
Consolidation in U.S. Agriculture: The New Rural Landscape and Public Policy

By Mark Drabenstott

The year just past was one of turbulent markets and unmet expectations for most of U.S. agriculture. Public and private attention focused mainly on the steep drop in farm commodity prices, and when the soggy markets might show signs of recovery. Yet while they captured most of the headlines, weak prices were also contributing to subtle, and some not so subtle, changes in U.S. agriculture. Taken together, these changes amounted to a new wave of consolidation that spread throughout the industry. Consolidation is certainly not new in agriculture—it has been underway for most of the twentieth century. What *is* new is the type and speed of the consolidation. The consolidation is receiving widespread attention, but many observers overlook how it will redraw the economic landscape in rural America, posing formidable new challenges for many rural communities.

The consolidation now under way in U.S. agriculture is of two distinct types—cost-savings and supply-chain. The cost-cutting variety is

driven by one simple principle—the low-cost player survives. While this principle has been leading to bigger farms and bigger agribusiness firms for generations, what was striking about 1998 was the widespread acknowledgment of its primacy. From family farms to a firm that had witnessed the birth of modern grain trading, there was agreement that the race goes to the strong and the one with the lowest cost. The wide scope of this recognition is clearly a telling indicator of further change to come.

The supply-chain variety of consolidation is newer but may have bigger implications for the future. This consolidation is driven by a different principle—building innovative alliances to deliver new and better food products to consumers. Also known as supply chains, these new powerhouses bring substantial consolidation in order to ensure high-quality consumer products, capture economies of scale, and minimize risk. The new pork industry is a dramatic and timely example of this new type of consolidation, but supply chains are spreading throughout a broad sweep of agriculture, a range that will only expand in the years to come.

After reviewing these two types of consolidation, my testimony will address the two key questions that surround this critical topic. First, what does consolidation mean for U.S. agriculture and its participants? And second, what issues, if

Mark Drabenstott is vice president and director of the Center for the Study of Rural America at the bank. This article is based on testimony presented on January 26 to the Senate Committee on Agriculture, Nutrition, and Forestry, and on February 11 to the House Committee on Agriculture. Kristin Mitchell, a research associate at the bank, helped prepare the testimony. This article is on the bank's Website at www.kc.frb.org.

any, does the new wave of consolidation pose for public policy?

My testimony will show that consolidation in U.S. agriculture is generally a positive trend, one that leads to lower priced, higher quality food products for consumers and a leaner industry better equipped to compete in global markets. That said, consolidation does highlight the need for farm producers to be nimble and adjust to new market realities. Finally, consolidation changes the geography and nature of agriculture's impact in rural communities already beset by a league of other economic changes.

I. A NEW WAVE OF CONSOLIDATION

The low-price environment of the past year set off a new wave of consolidation in U.S. agriculture. This wave can be usefully divided into the cost-saving and supply-chain categories mentioned above. While low prices spur both types, the consolidation is driven by somewhat different factors, and the long-term impacts are somewhat different. The pork industry, it turns out, provides a powerful example of both types of consolidation at work at the same time.

Cost-saving consolidation in U.S. agriculture should be no surprise, especially now when agricultural commodity prices are low. When agriculture is viewed as a commodity business, the current wave is not much different than the quest for cost savings underway in nearly every other commodity business. The Exxon-Mobil merger in the oil industry is a good example. Low prices always spur mergers aimed at moving cost structures lower. In exactly the same way, Cargill and Continental are seeking new economies in an environment of low prices.

