

*The agriculture industry has entered the 21st century;
perhaps farm policy will do so as well.*

The New Farm Economy

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THE U.S. FARM ECONOMY HAS UNDERGONE profound changes in market organization. A wave of consolidation has shifted a larger share of agricultural production to big, low-cost producers. Moreover, new forms of ownership and control that link the farm more closely to the family dinner table are replacing commodity markets as the dominant characteristics of the farm economy.

Unfortunately, U.S. farm policy has not kept pace with those changes. Crafted for the agriculture of the 1930s, farm policy now impedes market forces. The 2002 Farm Bill, rather than simplifying agricultural policy, has made it more confusing than ever and left Washington controlling more of the farm marketplace. The challenge for agricultural policy in the 21st century is to remove government from the farm marketplace.

WHAT IS THE NEW FARM ECONOMY?

The New Farm Economy is a fundamentally different system of producing and marketing agricultural products. It is the product of two forces: consolidation, which is creating larger farm producers that have lower production costs; and linkages between food processing companies and farm producers through contract or vertical integration, which allows for closer coordination of production than through spot commodity markets.

Consolidation A wave of consolidation is creating larger farm producers. While there were almost three million farms in 1970, by 2002 the number had dropped by one-third to just over two million, according to the U.S. Department of Agriculture. In the hog industry, for example, the number of farms has declined by over 90 percent since 1970, a period in which

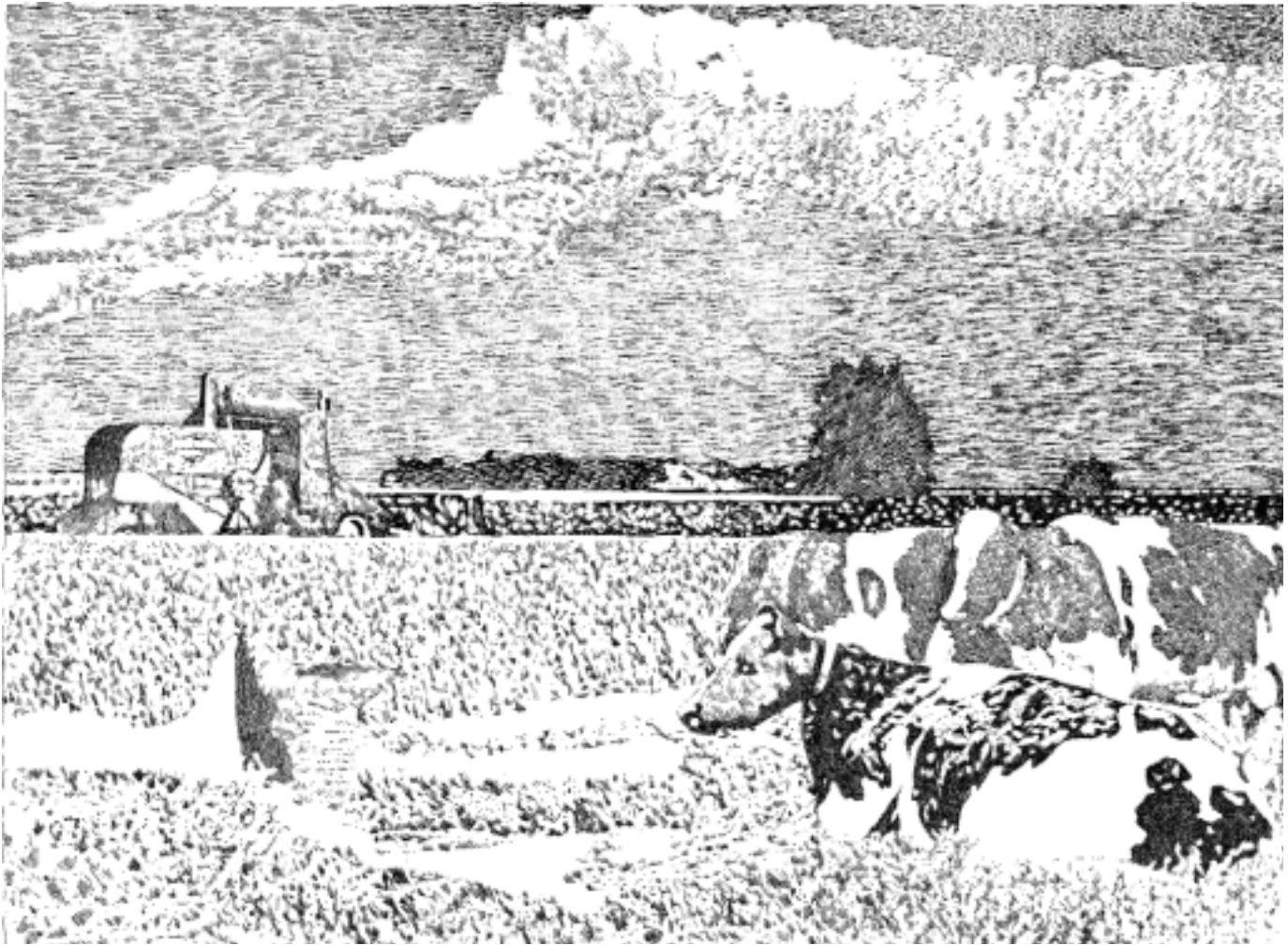
pork production expanded dramatically. In the past two years, the number of hog farms has fallen 13 percent. In the beef industry, the share of the cattle inventory accounted for by small or medium-sized cattle producers has dropped substantially since 1988. Likewise, the share of production accounted for by smaller cattle feedlots (those with a capacity of less than 16,000 head) has dropped from roughly 57 percent to about 42 percent. Similar trends hold in the meatpacking industry, where the four largest packers account for roughly 80 percent of the total industry slaughter.

