into the hands of a few, economically powerful players. Increased concentration is also leading to control by a few firms over the major processes by which genetic manipulation occurs, thus enabling those controlling the technologies to block use by other firms.

This development is partly related to the changing role of the land grant universities, partly to the ability in recent years to manipulate germ plasm through genetic engineering, and partly to the consequences of the ability to obtain a monopoly-like position over unique life forms and over the process of genetic manipulation.

- For decades the land grant universities developed the basic genetic lines and made those lines available to the seed industry. Because of limitations on university funding and the near-revolution in genetic engineering, the private sector several years ago began pouring more money into basic research. Developments have progressed to the point that the payoff from research and development funding can no longer be used to compare the present with prior periods. Payoffs are expected to flow more readily than when biotechnology was in its infancy.

- The advent of genetic engineering meant that scientists could manipulate genetic composition—not through conventional crop breeding techniques but through laboratory procedures—to change the genetic makeup of plant and animal life. That has produced herbicide-resistant crops, for example.

- Finally, the U.S. Supreme Court in a 1980 landmark case determined that life forms could be patented.\(^3\) In addition to the federal Plant Variety Protection Act (PVPA),\(^4\) the Plant Patent Act of 1930\(^5\) and simply shrouding research efforts with secrecy, the ability to patent life forms provides a powerful tool to keep competitors at bay. On December 10, 2001, the U.S. Supreme Court examined the scope of plant patenting\(^6\) and held, in a 6-2 decision, that the intellectual property in seeds for new plants developed through genetic engineering or other breeding techniques could be protected under federal patent law. The court held that the Plant Patent Act of 1930\(^7\) and the Plant Variety Protection Act of 1970\(^8\) were not the exclusive means to protect intellectual property rights in seeds. The court ruled that seeds could be patented under general utility patent law which does not have a “saved seed” exemption and no research exemption.

While a major concern is over concentration in seeds and chemicals, there is also concern over concentration in livestock slaughter, grain handling and shipping, farm equipment

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\(^3\) *Diamond v. Chakrabarty*, 447 U.S. 303 (1980) (bacterium having unique genetic characteristics is patentable subject matter under the general patent statute).


\(^7\) See note 12 *supra*.

\(^8\) See note 11 *supra*. 

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manufacture and food retailing. Indeed, rapidly rising concentration in food retailing may be the most worrisome development in recent years.

Recent research by Hendrickson and Heffernan\(^9\) indicates that the top four firms have 60 percent of terminal grain handling, 80 percent of soybean crushing and 61 percent of flour milling. The top three firms control 81 percent of corn exports and 65 percent of soybean exports. Cargill and ADM are in the group for all five categories of concentration.

One of the drivers in the trend toward greater concentration in almost all sectors of the U.S. economy is increasing concentration in markets \textit{into which products are being sold}, as discussed below. Thus, the rising tide of concentration in food retailing leads to consolidation by suppliers to match the buying power of the retailers. The driving force is an increase in negotiating power, not necessarily an increase in efficiency.

\textit{Example:} In late July, 2000, the merger announcement by Pillsbury and General Mills noted that a major reason for the merger was to position the resulting firm to better do battle with the major players in food retailing. The importance of getting shelf space at the retail level is another critical factor in food production and distribution. Concentration in food retailing leads to concentration among those who sell to the big food retailers which leads to concentration among those to sell to those who sell to the big food retailers and so on down the scale to the powerless producer. In early 2001, the president of Tyson Foods was quoted as saying that the proposed merger with IBP “should give us 100 feet of shelf space at Wal-Mart.”

Just how concentrated is food retailing? In 1992, the five leading food retail chains controlled 19 percent of U.S. grocery sales. By 1998, the five largest chains (Safeway, Albertson’s, Kroger, Ahold and Wal-Mart) controlled about 33 percent of U.S. grocery sales with that figure at 42 percent in 2000 and expected to approach 50 percent this year. Unless mergers are curbed, that figure is expected to reach 60 percent within three years.

\textit{Effect of contracts.} An important question is the effect concentration will likely have on contract negotiations with producers. It depends on the options open to producers who don’t like the terms of contracts offered to them. With numerous contract possibilities available, each offering inputs of roughly equal productivity and cost and each marketing option equally attractive, the answer is perhaps “not much.”

But if there are just a few options, with the next best offering a much less attractive set of options, such as when a variety of seed is developed with significant yield premium over otherwise competitive varieties, the answer is “take what you’re offered.” A greater proportion of the value of the yield premium is expected to be captured by the seed supplier under those conditions than has historically been the case. The outcome is likely to be a tilting in the terms of contracts in favor of the input supplier. The division of revenue from production would be expected to shift over time in favor of the party with the monopoly or near-monopoly position. Input suppliers can be expected to drive the best possible bargain which means, in the case of seed, capturing the greatest possible percentage of the value from any yield premium.

\(^9\) University of Missouri-Columbia.
• The outcome would be a smaller share of the revenue from production going to the producer, resulting in less compensation to the producer and less to capitalize into land values.

• Seed companies, for example, would end up with a larger share of the pie with more to capitalize into the stock of the input supply firms. Even if unique corn derivatives produce revenue of $2 million per acre, it’s fairly clear that whomever holds the rights to the technology involved will capture the lion’s share of the revenue, not the producer.

A good argument can be made that this perception of potential profits in the future is part of what was driving the intense push toward concentration in control.

Thus, a major issue is whether a shift in market power occurs between input suppliers and producers, whether that shift in market power is translated into enhanced bargaining power and whether the enhanced bargaining power is employed to siphon a greater proportion of the economic return generated by the sector into the hands of input suppliers.

*The “deadly combination.”* Without much doubt, the greatest economic threat to farmers as independent entrepreneurs is the deadly combination of concentration and vertical integration. Producers are vulnerable to a combination of high levels of concentration in input supply and output processing and high levels of vertical integration from the top down.