What was perhaps more surprising in 1998 was a marked pickup in voluntary exits from production agriculture. A pronounced hike in farm auctions accompanying the deep slump in

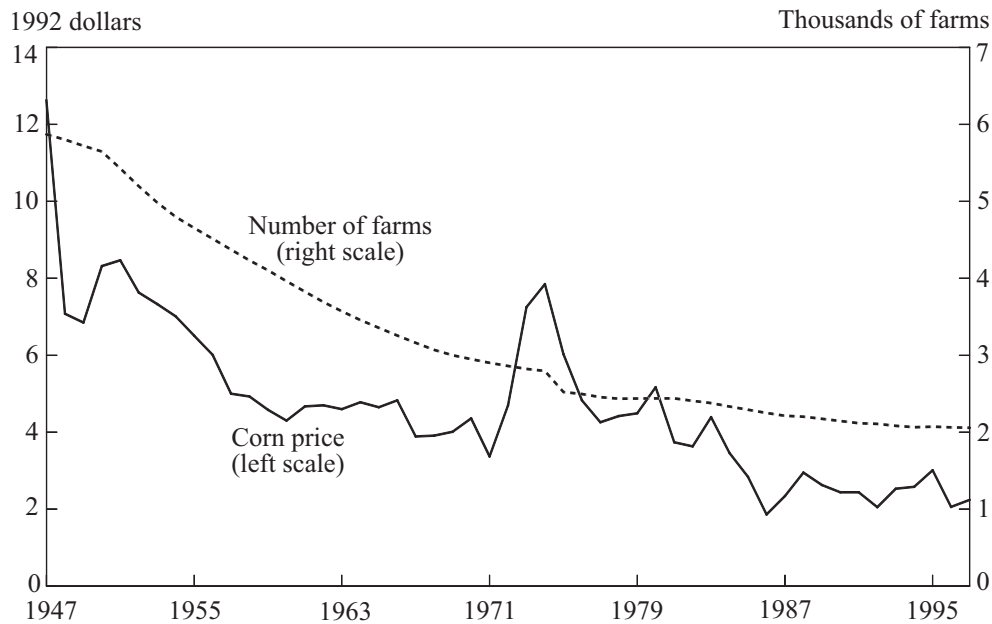
farm prices led to many comparisons with the mid-1980s farm crisis. Yet the differences were many, not the least of which was the fact that most farm auctions in 1998 were *voluntary*, and not the result of foreclosure. How many farmers exited agriculture in 1998 is impossible to determine at this time. However, anecdotal information along with news accounts from the Farm Belt suggest that a sizable group decided to sell out, especially in areas where crop yields are marginal (Kilman).

Why did these producers sell? Partly because prices were low, but also because they anticipated low prices into the future without the same federal safety net provided in the past. Many farmers also remembered that producers who sold out last in the 1980s ended up leaving with less than those who got out early. In short, profit margins are thin in the farm commodity business, and there is steady pressure to cut costs or leave the business.

Farm exits in 1998 are part of a long-standing trend that leads to fewer, bigger farms (Chart 1). Decried by some and cheered by others, this trend does have one clear economic impact—it lowers the cost of production by enabling the remaining farms to capture more economies of scale. Over the long run, capital and technology have steadily boosted the productivity of production agriculture, but they have also encouraged bigger operations (Tweeten). The farm exits seen in 1998—and which are likely to continue in 1999—are the companion to this beneficial rise in productivity.

While Cargill-Continental captured the consolidation headlines in 1998, the more interesting development may have been the onward march of supply chains. In a supply chain structure, all stages of production, processing, and distribution are bound tightly together to ensure reliable, efficient delivery of high-quality products. The glue that binds together neighboring links of the chain ranges from production contracts to

Chart 1
CORN PRICE VS. NUMBER OF FARMS



outright ownership, or vertical integration. The trend to supply chains has been underway for some time in U.S. agriculture, but it proceeds largely unnoticed by most of the American public. This trend describes the emergence of vertically coordinated supply chains that are typically forged together by one dominant player in the chain (Barkema, Drabenstott and Welch). The broiler industry provides an example of fully developed supply chains. A handful of firms now dominate broiler production, processing, and marketing, and they coordinate everything up and down the chain—from chicks to chicken strips.

Supply chains are now spreading well beyond broilers. Pork is the latest segment to undergo a major shift, but the trend is underway in grain

production, too. In short, this trend is driven by the industry's desire to combine the best genetics and the best production practices to deliver products that meet or exceed the expectations of more demanding consumers.