Consolidation has occurred because larger production units have lower per-unit production costs. For example, the lowest-cost hog producers have per-unit costs of production roughly one-half that of the higher-cost, smaller producers. In beef production, the largest herds (with more than 1,000 animals) have production costs that are 30 percent lower than the smallest.

Supply chains While efficient, low-cost producers are capturing a greater share of the market for farm production, the marketing of agricultural products is changing dramatically because of the emergence of supply chains. A supply chain arises when a producer, called the integrator, controls the production of each intermediate input to the final food product. Usually, but not always, the integrator is a food company (e.g., Tyson Foods or Smithfield Hams). The creation of supply chains may arise through vertical integration in which a single firm owns all of the links in the supply chain or through contracting in which a firm controls production processes through the use of supplier contracts.

Supply chains facilitate the production of consumer-oriented products while at the same time achieving cost reductions through more efficient production. One example of the dramatic impact of supply chains in the food industry is the transformation of poultry production. U.S. consumers favor chicken breast meat for its low fat content but dislike the relative

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dryness of the meat, so they like a seasoning that adds moisture and flavor. In response, integrated poultry firms have developed such products as pre-cut, pre-seasoned chicken strips and marinated chicken breasts pre-seasoned with Asian, Southwest, or other exotic spices. The integrator usually contracts broiler production to farmers, supplying both chicks and feed. The integrator breeds chicks to maximize breast size, and optimal diet helps control both fat content and cost. Even the packaging of the final product in the meat case is designed to maximize eye appeal. The end result is a finely developed consumer product, and tight control over the process helps keep costs low.

While supply chains have dominated some segments of agriculture for years, they are now sweeping across much of the rest of agriculture as well, as shown in Figure 1. In poultry production, the supply chain structure has dominated at least since the 1960s, and vegetable production for freezing or canning has occurred largely under contract for years. But now, pork production has also come to be dominated by the supply chain structure through both contracts and outright ownership. By 2002, almost three-fourths of hogs slaughtered were sold under some form of marketing contract or vertical integration. Even in the beef industry, a substantial share of the cattle being fed for slaughter is already committed to a certain meatpacker. To a smaller degree, crop production is also adopting the supply chain structure. While grain production was once the very definition of commodity agriculture in which farm products were

sold in spot markets, grain producers now grow crop varieties with unique characteristics (like blue corn for tortilla chips) under contract with food companies.

Contracting and vertical integration between producer and processor is displacing commodity market arrangements for several reasons. Farmers gain certainty about prices and demand for their output as well as higher profits. Processing firms gain certainty about the availability and quality of highly specialized inputs needed for consumer products. And the processors can quickly and efficiently alter food products to reflect evolving consumer tastes.

Fundamental changes The changes sweeping agriculture today are fundamentally different from previous changes in agriculture. Previous innovations increased agricultural productivity dramatically but had little effect on the fundamental organization of markets for farm outputs. Most farmers from eastern Ohio to eastern Nebraska continued to grow yellow corn with larger and larger tractors after hybrids replaced traditional varieties. And most corn was sold in much the same way at the end of the 20th century as at the beginning, with local elevators acting as middlemen between farmers and food processors. Spot markets for commodities dominated farm marketing in the 20th century, with transactions taking place “on the spot,” that is, with no advance coordination.

