

How Federal Farm Policy Influences the Structure of Our Agriculture
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Commodity programs have indeed influenced the structure of American agriculture. To put those impacts in perspective, it is important to broaden the discussion a bit. For example, in addition to looking at the structural impact of current commodity programs, it is also necessary to consider the longer term effects of commodity programs on farm structure over the last seven decades. In addition, it is critically important to understand that commodity policy is part of farm policy and farm policy, in turn, is a part of broader socio-economic policy. This broader policy context is important because it is the interaction of all three—commodity policy, other aspects of farm policy and broader socio-economic policy—that has driven much of the change in farm numbers, farm size and operator tenure in American agriculture over the last century. Each force has reinforced the other two. We also believe that individual and combined impacts on farm structure of the three forces were largely unexpected or, at least, were not fully foreseen.

Having said that, we want to comment on what we think are the two watershed events in recent commodity policy history that accelerated its influence on the number, size and tenure of farms. The first occurred primarily in the early seventies with ancillary elements into the mid-80s and the other occurred in the mid-nineties. After that discussion, we will return briefly to discussing how the commodity programs fit into a broader policy milieu that together have been a powerful influence on the structure of American agriculture.

The first watershed event was actually a series of events that began in the late sixties when the US government liquidated government-owned grain stocks and sold-off the round bins that held the grain. Secondly, in the early years of the seventies, a confluence of factors, including a failed anchovy harvest off the coast of Peru, and a policy change in Russia resulted in sudden, mammoth grain imports from the US which caused crop prices to sky-rocket. Having just abandoned Henry A. Wallace's ever-normal granary policy, buffer stocks were not available to moderate prices. Finally, Secretary of Agriculture Earl Butz, used the "bully pulpit" to convince farmers that they were in the midst of a new dawning for agriculture. He and others declared that future export demand would be "insatiable," rendering crop surpluses a thing of the past.

The short-term doubling and even quadrupling of crop prices and, especially, the unbridled optimism for the future of crop agriculture had a number of permanent long-term effects on farm structure. Farmers came to believe that growth in grain exports was the key to a prosperous future so they geared up to grow more export crops. That meant, in many parts of the Midwest, five year rotations that included oats, bedding and hay for livestock were replaced with two year rotations of corn and soybeans. Farmers converted barns to machine sheds, tore out fences and psychologically divorced themselves from a livestock-oriented, diversified agriculture. This meant when the export boom turned out not to be a boom at all (Uh ah, I know, it will resume anytime now), farmers had painted themselves into a corner. They could not reasonably go back to a largely

livestock-based, diversified agriculture because it would be too financially and psychologically expensive to do so.

Despite the failure of the boom, farmers were assured of a bright future. Rather than view the tremendous export growth spurt as the aberration that it was, government officials, politicians, farm and commodity organization leaders, and agricultural economists saw the decline in total crop exports and the reduction of our share of exports as something that could be fixed by changing commodity policy. The revamping of farm commodity legislation began with the 1985 Farm Bill.

Export subsidy programs, such as the Export Enhancement Program, were enacted. But, the major push was to lower commodity prices. It was argued that under previous farm bills, prices were supported above world price levels. The solution was to drastically lower price supports and rely more on direct payments to support agriculture.

Despite the absence of supporting evidence, it was implied that exports would increase sufficiently that total revenue to agriculture would eventually increase. That is, export demand was said to be price elastic so the quantity demanded for export would increase by a larger percentage than the percent reduction in the price. Total export revenue would then increase. But, most of the demand for corn and soybeans was and still is domestic demand which tends to respond little to price changes. So for total revenue for a crop like corn to increase after lowering the price, exports would have to explode to make up for the small price response of domestic corn demand to the change in price. As it turned out not even major-crop export revenue increased following a reduction in price.

This 1985 push-the-price-down approach to policy continued straight through to the second watershed event: the 1996 Farm Bill. This legislation eliminated short-term supply management and rendered price support instruments ineffective. We are now to the point that government payments can run about \$20 billion per year and represent nearly half of all net farm income in some years. For grain farmers, government payments can—depending on the year—represent all (or more than all) of their net farm income.

These two watershed policy events have had a couple of effects that we believe have accelerated the trend toward a narrow, specialized agriculture and the trend toward few farms of larger acreage, or, if a farmer continues with livestock, to encourage the switch from an independently-run operation to one in which the farmer contracts out space and labor to an integrated livestock firm. Since many farmers no longer had livestock or a multi-crop rotation that allowed higher livestock prices to offset low crop prices, and vice versa, their self-preservation required driving down per unit costs and increasing the scale of production of corn and soybeans. This accentuated the pressure on crop farmers to increase acreages farmed and to purchase large reduced-till equipment that decrease the number of field passes, but require a lot of power. The result was lower operating costs and higher fixed costs.