As it turns out, supply chains are highly effective at delivering low-cost, high-quality food products to consumers. But they also bring enormous change to agriculture. They change *how* agriculture does business—by replacing spot markets with contract production. They change *where* agriculture does business—by concentrating production near processing facilities. And they change *who* does business—by concentrating production in the hands of savvy producers who can manage tight production controls and

negotiate sturdy long-term alliances. The firms that forge the supply chain (what some analysts call “the integrator”) simply prefer coordinating fewer rather than many players—it’s a matter of keeping transaction costs low.

Thus, supply chains are in fact a major driver in the new wave of consolidation, though their influence is often overlooked. Moreover, the impact of supply chains will only grow into the next century. Agricultural scientists are bringing a whole new generation of products to the production pipeline that probably will come to market only through supply chains. Consumers, if anything, are becoming even more finicky about their food, spurring new efforts by food companies to make their products better and more consistent—and these are hallmarks of the supply-chain trend.

The pork industry illustrates the powerful dynamics of both types of consolidation. Through a unique constellation of events, the industry is in near-term crisis but also happens to be at a long-run crossroads. The collapse in pork prices in late 1998 brought huge losses to producers and has set off a wave of liquidations, with high-cost operators the first to sell. With the industry still posting big losses in early 1999, this consolidation will probably continue and leave substantially fewer pork producers by yearend. While a painful prospect for those who exit, the consolidation will lead to a lower cost structure in the industry.

A dramatic shift to supply chains is also remaking the pork industry. Pork was once the quintessential “family farm” enterprise—with hogs in every barnyard from coast to coast. But the industry is increasingly the province of big supply chains, a trend marked by a sharp jump in the number of hogs produced under contract. Researchers now estimate that more than half of all hogs sent to market move under some type of marketing contract (Lawrence and others). That compares with less than 5 percent 20 years ago. Some in the

industry now believe that the pork industry is headed to a structure where 40 or fewer supply chains will dominate hog production, a structure much like the broiler industry (Drabenstott).

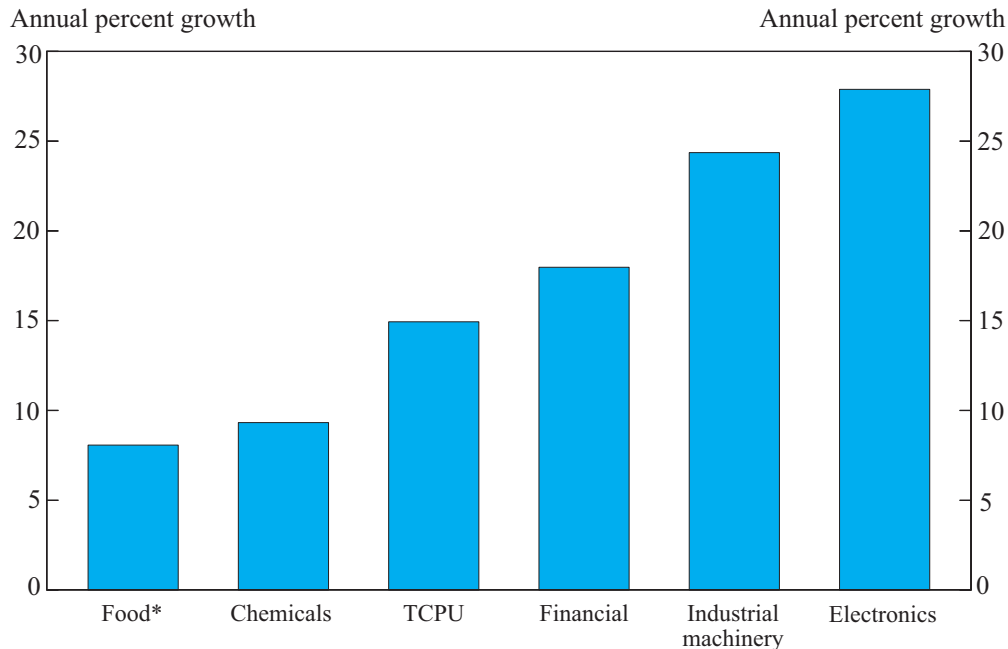
II. IMPLICATIONS OF CONSOLIDATION FOR U.S. AGRICULTURE

The first question that surrounds the new wave of consolidation is what it means for U.S. agriculture and its participants going forward. Four implications stand out. First, consolidation will lead to lower costs in the industry. Second, these lower costs should have two beneficial effects—lower food prices for consumers and improved export sales in global markets. Third, the emergence of bigger players means producers must be much more nimble and savvy in adjusting to new market realities. Finally, consolidation points to dramatic changes ahead for rural America.