But the New Farm Economy is characterized by a different marketing

system for farm products. In the New Farm Economy, spot markets for some commodities have largely disappeared. Farmers no longer sell chickens or turkeys at auction or in spot markets. Ultimately, commodity markets may disappear entirely for most farm outputs, as they have for intermediate inputs in many parts of the nonfarm economy. Can anyone imagine Ford buying engines for its cars in a spot market?

AGRICULTURAL POLICY

While the farm economy is undergoing a fundamental transformation, agricultural policy is mired in an early 20th century view of farm problems. Government still addresses problems that arose in the turmoil of the Great Depression, but many of those problems are not part of today’s farm economy.

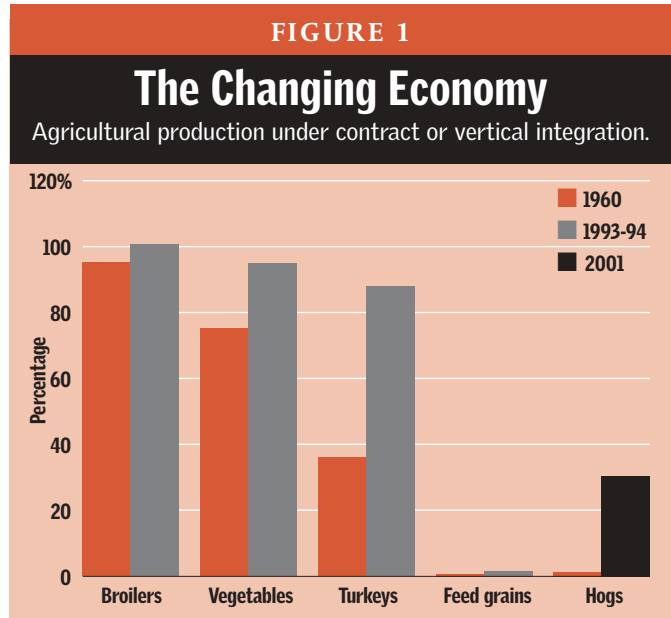
U.S. agricultural policy rests on two critical assumptions: farm producers (and, more generally, rural America) need income subsidies to increase living standards to levels comparable with the rest of the country; and farm output and income are inherently “unstable” and requires government intervention in farm markets to stabilize them.

An important source of political support for U.S. agricultural policy is the belief that farmers need government payments to enjoy the same standard of living as other Americans. While farm incomes lagged those in the rest of the economy in the 1930s, they now exceed non-farm incomes. The average farm operator household earned about \$64,000 in 2001, roughly 10 percent more than the average U.S. household. Farm households are, on average, wealthier than nonfarm households as well. In 2001, the average net worth of farm operators was \$540,000 — far greater than that of the average U.S. household.

A second assumption underlying U.S. agricultural policy is that government needs to manage market “instability.” Traditionally, agricultural economists argued that markets for farm products were characterized by a combination of nearly fixed (perfectly inelastic) demand and highly volatile supply that was rising rapidly over time. The result was wildly volatile crop prices. Government intervention was necessary to keep farm prices “stable” and farmers out of bankruptcy.

From the end of the Civil War through the 1930s, farm prices and farm income were volatile for two reasons. First, unpredictable movements in supply and demand for farm products pushed prices up and down dramatically. In both the First and Second World War, U.S. agricultural production rose to offset falling production in Europe, boosting farm prices and incomes. After both wars, European farm output recovered. The United States was faced with excess supplies and falling prices, resulting in the agricultural collapse of the 1920s and the farm slump of the early 1950s. Weather-induced supply shortfalls like the late-1980s drought and the 1995 flood often resulted in declines in crop production as well. Those shifts in demand and supply for agricultural products were largely beyond farmers’ control. Many analysts argued that government intervention was necessary to prevent sharp swings in output, prices, and income.