*Example:* let’s assume concentration in hog slaughter continues to increase (the four largest firms now control about 60 percent of hog slaughter compared to more than 80 percent for steer and heifer slaughter, as show in Table 1.) and the hog slaughtering firms vertically integrate in the manner pioneered by Smithfield. Before dropping the Tyson merger, Smithfield would have controlled about 68 percent of its hog slaughter. Let’s say we’re down to two huge firms and each is 90 percent integrated. A producer with a five-year contract with one of the two major firms comes to the end of the contract. The new contract is considerably less attractive than the expiring contract. The producer is told—take it or leave it. If the closest competitive option is 900 miles away—and is also heavily integrated—the producer seeking another option for hogs is highly vulnerable. If the producer had made a heavy commitment to facilities, the vulnerability is greater yet with significant barriers to exit. Clearly, a producer in that situation is likely to be squeezed.

As is well known, in addition to pressure on suppliers, monopoly generally leads to prices higher than competitive levels plus the use of technologies that are less efficient than could have been used.\(^{10}\)

As a group of Purdue agricultural economists has stated, “We see evidence of increased concentration to the point where public vigilance is warranted. Concentration indices are high and may be reaching the point where markdown pricing on hogs will be significant and place producers at a clear disadvantage…. Two major policy options are anti-trust activity on the one hand and increasing the market power of hog producers on the other.”\(^{11}\)


\(^{11}\) Paarlberg, Boehlje, Foster, Doering and Tyner, “Structural Change and Market Performance in Agriculture: Critical Issues and Concerns About Concentration in the Pork Industry,” Staff Paper #99-14, Purdue University,
Table 1. Four firm packer concentration ratios (in percent)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Steer &amp; Heifers</th>
<th>Cows/Bulls</th>
<th>Hogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>28</td>
<td>36</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>1985</td>
<td>39</td>
<td>50</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>1990</td>
<td>42</td>
<td>55</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>1995</td>
<td>69</td>
<td>81</td>
<td>28</td>
<td>46</td>
</tr>
<tr>
<td>1996</td>
<td>66</td>
<td>79</td>
<td>29</td>
<td>55</td>
</tr>
<tr>
<td>1997</td>
<td>68</td>
<td>80</td>
<td>31</td>
<td>54</td>
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<tr>
<td>1998</td>
<td>70</td>
<td>81</td>
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<td>56</td>
</tr>
<tr>
<td>1999</td>
<td>70</td>
<td>81</td>
<td>32</td>
<td>56</td>
</tr>
<tr>
<td>2000</td>
<td>69</td>
<td>82</td>
<td>32</td>
<td>56</td>
</tr>
</tbody>
</table>

Source: International Agricultural Trade and Development Center, University of Florida.

In short, whoever controls the limiting factor or controls the “hold-up” points in any process is in a position to exert influence over the entire process and, if the level of concentration is high, exact a hefty charge against the fruits of production. In hogs the limiting factor is not capital or labor or buildings; the limiting factor is slaughter capacity or “shacklespace.” In food generally, an important limiting factor is shelf space.

Vertical integration. The moves made by the major players, both input suppliers and output processors and handlers, could lead one to conclude that the objective is to vertically integrate the sector. Such an objective could be pursued for several reasons—(1) to gain and maintain greater control over patented products or products subject to intellectual property protection otherwise; (2) to apply economic pressure on producers to relinquish functions in favor of the integrator (such as risk management) or to merely provide an opportunity for risk to be off loaded onto the integrator; (3) to reduce costs (particularly acquisition costs for raw materials) of the integrating firm; (4) to achieve greater market share on an assured basis; or (5) to deliver with greater precision what consumers want. The latter point is debatable. In an early example, seed/chemical companies misjudged consumer acceptance of genetically engineered foods and stumbled badly in the process.

As an example of the extent of control exercised by integrators over growers, a federal district court in Kentucky recently held that Tyson Foods was responsible for not reporting ammonia emissions from grow-out facilities in that state. Tyson had argued that the growers were independent contractors and thus were solely responsible for environmental compliance. The court agreed that a lessor who has no control over the operations of a facility or knowledge of a possible environmental violation has no responsibility for reporting. However, the court stated that a genuine issue of material fact existed as to knowledge of the ammonia release and the ability of Tyson to report the alleged releases. Thus, an integrator possessing substantial control over production processing can expect to be held accountable for what occurs in the production processes.

Although vertically integrating a sector or subsector may produce economies—including reduced costs for acquisition of raw materials—vertical integration by powerful integrators can have decidedly negative consequences. Among those negative outcomes is the demolition of open, transparent, competitive markets and replacement of those markets with negotiated prices. With a huge difference in bargaining power, as between the parties, the outcome is predictable. The party with the weaker market power tends to be the loser. Unless producers act collectively, producers tend to be the weaker party.

Are economies from vertical integration likely to be passed on to consumers? With a high level of concentration, that’s doubtful. Actually, several possible outcomes could be occurring in the merger/vertical integration movement.

- If the structural transformation now being observed reflects efficiencies, lower costs could be passed to consumers if competition is present and the competitive system is functioning well.

- In the event gains from efficiency are not passed to consumers, but are passed to shareholders or used to pad costs within the firm, the trend is objectionable even though some would argue that system-wide gains in efficiency should be permitted even in the face of anti-competitive conditions.

- The third scenario, which is concerned with the distributional effects of competition policy, does not recognize gains from efficiency as a positive offset to an otherwise anti-competitive merger unless the gains are passed on to consumers.

Clearly, the higher the level of concentration and vertical integration, the greater the risk of unacceptable market conduct.

What all of this adds up to is this—if farming is to be made up of independent entrepreneurs as producers, it is absolutely essential for producers to be assured of meaningful competitive options. To assure that outcome, it is necessary to—(1) limit concentration in input supply and output processing or handling and (2) possibly limit the extent of vertical integration.

Reform of contract practices. The great disparity in market power tends to lead to contracts with oppressive features (as viewed by the weaker party), retaliatory practices by the stronger party and vulnerability of the weaker party in terms of securing payment. The Producer Protection Act, which has been proposed and endorsed by 17 State Attorneys General, would take several steps as a matter of state law towards providing full information to the producer and lien protection to the producer to secure payment of amounts due and reducing the probabilities of economic retaliation in producer-processor contract relationships.