Lower costs

Few will debate that the consolidation now under way—whether driven by cost-saving or supply chains—will cut costs in U.S. agriculture. There is a strong list of supporting evidence. In the pork industry, for instance, costs of production on farms with more than 3,000 head are estimated to be roughly a third less than on farms with less than 500 head (Drabenstott). In the cattle industry, costs of producing calves is roughly 50 percent less on ranches with 500 cows than on ranches with fewer than 50 cows (Lamb and Beshear). The cost economies clearly extend into food processing. In the meat-packing industry, for instance, operating costs for the four largest firms are three full percentage points less than for smaller plants—a huge spread in a high volume business (Lamb and Beshear). These kinds of cost gains apply equally to supply chains, but these chains have the added advantage of delivering products much closer to consumer desires.

Chart 2
CORPORATE PROFITS IN THE 1990s



* Includes establishments manufacturing or processing foods and beverages for human consumption.

Consumer and competitive benefits

Lower costs will almost certainly translate into lower food prices to consumers, as they have throughout most of this century. One telltale indicator of this long-standing trend is the portion of the consumer dollar spent on food. From 21 cents in 1950 to just 11 cents today, consumers have been a major beneficiary of consolidation in production, processing, distribution, and retailing (U.S. Department of Agriculture).

There is a point, of course, where concentration can give rise to monopoly power. At such a point, any increase in concentration would only boost industry profits without benefiting consumers. There is no clear evidence that we are near that point (Kinsey). The growth in food industry

profits, for instance, is not higher than in other industries, and in fact appears to be lower than most (Chart 2). At the retail level, one factor that helps to keep markets competitive is the rising tide of food imports. To a very considerable extent, the food market is global. All that said, with the pace of consolidation now under way, the potential for monopoly power in the food sector is an issue that bears watching in the new century.

Lower costs will also have a salutary effect on the competitiveness of U.S. agriculture in world markets. The benefits will extend from lower cost production on the one end to leaner agribusiness firms and lower transportation costs on the other. The pork industry again provides a useful example. Apart from the recent slump in

world demand stemming from the Asian economic problems, pork exports were growing briskly, averaging a gain of 22 percent a year in the 1990s (excluding 1998). While Asian economies will take some time to get back on their feet, long-term prospects for selling pork to the rest of the world are bright. It is a low-cost source of meat protein for a huge slice of the world's population eager to move up the food ladder. There will almost certainly be far fewer producers in the pork industry—both due to the current crisis and due to the emergence of a powerful supply chain. But the producers that stay stand to be very competitive sellers in a strong market.

New business challenges for producers

What consolidation means for agricultural producers is one of the most complex and challenging aspects of the current wave of consolidation. Without any doubt, consolidation leaves some farmers and some companies behind to find new economic futures. In the case of farmers who leave production agriculture, there is always the challenge of finding productive entry elsewhere in the economy. This has been a primary goal for the nation's land grant universities for more than a century.

Looking ahead, the bigger issue is what consolidation means for the producers who remain. Two challenges confront them—one old, one new. The old challenge is pushing costs down to survive in a market with thin margins. The new challenge is to stay in the game when the players are getting much bigger. As supply chains become a more dominant structure in U.S. agriculture, farmers face a very simple test—build new relationships or be left out of the game. Those who do stand to reap new fields of opportunity in the new century.

Producers are well equipped to handle the first challenge. There is a whole new generation of new technology—based on genetics and information—that promises to boost productivity

and slash costs. Critical to overall success, however, will be access to competitive markets. Indeed, in mergers like Cargill-Continental, the biggest question is probably whether such mergers leave farmers in local areas without competitive buyers of their products. In some localized markets, the divesting of operations where local monopolies might result from a merger may be in order. Moreover, farm cooperatives may be a very helpful way of supplying additional competitive yeast. Nevertheless, such divestitures should not distract attention from the overarching benefits of a leaner industry which agribusiness mergers normally create.