Second, in addition to movements in demand and supply, advances in farm productivity have also led to periods of excess supply, low prices for agricultural products, and losses for farmers. With the spread of mechanization in the 1930s, farm



output rose sharply and prices fell dramatically. Likewise, the spread of hybridization in the 1960s helped push yields on many crops up sharply in a short period of time. A view developed that farm production was unable to respond to price declines quickly enough to avoid recurring farm crises because fixed costs were so large in agriculture. Interventionists argued that government action could lend stability to agricultural markets by forcing farmers to cut back on production in periods of excess supply.

Government intervention While the instability experienced by farmers was real, government intervention was ineffective at dealing with the volatility in agricultural output and prices for a number of reasons. In order to “manage” the supply of farm products to keep prices high and stable, government policymakers must forecast demand and supply six months or more in advance, because farm production takes place over a long period of time. The government has had little success at forecasting droughts and floods or unexpected movements in demand that far in advance.

For example, in the late 1980s the U.S. Department of Agriculture was inducing farmers to idle millions of acres of cropland to reduce supply after several years of low prices. But drought in 1987–1988 resulted in an additional supply reduction that overshot the USDA goal. Sudden shifts in demand proved difficult to forecast as well. At a time when high farm prices were already boosting farm income, the 1996 legislation pumped billions of additional dollars into the farm economy, further boosting production in 1996 and 1997. When foreign demand for U.S. farm products fell following world economic and financial problems in 1997, excess supplies soon followed, but farmers kept right on producing at high levels.

The central argument for supply management programs is that the government has an advantage in coordinating the activity of farm producers. But because government forecasters have no more information than private market participants (indeed they have less), their

inability to predict demand and supply shifts accurately should not be surprising.

Another important rationale for government supply management has been that increases in farm productivity lead to periods of overproduction and excess supply. Proponents argue that supply management by government can reduce agricultural output and help prevent excess supply. But the supply management efforts have been offset by farm subsidies that increased farm output. The 1996 farm bill ended target prices, one traditional subsidy that increased output, but the 2002 legislation reintroduced target prices set well above market-clearing levels (an old idea used since the 1970s) to provide further income support to farmers. And several crops that were not subsidized, including lentils and dry edible beans, became eligible for price support. Such policies increase, rather than manage, supply.

Supply chain stability Market forces may result in more stable agricultural output, prices, and income than government programs have delivered. Consumer food prices are far more stable than farm commodity prices, as shown in Figure 2. A stronger connection between the “farmgate” and the grocery store shelf through either vertical integration or contract likely will lead to more stable prices and incomes for farm producers. The uncertainty in demand associated with spot markets for farm commodities will largely disappear as supply chains come to dominate food production.

Moreover, in a supply chain structure, the downstream food company has a strong interest in ensuring the viability of farm producers. The final output of food products depends on agricultural inputs. As spot markets disappear, food companies will depend critically on the farmers who are the input suppliers. While many

farm producers may fear “dependence” on downstream processors in the New Farm Economy, food companies will be motivated to ensure farmers’ survival. That suggests that farm prices and farm income may be far more stable in the New Farm Economy than during the years of government supply management.

Agricultural policy has two strikes against it. First, farm incomes are not low on average and thus do not require or deserve taxpayer support. Second, farm incomes and output are variable, but government policy is ineffective at stabilizing farm output.

By focusing on “commodities” rather than food products, current policy ignores the structure of the New Farm Economy. By keeping inefficient producers afloat, agricultural policy leads to excess supplies, low prices, instability, and future farm crises. Worst of all, current policy favors the status quo in the farm economy and impedes the development of more efficient, consumer-friendly food supply chains.

HOW DO WE GET THERE?

Allowing market forces to guide the New Farm Economy toward a more efficient supply chain structure would benefit consumers and producers. But the U.S. farm economy has a 70-year history of government intervention into agricultural markets through subsidies and supply management. How can we move to a market-guided New Farm Economy with the least turmoil?

Cold turkey? If the goal is to allow market forces to guide the New Farm Economy, why not end subsidies and supply management policies today? An immediate shift to a market-forces policy might be expensive for U.S. taxpayers. For example, farm subsidies have been tied to historical production on farm “program acres.” The effect has been to boost the prices that buyers are willing to pay for land. Removing farm subsidies entirely, or lowering them dramatically, could result in a decline in farmland values of as much as one-third, even in the highly productive Midwest.