The proposed legislation contains six parts—

- Require contracts to be stated in plain language and disclose material risks;
- Provide contract producers with a right to review and a three-day cancellation period;
- Prohibit confidentiality clauses;
- Provide producers with a first priority lien for payments due under the contract;
- Prevent capricious or retaliatory termination of the contract; and
• Prevent retaliation against producers who participate in producer organizations.

Although the proposal has been criticized, the provisions all have precedent in other areas of the law, such as consumer protection legislation and trade regulation, and all are based on basic principles of fairness, full information and equity which are common throughout the law.

The Family Farmer Cooperative Marketing Amendments Act of 2001, which was introduced in the U.S. House of Representatives, would have addressed some of the same issues at the federal level.

The 2002 farm bill (The Farm Security and Rural Investment Act of 2002) contains a section dealing with confidentially provisions in contracts for the production of livestock or poultry or in any marketing agreement with a term of one year or more. The 2002 Act also includes “swine contractors” as a covered entity under the Packers and Stockyards Act of 1921.

**Position of small firms**

A major issue is whether smaller input (and processing and handling) firms are likely to be able to compete. Certainly some of the small seed firms have survived in recent decades as performance traits of the varieties and hybrids developed by the larger firms have tended to outdistance the performance of seed marketed by small firms. In most cases, the small firms have survived by becoming licensees of the giant firms or by becoming part of their marketing arm.

The era of transgenic hybrids produces both the incentive to maintain greater control over high performing germ plasm and the technology and resources to challenge those who manage to obtain the germ plasm in clandestine ways. The larger firms may acquire some smaller firms to complete their distribution network and licensing germ plasm for a fee may well occur. However, it is unlikely that the dominant firms will generate additional competition by licensing to smaller firms.

Indeed, with the smaller firms predictably unable to maintain access to higher performing germ plasm, the price of lower performing seed varieties and hybrids is expected to reflect the economic disadvantage inherent in the lower performing varieties. At some point, many if not most of the smaller seed firms that are unaligned with the dominant firms will be unable to survive economically.

If the current trends continue (in terms of ever-higher levels of concentration and vertical integration from the top down), it will be the death knell for family farm agriculture in this country and will be a serious blow to the economic vibrancy of rural communities.

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16 Id., Act § 10503.
17 Id., Act § 10502, amending Sec. 2(a) of the Packers and Stockyards Act of 1921, 7 U.S.C. § 182(a).
Solutions

If sufficient public interest and political will are generated, three solutions seem to lie within the feasible set.

Antitrust oversight. First, aggressive antitrust oversight at the federal level (and among the states) is the traditional way for proposed mergers and alliances, tying contracts and other anti-competitive practices to be evaluated on the basis of potential anti-competitive effects. The objective should be to insure that all sectors and subsectors have equal, and low, economic power. Because of the importance of food and the policy significant of maintaining a healthy producing sector, it may be necessary for the Department of Justice to be funded specifically to maintain a substantially higher level of oversight over structural shifts in food and agriculture.

The Sherman Act of 1890,\(^{18}\) enacted in part in response of an 1888 report to the U.S. Congress on anti-competitive practices in meat packing, was enacted to prohibit combinations with anti-competitive effects and monopolization of, or attempts to monopolize interstate or foreign commerce.\(^ {19}\)

The Sherman Act is usually viewed as a weapon to use in attacking anti-competitive practices. However, it was employed in the first few years after enactment to challenge efforts by farmers collectively to produce or market products or to band together in the purchase of inputs. During the Congressional debates, it was noted that the Sherman Act was for the benefit of the people “especially agricultural people.”\(^ {20}\) Senator Sherman stated that agricultural and labor organizations would not be included within the prohibitory provisions of the Sherman Act and, to assure that result, offered an amendment which read as follows—

\[\text{“Provided, That this Act shall not be construed to apply to any arrangements, agreements, or combinations between laborers made with the view of lessening the number of hours of labor or of increasing their wages; nor to any arrangements, agreements, or combinations among persons engaged in horticulture or agriculture made with the view of enhancing the price of agricultural or horticultural products.”}\]

This amendment was not enacted, however.\(^ {22}\) Between 1890 and 1914 other unsuccessful attempts were made to enact antitrust exemptions for agricultural, as well as labor, organizations.\(^ {23}\)

In 1908, the Supreme Court of the United States interpreted the antitrust provisions to include agricultural and labor organizations:\(^ {24}\)

The records of Congress show that several efforts were made to exempt, by legislation, organization of farmers and laborers from the operation of the Act and that all these efforts failed, so that the Act remained as we have it before us.\(^ {25}\)

\(^{20}\) 21 Cong. Rec. 2598 (1890).
\(^{21}\) 21 Cong. Rec. 2611 (1890).
\(^{22}\) 21 Cong. Rec. 2728, 2631 (1890).
\(^{23}\) 51 Cong. Reg. 9246-47 (1914).
\(^{24}\) Loewe v. Lawlor, 208 U.S. 274 (1908).
In 1911, the Sixth Circuit Court of Appeals determined that a combination of farmers was prohibited by the Sherman Act. An association of tobacco farmers had “pooled” tobacco and withheld it from the market in an effort to bring about higher prices. Certain nonmembers of the association attempted to ship their tobacco to market, but other farmers prevented them from doing so. The Court of Appeals deemed this action to be illegal under the Sherman Act as a “direct and absolute restraint [upon interstate commerce], bearing no reasonable relation to lawful means of accomplishing lawful ends.”

In recognition of the unique problems of farmers in connection with obtaining adequate prices for agricultural products, the Congress provided in several appropriations bills that no part of the funds appropriated for enforcement of the Sherman Act could be used for prosecution of agricultural cooperatives in their efforts to insure fair and reasonable prices for their products.

In the early days of the efforts by farmers to resolve their marketing problems through the promotion of cooperatives, a number of cooperatives were prosecuted under state antitrust laws.