Staying in the game in an agriculture increasingly dominated by supply chains may be more difficult. Supply chains mark a clear shift from commodity markets to product markets, and most farmers still see themselves in the commodity business. To compete in the future, farmers must either be big enough to forge sturdy alliances with the “integrators”—who will be much bigger and stronger than most farmers—or they must become a viable partner by banding together in creative ways. In short, the key to staying in the game for many producers may be cooperatives that can either become part of a supply chain, or be the integrator in a new chain.

Cooperatives will not be a perfect avenue for all farmers. Cooperatives are often more adept at production than marketing, and capital tends to be a limiting factor in growing the business. But the growth of traditional cooperatives, such as Farmland Industries, and the proliferation of “new generation” closed cooperatives are still healthy signs that farmers are exploring collective ways to stay abreast of a consolidating agriculture.

A changing rural landscape

Perhaps the biggest, yet least understood, impact of the current wave of consolidation is a dramatic redrawing of the rural economic landscape. Obviously, with fewer farms comes a corresponding

decline in agriculture's impact on many rural communities. The trend to supply chains will have an even bigger impact in many places.

Supply chains redraw the rural economic landscape. Production tends to concentrate in fewer places, creating winners and losers in the process. Integrators source production inputs, including capital, far from where products are produced. This diminishes what has traditionally been a strong link between agriculture and local suppliers. Finally, profits do not all stay in the local area, again reducing the local impact.

In short, consolidation points to strikingly different futures for parts of rural America. Communities still tied to commodities will have fewer farms, fewer banks, and fewer businesses to keep their local economy vibrant. Consolidation simply means that far fewer farm communities will be viable in the future.

On the other hand, communities that hitch themselves to supply chain production and processing have much brighter prospects but a very different local economy than in the past. These communities will benefit from the jobs that processing activity will bring, as well as the prospect of higher per-farm income for large local producers. That said, there may be fewer farmers, fewer suppliers, and fewer profits in the local area than in the past.

III. CONSOLIDATION AND PUBLIC POLICY ISSUES

Along with significant implications for the industry, consolidation also poses new issues for public policy. Three issues loom large in the new century: the pace of consolidation, the geography of consolidation, and the rural impact of consolidation.

The pace of consolidation

In a period of low farm prices, consolidation will accelerate, either from the exit of high-cost

firms or the spread of supply chains seeking fatter profit margins. Either way, consolidation will put some strains on farm families and the communities in which they live. This is not a new trend, but it may be somewhat more pronounced in the period ahead.

The economic forces behind this trend are so powerful and the benefits to consumers so substantial that it is neither possible nor desirable to legislate consolidation away. Still, farm-dependent rural communities will feel the effects. With that in mind, policymakers may want to pay particular attention to efforts to return world food demand to a strong growth path. Stronger export growth would help lift prices of agricultural commodities, and thus appears to be the policy option of choice if policymakers wish to slow the pace of consolidation and thereby mitigate rural impacts.

The geography of consolidation

Supply chains will bring a new geography to U.S. agriculture, shifting production away from traditional patterns and concentrating it in new-found places. While this is most likely to occur with livestock production, it may also be true of grain production, especially once a new generation of genetically altered crops comes to market. Certainly, this trend is manifestly evident in the pork industry.

The hog industry once made its home in the Corn Belt amid a sea of cornfields. The emergence of supply chains changed all that. While there are still a lot of hogs in states like Iowa, the real growth has happened elsewhere. Huge hog farms sprouted in the Southeast in the 1980s, and then headed west to the Great Plains in the 1990s. Oklahoma, for instance, has seen its hog production jump nearly 1,000 percent in the 1990s. These geographic shifts have mainly been the result of a bigger, more concentrated pork industry responding to concerns about its environmental impact and its access to key markets.