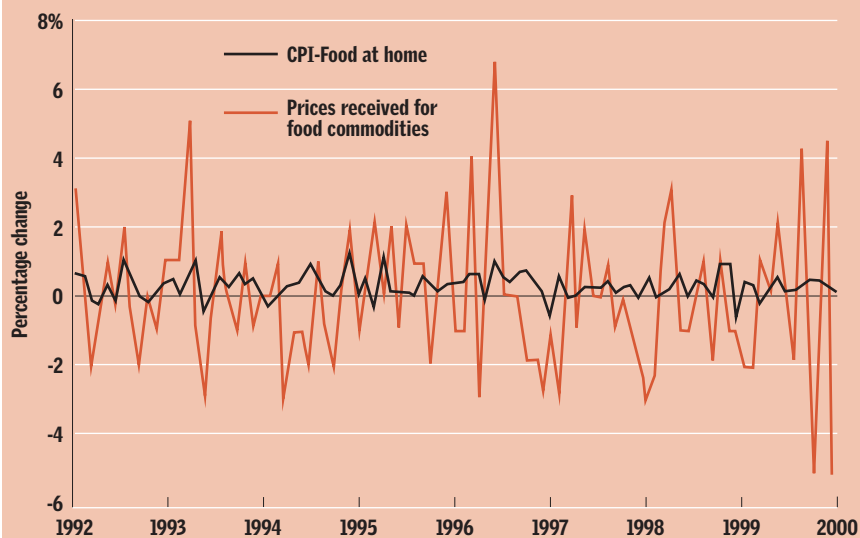
Declines in farmland values could seriously disrupt rural communities. Because farmland purchases are often financed with considerable debt, a drop in farmland values would result in large losses for many agricultural banks. Such a decline could necessitate another taxpayer-financed bailout of agricultural banks like that of the 1980s.

But the strongest argument against such an immediate shift to the market-forces policy may be political feasibility. The 1996 farm bill was justified as a “transition” to a new market era in U.S. agriculture — payments under the 1996 farm bill were called “market transition” payments. But rather than weaning farmers

FIGURE 2

Markets vs. Government Management

Volatility in farm and food prices.



Source: Bureau of Labor Statistics and National Agricultural Statistics Service

from government subsidies, policymakers increased farm subsidies when commodity prices fell after 1998. The subsequent 2002 farm bill was a giant retreat from a market-forces policy in agriculture. (See “A New Crop of Subsidies,” Spring 2002.)

Experience with the 1996 farm legislation also suggests that it may not be politically feasible to eliminate government subsidies to farmers without an explicit policy to assist those left behind by the marketplace. Although farm incomes are on par with those in the rest of America, the general public continues to support programs that transfer income to farmers. A strong identification with “Rural America,” even in the cities and suburbs (recall the 1980s “Farm Aid” concerts), boosts support for farm spending. Public support is reflected in the continued willingness of Congress to fund farm programs.

Because benefits are concentrated on a few producers, farmers have an incentive to influence legislative outcomes. The

farming for many current producers. Providing a subsidized exit for farm producers is not unprecedented. A government-sponsored buyout of dairy producers (the “dairy termination program”) in the late 1980s provided government payments to dairy farmers who agreed to sell their entire herd for either export or slaughter. Farmers submitted bids to the buyout program, and the lowest bidders received the value of their bid plus the market value of animals sold for slaughter. Producers participating in the program were barred from being involved in milk production for five years and their facilities were barred from production for five years as well.

The dairy termination program resulted in over 11 billion pounds of annual production capacity leaving the industry between April 1986 and August 1987 (compared with 143 billion pounds of total milk production in 1985). Those farmers who exited the industry tended to be either very young or very old, and tended to use less sophisticated management techniques. This suggests that the program likely resulted in a more

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quota that restricts U.S. sugar imports, for example, mainly benefits only a handful of producers, while costs are spread across practically the entire population. Legislative vote-trading also facilitates government subsidies: Legislators with largely urban constituents support continued farm spending, while legislators from rural areas support the food stamp program.

Subsidized exit A sudden end to subsidies for farm producers and government intrusions in farm markets may not be feasible. But a gradual approach to ending subsidies in the last farm bill appears to have failed. What sort of transition might be successful in moving toward a market-forces policy for U.S. agriculture?

Two principles are necessary to ensure that a politically feasible and viable market-forces policy triumphs at the end of the day. First, there should be fewer producers in agriculture than there are currently. As long as there are farm producers who depend critically on subsidies for their survival, political pressure will be exerted to support them. Second, farmers must be free to choose whether they leave agriculture with the government’s help or remain in farming without government subsidies. The best way to end government subsidies and other market distortions is to design a reform program that benefits both those who choose to leave agriculture and those who remain.