In 1895, a cooperative association of milk shippers that engaged in fixing the price and limiting the quantity of milk sold in Chicago was held to have violated Illinois antitrust law. The Illinois statute prohibited any corporation, partnership, individual, or association from creating or entering into any trust or combination with any other corporation, partnership, individual, or association to fix the price of any article or commodity to be produced or sold. The Supreme Court of Illinois held that the arrangement between the cooperative association and the members was illegal under Illinois law because the objectives of the association were to fix the price of milk and control and limit the supply of milk shipped into the Chicago area, and those objectives were carried out by the concurrent action of the members and the association.

In 1913, a membership contract between a peach grower and a cooperative association of fruit growers was held to be illegal on the basis that the contract was an unreasonable restraint of trade and tended to create a monopoly. The membership contract required the grower to make all carload shipments of peaches through the association and to pay the association ten percent of the gross sale price as a commission for handling and selling the peaches, and to pay the association five percent of the gross sale price on any sale of peaches not made through the association. The Court of Appeals of Alabama referred to the Sherman Act as well as to an Alabama law that prohibited attempts and actual restraints of trade or production, and stated that:

There being thus both a state and national law prohibiting unlawful combinations in restraint of trade—the one law relating to intrastate, the other to interstate, commerce—it is immaterial as to
which character of commerce, whether only one or both, is involved in the contract here under consideration; for if the contract is in violation of either law it is void as contravening a positive statute; and, even if it does not go to the extent of being actual violation of either statute, yet if it tends to create a monopoly by unreasonably restraining trade, it is still void under our law, as at common law, as being against public policy.\textsuperscript{35}

Also in 1913, the Supreme Court of Iowa held\textsuperscript{36} that a cooperative had operated in violation of an Iowa antitrust law that prohibited agreements or combinations entered into for the purpose of fixing prices or preventing “full and free competition.”\textsuperscript{37} The cooperative was organized by farmers and hog producers for the purpose of buying, selling, and shipping hogs at the local market in an effort to assure that the farmers and producers would receive what the hogs were worth.\textsuperscript{38} A by-law of the cooperative provided that, in order to insure the success and prosperity of the cooperative, the members were required to sell all their marketable livestock to the cooperative and that any member who sold livestock to a competitor of the cooperative would be required to pay to the cooperative “five cents for every one hundredweight sold to any competitor.”\textsuperscript{39} The Supreme Court of Iowa concluded that the operations of the cooperative were in restraint of trade.\textsuperscript{40}

The Clayton Act of 1914 provided the initial exemption (of agricultural cooperatives not having capital stock) from antitrust situations. The Clayton Act also imposed limits on mergers expected substantially to diminish competition. So-called horizontal mergers or mergers of competitors are the most likely to be challenged.

If the objective is to maintain significant levels of competition, FTC and the Department of Justice should scrutinize all agribusiness mergers carefully for anti-competitive consequences from the standpoint of producers (as well as consumers) and all practices by companies in tying credit, insurance, risk management or other needed inputs to potential items. One problem in relying on FTC or the Department of Justice is that both agencies seem to believe that the agriculture is the last bastion of perfect competition and is competitive by a comfortable margin. The problem is not one of diminished competition among producers but among those who supply inputs and process or handle products from the producing subsector.

The approaches used by the Antitrust Division of the Department of Justice and by the Federal Trade Commission (FTC) in analyzing mergers have traditionally focused on the probable impact on consumers. That has been the principal concern of the antitrust system. For agriculture, however, the concern is the impact on producers—assuring producers competitive options. Consumers may ultimately be affected but that is down the road. That’s why a different approach is needed in the evaluation of agribusiness mergers if there is a shared vision of maintaining a sector of independent entrepreneurs as producers. Unless that vision is articulated by the Congress and the Administration, the chances of meaningful actions by the antitrust system are slight.

\textsuperscript{35} Id. at 546.
\textsuperscript{37} Id., 140 N.W. at 846.
\textsuperscript{38} Id. at 844-45.
\textsuperscript{39} Id. at 845.
\textsuperscript{40} Id. at 848.
One result of concentration in purchasing is monopsony or oligopsony. While some argue that the benefits of low processor input prices, even if artificially low, are passed through to consumers in the form of lower consumer prices, the evidence is compelling that this “price transmission theory” does not exist in practice. Powerful buyers sell their products in a market with its own competitive features, unrelated to input costs. Supply and demand in that market determine transaction prices. That result is separate and independent from the market clearing price determined by demand and supply in the input market in which powerful buyers participate. Indeed, each step in the food chain is a separate and independent market with the result primarily determined by the level of concentration and conditions of demand and supply. Thus, a tightly integrated supply chain does not assure a result of rational (and fair) resource allocation. This is why attention to the extent of competition existing in input supply markets, as well as other markets, is not only justified, it is essential if resources are to be allocated in a rational manner.

An almost exclusive focus on the impact of mergers and consolidations on consumers, which has been the pattern in the U.S. Department of Justice Antitrust Division for years, thus ignores regional dominance by processors, packers and other buyers.

As Professor Peter Carstensen stated in testimony before the U.S. Senate Judiciary Committee on October 30, 2003—

“Monopsony power in agriculture is a growing threat to the operation of agricultural product markets. It is vital that the law be used to both limit the growth of this power and to regulate its use. Both consumers and producers will be better off if both antitrust law and market specific regulation are directed at the problems that have arisen in this area.”

Another competitive concern is discrimination in distribution of inputs. As an example, one major seed company provides up to a 21 percent discount for volume purchases. Legislation adopted in 1914 and amended in 1936 (the Robinson-Patman Act) outlaws the practice of price discrimination. Under that provision, it is unlawful for any “person” engaged in commerce, either directly or indirectly, to discriminate in price between different purchasers of commodities of like grade and quality where the effect of the discrimination “may be” to substantially lessen competition or tend to create a monopoly in any line of commerce or to injure, destroy or prevent competition with any person. Exceptions are provided where differential prices are cost justified or used in good faith to meet an equally low price of a competitor.