The pork industry now stands at a crossroad and asks, Where to next? While this \$28 billion industry has long been a staple of U.S. agriculture, it can no longer be taken for granted that future growth will be in the United States. Indeed, Canada, Mexico, and Brazil are all possible sites for future expansion, especially if large hog producers find a more attractive business and regulatory climate elsewhere (Drabenstott).

National environmental standards for the livestock industry will be an important factor in shaping the new geography of livestock production. Currently, there is a patchwork of hog regulations across states with extremely wide variation. National guidelines agreed to by the industry would appear to provide a much more level playing field on which location decisions could be made. In essence, such a step would push location decisions to the local level, where they probably belong. National threshold standards might also provide a more stable business climate, and encourage more investment in the United States rather than in other countries.

The rural impact of consolidation

As consolidation unfolds, many of the unsung impacts will be felt in rural America, in the communities that long prospered from surrounding farms. As farm numbers shrink, and as supply chains redraw the geography of agricultural production, many rural communities must find new economic engines. Measured by the people affected, this will be a much bigger economic issue than the transition facing the farmers that will exit in coming years. Put simply, many rural communities face a make or break period in the years ahead.

Ultimately, boosting their economic future falls to the rural communities themselves. That future is shaped by many public policies, however, and this may be an opportune time to re-examine the policies most likely to influence future economic growth in rural areas. A number of policy issues fall under this heading.

- *Financial markets.* Rural borrowers continue to face a shorter menu of capital options than their suburban or urban counterparts. This points to the opportunity for market innovations that increase the availability of equity and other forms of capital (Drabenstott and Meeker).
- *Telecommunications.* Digital telecommunications are often held out as economic salvation for remote rural areas. Viable rural communities in the future almost certainly will need more than modern telecommunications to be viable. Still, access to the digital world will remain a critical issue for rural America. The regulatory framework will have a big impact on where—and perhaps whether—private companies choose to invest in rural America.
- *Infrastructure.* Highways, bridges, waterways, and water and sewer systems all will have a major impact on sustaining new economic initiatives in rural America. This brings a wide mix of federal, state, and local programs into focus. With a declining tax base in many rural communities, tough decisions lie ahead.
- *Business assistance.* Rural capital issues are receiving growing attention, but the technical assistance that often helps business plans succeed goes mostly overlooked. The Extension Service has been enormously successful in providing such assistance to production agriculture over the past century. Yet in many parts of rural America there is no counterpart for the rural businesses that may define the future of their communities.
- *Research and technology.* Substantial federal dollars are at work exploring new products and uses for U.S. agriculture. Yet this research mostly overlooks the impact of new technologies on rural America, or whether some technologies might offer

particular promise for farm areas in decline. Adding this dimension to the research effort—either in USDA or in land grant universities—may be worth considering.

From this list, it is clear that consolidation in U.S. agriculture brings into focus a wide range of policy issues in rural America. Most of these lie far afield of the traditional purview of Congressional agriculture committees. Nevertheless, with no federal rural policy to shape these decisions, these committees are in a good position to encourage and inform the debate on rural America's economic future.

IV. CONCLUSIONS

A new wave of consolidation is under way in U.S. agriculture, spurred by low farm prices and an ongoing structural shift to supply chains. The pace of consolidation is likely to pick up so long as commodity prices stay low. While a painful transition for the farms and firms that exit, consolidation is generally favorable for U.S. agriculture

and the U.S. economy. It will yield a lower cost structure, which in turn will lead to lower food prices and more competitive U.S. food and farm products in world markets. Perhaps the biggest impact of the consolidation may be a redrawing of the rural economic landscape, producing geographic shifts and dramatically changing agriculture's linkages to local communities.

Three policy issues loom in the period ahead. The toll of consolidation on rural communities may lead some to want to slow the pace of agricultural consolidation. The best preventative will be efforts to restore growth in world food demand and thus boost U.S. exports and farm prices. The rise of supply chains will produce a new geography in U.S. agriculture, and, especially in the case of livestock production, may highlight the value of national environmental standards on which all can agree. Finally, consolidation will lead many rural communities to seek new sources of economic growth, pointing to the value of examining a wide range of public policy issues likely to shape the outcome.

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