There are too many farm producers depending on government subsidies for their survival. The next farm bill must face that problem head-on. Rather than providing subsidies for farmers to produce, it should provide a subsidized exit from

efficient dairy industry. While supply of dairy products dropped after the program was implemented, remaining producers later expanded production in response to government price supports. That highlights the importance of ending all farm subsidies once the buyout is in place.

Other countries have also moved from government-managed farm production to a market-forces policy. Beginning in the late 1980s, New Zealand reformed its economy, lowering costs in many sectors. Direct and indirect subsidies to farm producers were removed. Not only was the program supported by most of the population (including many farmers), but the result has been a far more efficient agricultural sector. The key to the success of New Zealand’s reforms was the view by many within agriculture that the beneficial effects of market forces outweighed the loss of subsidies.

Let farmers decide In addition, a successful transition to a market-forces policy will need to give farmers the choice of whether to remain in agriculture or accept a government buyout. By making the buyout voluntary, policymakers will increase public support for the program and will improve its efficiency by having the farmers themselves decide who should exit. One goal for the transition should be to have the most efficient farmers remain in agriculture while the least efficient leave. The best person to gauge a farmer’s efficiency is the farmer himself. Allowing farmers to decide whether they exit or not will use the private information farmers have about their own productivity and opportunities outside of agriculture to foster an efficient transition.

For farmers who choose to exit, the government should

offer one-time payments related to their historical production. Careful thought will have to be given to whether payments should be restricted to those who have participated in farm programs in the past. In exchange for government payments to leave agriculture, farmers who accept a subsidized exit should agree to considerable restrictions on their agricultural activities, perhaps idling farmland for an extended period, converting it to pasture or other uses, or even selling it outright. Farmers who choose to exit would be ineligible for future government payments and their land could not receive future payments even under different ownership.

Experience with the dairy termination program provides clues about the design of a broader buyout of farm producers. Allowing farmers to bid for participation in a government buyout, as dairy farmers did in the 1980s, could result in the least efficient farmers choosing to leave agriculture. Because the least efficient farmers are (by definition) those with the lowest net returns to farm production, they should be willing to leave farming for the least money. The government will not need extensive information about the efficiency of individual farmers; buying out those who submit the lowest bids will foster an efficient transition.

But how will a market-forces policy deal with those farmers who choose to stay in production? The goal ultimately is to free agriculture from government interventions entirely. Of course, Congress cannot effectively restrict the actions of future lawmakers, so the threat of renewed intervention in the marketplace is real. Historical experience suggests that renewed calls for government support are likely to accompany a decline in prices or income.

Agricultural policy in the 21st century should avoid providing incentives for farmers to overproduce, the central mistake of past agricultural policy. Policymakers and analysts debate whether farm subsidies should be achieved through lump-sum payments, price floors tied to current production, or subsidized insurance contracts (either insurance against crop damages or broader types of coverage). Those approaches ignore the central problem: All subsidies to farm producers encourage overproduction.

An alternative to future government subsidies for those who remain in agriculture might be a kind of “rolling buyout.” During periods of low farm income or low farm prices, farmers would have an option to enter a buyout agreement with the government or remain in agriculture without government subsidies. The program might be structured like the initial subsidized exit described above. Such a program would cause farmers to evaluate whether their future returns from farming were greater than the buyout offered by the government.

Such a program would certainly affect the structure of the farm economy during the next five to 10 years. It avoids the pitfall of stimulating overproduction and will change the mix of farmers over time, likely resulting in more efficient producers. The key to ending government interventions is to create a farm system in which the remaining farmers see greater returns from market transactions than from government farm programs. Government involvement in farm markets could then be a thing of the past.

CONCLUSION

The farm marketplace is moving rapidly toward a new structure dominated by more efficient producers with transactions coordinated by an intricate web of supply chains. Consumers benefit from products tailored to their preferences at low cost. Farmers benefit from higher and more stable incomes. Agricultural policy should embrace the changing structure of the farm economy.

The best way to harness the benefits of the New Farm Economy is to let market forces guide its evolution, unfettered by outdated government programs and unnecessary agricultural subsidies. While the transition to the New Farm Economy may mean losses (especially for the least efficient producers) a transition policy that helps those producers leave farming offers the best hope of ushering in a market-forces policy for U.S. agriculture. **R**

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