Agreements to control production, price fixing, agreements to divide markets and group economic boycotts, are all per se offenses under federal antitrust law. Price fixing, as one of the per se offenses, is the most heinous crime that can be committed against a free market-oriented economic system. A 2002 decision by the Seventh Circuit Court of Appeals in Chicago has eased substantially the task of proving price fixing. In February of 2003, the United States

43 Robinson-Patman Act, § 2(a), amending Clayton Act of 1914.
44 Id., § 2(b).
45 In re High Fructose Corn Syrup Litigation, 295 F.3d 651 (7th Cir. 2002), cert. denied, 2003 Lexis 1114-1116 (February 24, 2003). See also, Harl, Neil E., “Price Fixing in Agriculture,” 13 Agric. L. Dig. 121 (2002).
Supreme Court refused to hear an appeal in the case which cleared the way for the case to go to trial. The case involved alleged price fixing of high fructose corn syrup by several firms. The Seventh Circuit pointed out that Section 1 of the Sherman Act is broad enough to encompass price fixing that did not involve any actual communication among the parties to the agreement. As the court noted, “if a firm raises price in the expectation that its competitors will do likewise, and they do, the firm’s behavior can be conceptualized as the offer of a unilateral contract that the offerees accept by raising their prices.” The case should encourage more individuals and groups to bring price-fixing actions. Successful plaintiffs in antitrust actions may be eligible for treble damages.

It’s been well established for decades that firms with monopoly power over a product should not be able to “tie” other products to the transaction and extend the monopoly position.\textsuperscript{46} Such contracts are used to create “economic leverage” by using monopoly power in one market (the market for the tying good) to create monopoly power in a second market (the market for the tied good). Such arrangements, which involve tying products over which a firm does not have monopoly power (such as financing, insurance or risk management) to a product over which the firm does have monopoly power (such as a seed variety), are also illegal per se unless it can be demonstrated that the product in monopoly status wouldn’t work as well with other firms’ products. And, that is rarely the case.

Some economists have criticized the antitrust treatment of tying contracts as not leading to economic leverage in all instances.\textsuperscript{47}

Regulatory oversight

An important issue is whether oversight should remain with the Department of Justice, Antitrust Division, and the Federal Trade Commission, or whether a ramped up, energized oversight regimen should be the province of the Department of Agriculture. My belief is that the interests of the country are best served in terms of both consumers and producers, with a program of enhanced competition by lodging jurisdiction with the Department of Justice with additional resources provided for work in the agricultural sector. Certainly additional funding is needed to achieve a level of oversight that will result in meaningful competitive options for producers of farm products.

I have watched at close range for more than 40 years the efforts of the U.S. Department of Agriculture (particularly in reference to the administration of the Packers and Stockyards Act).\textsuperscript{48} Chapter 71 of volume 10 in my 15-volume treatise, Agricultural Law (Matthew Bender & Co.) devotes 192 pages to the Act. The record is one of disappointment. USDA, from the time of enactment of the Packers and Stockyards Act, in 1921, has failed to use its authority to protect livestock producers. This failure to act has become more serious in recent years as the structure of the livestock industry has been transformed and procurement practices have been changed in response to further consolidation in meat packing and processing and vertical integration by packers and processors. The General Accounting Office in its report, Packers and

\textsuperscript{48} 42 Stat. 159 (1921).
Stockyards Program—Actions Needed to Improve Investigations of Competitive Practices, stated forthrightly that USDA has extensive authority under the Packers and Stockyards Act to bring actions regarding unfair and anti-competitive practices but has rarely done so.

USDA has had more than 80 years to adopt regulations that would address, in a meaningful fashion, the anti-competitive acts and practices in livestock procurement. The department has failed to measure up to the expectations evident in the legislation and the legislative history.

While the Department of Justice has yet to display a commitment to assuring free, open, competitive and transparent markets for livestock, it is my belief that the additional resources needed to achieve such a result would be best placed with the Department of Justice with a clear signal from Congress that unfair and anti-competitive practices in agriculture are not in keeping with the national commitment to competition since enactment of the Sherman Act in 1890.

If the decision is made to ramp up oversight through the U.S. Department of Agriculture, Congress should—(1) provide clear marching orders to USDA and (2) appropriate adequate funds for the task.

Ending packer ownership of livestock. A necessary step, if agriculture is to be comprised of a sector of independent entrepreneurs, is to ban packer ownership of livestock. An effort was made, in the 2002 farm bill, to legislate such a ban in the form of the Johnson Amendment (Amendment No. 2534) included in S. 1731, the Senate-passed farm bill. The statute, with the amendment, would have read as follows—

It shall be unlawful for any packer with respect to livestock, meats, meat food products, or livestock products in unmanufactured form, or for any live poultry dealer with respect to live poultry, to:

(f) Own, feed, or control livestock directly, through a subsidiary or through an arrangement that gives the packer operational, managerial, or supervisory control over the livestock, or over the farming operation that produces the livestock, to such an extent that the producer is no longer materially participating in the management of the operation with respect to the production of livestock, except that this subsection shall not apply to—

(1) an arrangement entered into within 14 days before slaughter of the livestock by a packer, or a person that directly or indirectly controls, or is controlled by or under common control with, the packer;

(2) a cooperative or entity owned by a cooperative, if a majority of the ownership interest in the cooperative is held by active cooperative members that—

(A) own, feed, or control livestock; and

(B) provide the livestock to the cooperative for slaughter; or

That amendment would have made it unlawful for a meat packer to own or control livestock intended for slaughter for more than 14 days prior to slaughter. Cooperatives or entities owned by them would have been exempt if a majority of the ownership interest in the cooperative was held by members who own, feed or control livestock that they provide to the cooperative for slaughter. Also, the amendment would have exempted packers slaughtering less than two percent of each species of livestock annually. Under the amendment, arrangements would not be illegal if the producer materially participated in the management of the operation with respect to the production of livestock.

The bill introduced in 2003 (S. 27) was the same as the 2002 version except that—(1) the time the packer is allowed to own livestock prior to slaughter has been reduced from 14 to 7 (plus weekend) days; and (2) the size limitation (below which the legislation would not apply) is made consistent with the Mandatory Price Reporting legislation (125,000 annual cattle slaughter, 100,000 hogs per year).