The low crop prices forced out additional independent livestock operators. Independent livestock farmers were at a disadvantage to the large integrated livestock operations which genetically honed hogs to achieve optimal productive capacity. But just as importantly, integrated livestock operators typically pay below wholesale prices for corn and soybean meal—prices that are as much one half the full cost of grain. Under

these circumstances, there is no incentive for farmers to own livestock and feed it homegrown grain. Besides that, the farmsteads were no longer livestock friendly.

In addition to encouraging the expansion of farm size, there have been a couple of other ways by which farmers have tried to stabilize their financial situation. One is to work more off farm, perhaps 40 hours a week and farm on nights and weekends. The other approach is to become labor and space contractors for third-party livestock operations. Building and financing one or more sets of four to six buildings in which to produce hundreds to thousands of hogs or poultry each year has become the predominant way in which today's farmers can "diversify" into livestock production.

As important as these watershed events and other effects of commodity programs have been in influencing the size and number of farms, other influences may actually have had more impact. These other influences also tend to be policy based but the policies are much broader in orientation than the more commodity-specific farm policy discussed so far.

Arguably, no policy contributed more to the initial establishment of a system of millions of family-sized farms than the policies used to initially distribute public land for agricultural use. The Homestead Act of 1862 and similar programs set a base for US agricultural production anchored in Jeffersonian ideal of independent owner-operated family farms. Other policies have helped individual family-run operations remain in business by providing such things as production and marketing information (experiment stations, extension and land-grant universities) and credit (institutions that provide short-term and long-term credit) Other examples of legislation designed to foster independent family farms includes federal legislation to allow the creation of farmer-owned cooperative associations, state legislation prohibiting corporate farming and various federal and state legislation to regulate financial transactions between farmer and non-farm enterprises.

And yet, over the long-run many of the policies just cited may have done more to further concentrate agriculture into fewer and larger farms than to help foster an atomistic agriculture. The logic behind such an assertion brings us back to the "broader policy context" mentioned in the first paragraph of this discussion.

When taken together, the three mentioned policy types of commodity programs, other farm policies—some of which was referred to a couple paragraphs earlier—and broader socio-economic policy may encourage farm size expansion even though the individual policies may be touted as being size neutral or favor moderate-sized family operations. For example, the new technologies flowing from the system of land-grant universities, experiment station and extension services lower per unit costs at the farm level. The final result after widespread adoption of a new technology is often a reduced net return because the new technology resulted in output expansion as well as lower per unit costs. Net returns are squeezed as the increased output causes prices to decline more than the reduction in the per unit cost of production.

In some cases, new technologies require a substantial investment, often an outlay that not all farmers can afford or have sufficient loan collateral to cover. Those who are in a better financial position may be further encouraged to purchase the new technology because of the relative price/income certainty provided by commodity programs and favorable credit terms provided by a federal credit institution.

Machinery purchases come immediately to mind. With a new machine often comes the incentive to expand acreage because of larger capacity and because fixed costs decline with use on additional acreage. So those in a position to purchase the expensive technology also seek ways to lease or buy more acreage. The same relatively certain price/income expectation provided by commodity programs and availability of below-market credit terms provide a favorable setting to enlarge farm size. Also, since farm program payments are based on current or past production, government payments can provide increased disposable income—and at the margin more so for larger operators.

Those unable or unwilling to compete for land and more productive inputs see their net returns decline over time and often become the source of land resources and used machinery for others.

Other factors move the concentration process in the same direction. For example, socio-economic policies that result in improved communications and transportation allow those with larger operations to consider a wider geographic area to secure lowest-cost inputs and highest prices for output. The result is a further widening of their economic advantage and financial ability to secure additional land and other resources.

One element of the policy constellation that influenced the structure of agriculture that is easily overlooked is this country's history of inexpensive energy policy. Public mechanisms to expand the availability and reduce the cost of energy have included the leasing of federal land for oil exploration, the development of offshore oil leases, oil depletion allowances, differential investment tax credits for oil exploration and refining equipment, and a system of lower energy taxes than most countries, among others.

The availability of inexpensive energy made it possible to replace animal labor, wind and water as primary sources of on-farm energy with the power of combustible engines. With a Rumley Oil Pull tractor a farmer could work more ground in a day than could be worked in a week with horses. And the maintenance costs were far less than for an equivalent amount of draft animals. Acreage was released that formerly provided feed for draft animals. Over time, one person on a tractor covered more and more acres as new and better tractors and machines were developed based on research at publicly-funded experiment stations and privately-owned machinery companies. The availability of fossil fuels also facilitated many of fertilizer and pesticide technologies that have been introduced to agriculture over last several decades.

In summary, many forces have shaped the changes in farm structure over the decades, and we have only scratched the surface here. Clearly, an important driving force has been technological change, much of which has been generated and extended to farmers by publicly funded institutions. But it is just as clear that other policies—some directed toward agriculture such as those that influence price and income stability and credit availability and some that are not specifically directed toward agriculture—have provided a facilitating environment under which structural change has taken place in agriculture. The complexity of the interactions suggests that it would be easy to overestimate the efficacy of introducing a single policy or policy change that is specifically designed to reverse structural trends in agriculture.