A compelling reason for taking action to ban packer ownership of livestock is the behavior of the farm-to-wholesale price spreads in beef. In a competitive market, the farm-to-wholesale price spread should decline as per-unit slaughter costs decrease. Figure 1 shows that was, indeed, the case through the mid-1990s. However, since the mid-1990s, the F-W price spread has trended strongly upward. This trend is inconsistent with what would be expected in a competitive market. This is confirmed by the higher profit levels being reported by the dominant firms in meat packing in recent years.

Figure 1. Farm-to-Wholesale Price Spread for Beef

USDA data adjusted for inflation

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It is noted that Iowa has long had a ban on a processor of beef or pork “to own, control or operate a feedlot in Iowa in which hogs or cattle are fed for slaughter.”\(^{51}\) Minnesota\(^{52}\) and Nebraska\(^{53}\) (as well as South Dakota\(^{54}\)) impose similar limitations.

The future of state level regulation of economic activity (including limitations on packer ownership of livestock, corporate farming and the regulation of markets) has been placed in doubt by a recent decision of the Eighth Circuit Court of Appeals and by a decision of an Iowa federal district court, which is on appeal to the Eighth Circuit Court of Appeals.

In *South Dakota Farm Bureau, Inc. et. al. v. Hazeltine*,\(^{55}\) the U.S. Court of Appeals for the Eighth Circuit upheld the Federal District Court for the District of South Dakota and ruled the South Dakota anti-corporate farming law unconstitutional on “dormant commerce clause” grounds. The opinion is viewed as critical to the future viability of anti-corporate farming restrictions in other states\(^{56}\) and, more generally, to the ability of state legislatures to shape the structure of agriculture within their borders.

As concentration of agricultural production has accelerated in recent years, legislatures in many of these same states have attempted to legislate protections for the economic autonomy of individual farmers and the environmental health and safety of both the rural and non-rural sectors.

**The South Dakota Provision**

The South Dakota restriction on corporate farming dates from 1974, and in 1998 South Dakota voters amended the state constitution (known as “Amendment E”) to prohibit corporations and syndicates from owning an interest in farmland (with numerous exceptions).\(^{57}\)

The plaintiffs, a collection of farm groups, South Dakota feedlots, public utilities and other farm organizations, challenged Amendment E on the basis that it would prevent the continuation of their existing farming enterprises unless those enterprises changed organizationally to come within a statutory exemption. Specifically, several of the plaintiffs feed livestock in their South Dakota feedlots under contracts with out-of-state firms and claimed that Amendment E would apply to their out-of-state contracting parties and hurt economically their South Dakota livestock feeding businesses.\(^{58}\)

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52 Minn. Stat. § 500.24(3) (2001) (livestock feeding considered to be farming and thus covered by corporate farming statute).
56 The opinion takes on even greater significance because many of the states with the major restrictions on corporate involvement in agriculture are located in the Eighth Circuit. See, e.g., Minn. Stat. §500.24; Mo. Ann. Stat. Ch. 350; Neb. Const. Art. XII, §1; Iowa Code §9H; N.D. Cent. Code §10-06-01.
58 Two of the plaintiffs fed cattle under contract with out of state firms, one plaintiff raised contract hogs and another raised contract lambs.
The Commerce Clause of the U.S. Constitution (Article I, §8, Clause 3) forbids discrimination against commerce, which repeatedly has been held to mean that states and localities may not discriminate against the transactions of out-of-state actors in interstate markets even when the Congress has not legislated on the subject.\textsuperscript{59} The overriding rationale of the commerce clause was to create and foster the development of a common market among the states and to eradicate internal trade barriers. Thus, a state may not enact rules or regulations requiring out-of-state commerce to be conducted according to the enacting state’s terms.\textsuperscript{60}

Historically, dormant commerce clause analysis has attempted to balance national market principles with federalism, and was never intended to eliminate the states’ power to regulate local activity, even though it is incidentally related to interstate commerce.\textsuperscript{61} Indeed, if state action also involves an exercise of the state’s police power, the impact of the action on interstate commerce is largely ignored.\textsuperscript{62} Absent an exercise of a state’s police power, the courts evaluate dormant commerce clause claims under a two-tiered approach. If the state has been motivated by a discriminatory purpose, the state bears the burden to show that it is pursuing a legitimate purpose that cannot be achieved with a nondiscriminatory alternative.\textsuperscript{63} However, if the state regulates without a discriminatory purpose but with a legitimate purpose, the provision will be upheld unless the burden on interstate commerce is clearly excessive in relation to the benefits that the state derives from the regulation.\textsuperscript{64} In essence, a state may regulate transactions that occur within its borders,\textsuperscript{65} but not those that occur elsewhere.\textsuperscript{66}

In a discussion involving the issue of the plaintiffs’ standing, the court in \textit{Hazeltine} cited an Ohio statute that charged out-of-state natural gas vendors at a higher sales tax rate than certain

\textsuperscript{59} See, e.g., Dean Milk Co. v. Madison, 340 U.S. 349 (1951) (holding as unconstitutional a city ordinance prohibiting the sale of milk in the city unless it had been bottled at an approved plant within five miles of the city); Hunt v. Washington State Apple Advertising Commission, 432 U.S. 333 (1977) (state statute requiring all closed containers of apples sold or shipped into the state to bear “no grade other than applicable U.S. grade or standard” held an unconstitutional discrimination against commerce).

\textsuperscript{60} See, e.g., American Meat Institute, \textit{et. al.} v. Barnett, 64 F. Supp.2d 906 (D. S.D. 1999) (South Dakota price discrimination statute declared unconstitutional because it applied to livestock slaughtered in South Dakota regardless of where the livestock was purchased).

\textsuperscript{61} See, e.g., Huron Cement Co. v. Detroit, 362 U.S. 440 (1960) (state legislation designed to maintain clean air constituted legitimate exercise of police power allowing state to act in many areas of interstate commerce).

\textsuperscript{62} Id. A strong argument can be made that Amendment E was also enacted according to the state’s police power to protect South Dakotans from adverse health and environmental effects of large-scale, vertically integrated livestock operations. In that event, the impact of the law on interstate commerce would be less of a concern.

\textsuperscript{63} See, e.g., Hughes v. Oklahoma, 441 U.S. 322 (1979). But, the plaintiff bears the initial burden of proving discriminatory purpose.

\textsuperscript{64} See, e.g., Pike v. Bruce Church, Inc., 397 U.S. 137 (1970) (state law prohibiting interstate shipment of cantaloupes not packed in compact arrangements in closed containers, even though furthering legitimate state interest, held unconstitutional due to substantial burden on interstate commerce).

\textsuperscript{65} Milk Control Board v. Eisenberg Farm Products, 306 U.S. 346 (1936) (Court upheld Pennsylvania price control statute as applied to purchasers of milk in Pennsylvania by a dealer who intended to ship all the milk out of state; Court stated that purpose of statute was “to reach a domestic situation” and that the activity regulated was “essentially local”).

in-state vendors.\textsuperscript{67} The court reasoned that the South Dakota livestock feeders contracting with out-of-state firms that were not within an exemption under the South Dakota law were similarly disaffected because of the imminent loss of business if Amendment E were to be enforced. However, the court did not discuss the obvious difference between the Ohio statute and Amendment E. The Ohio statute treated out-of-state natural gas vendors differently from in-state vendors. Amendment E treats all businesses operating in South Dakota under the same set of rules, regardless of whether the business is a South Dakota business or an out-of-state enterprise.

Without any analysis of the actual language of Amendment E, the court determined that South Dakota voters had acted with a discriminatory purpose in enacting Amendment E. The court noted that the record contained a substantial amount of evidence on the point.\textsuperscript{68} The court also found relevant on the discrimination issue statements of drafters, as well as a statement of a co-chairman of the Amendment E promotional organization that Amendment E was motivated in part by the environmental problems caused by large-scale hog operations in other states.\textsuperscript{69} The court called this statement “blatant” discrimination.\textsuperscript{70} The court also found indirect evidence of discrimination in that the drafters and supporters of Amendment E had no evidence that a ban on corporate farming would preserve family farms or protect the environment, and that no economic studies had been undertaken to determine the economic impact of “shutting out corporate entities from farming in South Dakota.”\textsuperscript{71}

If left standing, the Hazeltine court’s opinion raises serious concerns about the analysis of future dormant commerce clause cases in the Eighth Circuit, the doctrine of \textit{stare decisis}, the theory of separation of powers and the ability of states to regulate business conduct within their borders.\textsuperscript{72} It would appear, however, that the court is not favorably disposed to anti-corporate farming laws in general, and may also strike down other laws designed to deal with the structural conditions presently facing family farming and ranching operations.

\textbf{Collective action by farmers.} One possible strategy for farmers is to forge alliances among producers (which is specifically allowed by federal law so long as it does not “unduly enhance” price).\textsuperscript{73} The push to achieve such countervailing power was the driving force behind the formation of labor unions a century ago. Historically, however, farmers have been unwilling to accept such a disciplined approach to achieving bargaining power.

\textsuperscript{67} An Ohio manufacturing facility purchased nearly all of its natural gas from out-of-state suppliers subject to the higher sales tax rate, and was held to have standing to challenge the statute because it was financially injured.

\textsuperscript{68} For example, the court noted that the “pro” Amendment E statements compiled by the Attorney General informed voters that without passage of Amendment E, “[d]esperately needed profits will be skimmed out of local economies and into pockets of distant corporations,” and “Amendment E gives South Dakota the opportunity to decide whether control of our state’s agriculture should remain in the hands of family farmers and ranchers or fall into the grasp of a few, large corporations.” The court claimed that these statements were “brimming with protectionist rhetoric.”

\textsuperscript{69} Why the court found statements of intent relevant to the discrimination issue without examining the content of the language of Amendment E is not explained.

\textsuperscript{70} However, state legislation designed to maintain clean air has been held to constitute a legitimate exercise of the state’s police power allowing the state to act in many areas of interstate commerce. See, e.g., Huron Cement Co. v. Detroit, 362 U.S. 440 (1960).

\textsuperscript{71} The court failed to mention the numerous exemptions under the South Dakota provision.

\textsuperscript{72} It is noted that South Dakota has filed a petition for rehearing with the court.

Section 1 of the Capper-Volstead Act of 1922 provides protection from antitrust challenge for producers who seek to bargain collectively with processors, handlers and input suppliers. The Capper-Volstead Act, in expanding the exemption of agriculture from antitrust, provides that “persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen, nut or fruit growers, may act together in associations, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling, and marketing in interstate and foreign commerce, such products of persons so engaged.” The Act goes on to allow “Associations [to] have marketing agencies in common; and such associations and their members may make the necessary contracts and agreements to effect such purposes."

To come within the protection of the Capper-Volstead Act, an organization must—(1) be operated for the mutual benefit of its members; (2) either limit each member to one vote regardless of the amount of stock or membership capital the member owns or, if dividends are paid on the basis of members’ stock or membership capital, the dividends must be limited to a maximum of eight percent per annum; (3) not handle a greater amount of products from nonmembers than from members; and (4) not be operated for profit.

The grant of immunity from antitrust challenge was further limited by a provision that if the Secretary of Agriculture finds that an association “monopolizes or restrains trade in interstate or foreign commerce to such an extent that the price of any agricultural product is unduly enhanced thereby he shall issue…an order…directing such association to cease and desist from monopolization and restraint of trade.”

The key question is whether producers will be willing to sacrifice independence of action in order to bargain collectively for access to inputs and for greater market power in marketing their products. The most likely avenue for such collective action is through organizations specifically created for that purpose.

The time may be near when that will be the only practical alternative to vulnerability and serfdom.

It is unlikely that countervailing power can be achieved in one grand move to get large numbers of producers to bargain collectively for inputs and for the sale of commodities. Rather, greater market power is likely to be achieved, if at all, by bargaining groups of relatively modest size and comprised of producers committed to collective marketing and committed to producing commodities at a quality level desired by processors and on a schedule consistent with the purchaser’s capacity.

75 See generally 14 Harl, Agricultural Law § 137.04 (2003).
76 7 U.S.C. § 291. See Green v. Associated Milk Producers, Inc., 692 F.2d 1158 (8th Cir. 1982) (transportation of milk is handling activity protected by Capper-Volstead Act; employees of dairy cooperative acting within scope of their authority could not be guilty of conspiracy with cooperative because employees and cooperative are part of same entity; cooperative members and cooperative are considered one entity and incapable of conspiring with each other).
78 Id.
To facilitate the formation and operation of such collective marketing (and input supply) groups, enabling legislation at the state (or federal) level is needed to assure that—(1) agribusiness firms would be required to bargain in good faith; (2) would assure that recriminatory behavior would not be allowed by agribusiness firms; (3) members of the unit would be required to be producers (to bring the group within the exemption from antitrust strictures found in the Capper-Volstead Act).

A level playing field. The provisions in the Producer Protection Act, proposed by 17 State Attorneys General, would constitute a modest first step toward leveling the field of contracting. Indeed, serious consideration should be given to adding such provisions to federal antitrust law.

More germ plasm in the public domain. Another potential solution for concentration in seed supply is for the public to increase its support for crop breeding by land grant universities and other public agencies with transgenic hybrids and varieties made available to smaller seed companies. However, it should be made crystal clear that germ plasm from public funds should go into the public domain and not be channeled to the giant transgenic seed producers on a basis of exclusivity. This would restore the land grant universities to the role played before the advent of genetic manipulation and the dramatic increase in private sector funding for new varieties and hybrids to the extent that public funds are used; however, the results should be in the public domain.

To a considerable extent, this possible outcome is dependent upon the perception in state legislatures and the Congress as to the public interest, long-term, in maintaining a greater degree of competition in seed supply. Legislative bodies are more likely to respond if convinced that dominance of seed supply by a few large firms, worldwide, could affect food costs by influencing the supply of food through contractual mechanisms.

Barriers to entry. In general, one would expect high handed economic behavior by near monopolists to be met by entry of new competitors attracted by the generous terms of contracts in favor of the input suppliers. And that would likely occur if entry were possible. However, barriers to entry may be fairly high.

- One barrier is capital needed to mount the kind of research effort needed to maintain a product flow similar to that of the firms pressing for monopoly-like concentration levels. The capital needed is very substantial.

- Also, in the seed/chemical industry, in particular, existing patent and plant variety protection may mean that potential competitors are frozen out of competition as a practical matter for the duration of the patent or PVP certificates or the duration of a patent over processes by which genetic manipulation occurs.

A global food and agriculture policy
Farm policy debate in the United States in the 1920s was largely about whether it was appropriate to have a national food and agriculture policy. To a considerable extent, the decision was in the negative until 1933.

In many respects, farm policy today poses a similar question: should efforts be directed toward a global food and agricultural policy? In the opinion of this commentator, the answer is yes.

The globalization of food supply and demand and the position of the United States suggest that food and agriculture policy analysis should shift to a new level to encompass global food and agriculture issues. Such a policy would likely take years to accomplish and would require skillful diplomatic efforts, but the logic behind such an approach to policy is clear.

A global food and agriculture policy should have several components—

• First, and probably foremost, is support for Third World economic development. With relatively high income elasticities of demand for food (70 percent or more of each additional dollar of income is likely to go for food purchases in some of the countries), it is clear that the last frontier for increasing food demand is the Third World. Moreover, adequate nutrition, worldwide, has the support of a wide array of groups and individuals.

If the poorest countries could be nudged into the development queue, with investment in education, health care and infrastructure, plus progress in implementing more open and democratic governance systems, the long-pursued goal of elimination of world hunger could be within reach. Gifting food to low income countries, while laudable from a humanitarian point of view, destroys their internal agricultural economy.

• The issue of food safety, including animal diseases (see Appendix A) as well as genetic modification of foods, should be addressed in a global food policy.

• Food security should be a component of a global policy.

• Fair and equitable sharing of germ plasm should be assured. This could help allay fears of some countries that their germ plasm is being appropriated without compensation by First World countries.

• Trade in agricultural products and commodities is an obvious candidate for inclusion in a global food and agriculture policy as a supplement to negotiated trade agreements.

• Agreed-upon policies committing major food producing countries to managing excess inventories could be a part of a global food and agriculture policy. Countries would be urged to take action in unison whenever disastrously low food prices occur worldwide with comparable steps taken to reduce food production. The flow of development funds from the United States into the World Bank and IMF and in the form of direct assistance could be used to leverage such responses from other countries.

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Role of institutions

Arguably what is likely to emerge over the next few years is a heightened awareness of the efficacy of institutions in limiting or constraining economic activity. To the extent that institutional intervention is successful, a major concern is how to keep institutions in adjustment with changing economic circumstances. Markets reflect changes day by day, minute by minute. Yet, institutions tend to remain in place, frequently producing economic rents for some, until sufficient momentum is generated to effect change. To a considerable degree, institutions limit (as well as facilitate) market operations but without the same self-adjusting features as markets.

Conclusion

More than a century ago, the United States rejected the idea of unfettered economic activity by firms in highly concentrated industries. The wisdom of that conclusion has never been more clear and the need for aggressive implementation of that philosophy has never been more obvious.

To assure competition, the lifeblood of our economic system, it is vital that steps be taken now to increase competition in all areas where high levels of concentration exist and particularly in areas where high levels of concentration exist in tandem with efforts to integrate vertically the production and processing functions from the top down. The trend toward demolishing free, open, transparent and competitive markets as the even-handed referee in those markets must be halted if farmers and ranchers are to exist as independent entrepreneurs rather than as serfs.
Appendix A

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*Presence of “Mad Cow” Disease in United States Raises Significant Questions Concerning U.S. Food Safety Policies*

By
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