

Are Current Farm Commodity Programs Outdated? Arguments in the Negative

Ronald D. Knutson

Over the next two decades a level of government involvement in agriculture comparable to that of the past two decades can be justified. Indigenous, cyclical, and secular characteristics of agriculture provide a strong defense of this position. Abandoning commodity programs would have adverse consequences. A realistic set of policy goals is presented and suggestions for fine-tuning government programs are offered.

North American agriculture is in its most volatile period since the Great Depression. The agricultural economic environment has shifted back to one of generally surplus conditions. International competition continues to intensify. Falling farm asset values have thrown agriculture into the worst financial crisis since the Great Depression. The survival of the mid-size family farm has increasingly become dependent on government programs. All indications are that agriculture is poised for a technological revolution that could dwarf the 1930s' mechanical revolution and the 1950s' chemical revolution [Office of Technology Assessment].

At this same time, farm programs have come under increasing criticism by agricultural economists and policymakers for being too costly, ineffective, and counter-productive [Schuh, 1983; Gardner]. Considerable professional pressure exists to jump on the political bandwagon against the legacy of current and past farm commodity programs.

This paper does not attempt to defend all existing U.S. domestic farm policy in-

stitutions. U.S. sugar, tobacco, and dairy policy have been so grossly misguided that they are indefensible. It will be argued, however, that over the next two decades a level of government involvement in agriculture comparable to that of the past two decades can be justified. This paper is designed to present an explanation of an appropriate role for commodity policy over the next decade. That role represents a fine tuning and modernization of the policies pursued in the 1950s through the 1970s.

The paper will sequentially cover the following major areas:

- The modern context of farm commodity programs.
- The characteristics of agriculture that justify farm commodity programs.
- The consequences of abandoning farm commodity programs.
- A recognition of the limits on what government can do.
- The development of a realistic set of commodity policy goals and their programs' implications.

Because of the scope of this task, my comments will be more of the nature of an outline than a comprehensive treatise.

The Modern Context of Farm Programs

In critiquing today's farm policies, it is often implied that commodity programs

Ronald D. Knutson is Professor and Extension Economist at the Agricultural and Food Policy Center in the Texas A&M University System.

An earlier version of this paper was presented in the invited paper session, "Changing Structure of the Meat Market," at the annual meeting of the Western Agricultural Economics Association in Saskatoon, Canada, July 7-9, 1985.

are little different than when they were established in the period 1930–1950 [Rasmussen; Paarlberg; Schuh, 1983]. This is the case for only a limited number of commodities such as tobacco, peanuts, and dairy. For other major commodities, substantial changes have occurred in program orientation. Initial U.S. commodity programs maintained price supports at sufficiently high levels that commodities generally could not be exported without subsidies. This condition existed almost without precedent through the early 1970s.

In the late 1960s, there occurred a major shift in farm programs, a switch toward direct income payments and eventually the establishment of the target price program in 1973. The result was a separation of price support from income support. This policy change had major significance from an economic perspective. It allowed the loan rate to be lowered while maintaining producer returns at politically acceptable levels through deficiency payments from the government to farmers when the market price fell below the target price.

From an economic welfare perspective such a policy change has a unique effect. While previous high price support programs had a large welfare loss associated with them, the net loss associated with the target price program is quite small because the benefits of supporting farm prices are passed on to consumers in the form of lower food prices. This reality negates at least a portion of the criticism of high price support policies. Yet in instances where a substantial proportion of the commodity is exported, the beneficiary may be a foreign consumer.

In addition, while previous programs had allocated farm program benefits strictly on the basis of volume of production (allotments), target prices also provided the opportunity to limit the magnitude of commodity program benefits obtained by large scale farmers. Unfortunately, it remains unclear as to exactly how effec-

tive these targeting actions have been [Johnson and Short].

The effect of farm program changes over the past two decades has been to abrogate the high loan rate policies pursued from the mid-1930s through the early 1970s. One of the main items on the agenda of the 1985 Farm Bill is to institutionalize a policy that will assure that loan rates remain below market prices. The point is that U.S. farm policy **has** changed and evolved from one that discouraged exports to a policy that has encouraged exports and from a policy that taxed consumers to one that at least shares the benefits between producers and consumers. That represents a major policy change. The significance of this policy change seems to be more apparent to our exporting country competitors than it is to economists and policymakers in the United States.

Characteristics Justifying Farm Commodity Programs

From a general perspective, the justification for farm commodity policy lies in characteristics that make agriculture fundamentally different. While none of these characteristics taken individually may serve as a justification for farm programs, in combination they provide the basis for a strong **economic** and **political** defense of commodity policies and programs in support of agriculture. The characteristics are grouped in three categories: those that are indigenous to agriculture, those that are the result of cyclical macroeconomic factors, and those that result from secular changes currently occurring within agriculture.

Indigenous Characteristics

The following indigenous characteristics taken together provide a fundamentally different justification for farm programs than the policies applied to other

businesses. They are basically the same characteristics that have been used to justify farm programs over the past 50 years.

- Farmers operate in an environment where the biological and natural risk of production is greater than in other industries. As a result, the supply and export demand is perpetually shifting in an often unpredictable manner. While farmers can sometimes insure against the risk of crop failure, such insurance is costly.
- Both the supply and demand for farm products are inelastic—particularly in the short-run. As a result, small changes in either production or consumption yield relatively larger price changes. While contemporary evidence suggests that the demand for farm products may be more elastic than in the past, it still remains inelastic in the short-run and in the aggregate [Tweeten; Schmitz *et al.*; Bredahl *et al.*; Schuh, 1981]. With an inelastic supply and demand, free market conditions demonstrably lead to a large amount of price risk. Conditions of general surplus lead to severely depressed prices and income. Price and income risk is difficult for farmers to deal with and is often beyond the control of individual farmers. This is particularly the case for moderate-size farmers who lack the expertise to deal effectively with market institutions such as futures or options markets. Sometimes the only price risk reduction option available is to lock in a loss.
- The structure of agriculture is highly decentralized at the farm level. On the other hand, the buyer side of the market is oligopsony structured. Even in more highly concentrated agricultural industries such as broilers and cattle feeding, the ability of individual firms to administer prices is extremely limited. Except in the

presence of marketing orders, cooperatives have not generated sufficient muscle to influence significantly the terms of trade. As a consequence, without the aid of government programs, farmers are not in a position to take advantage of inelastic demands by managing markets. Nor are they in a position to direct product flows in a manner that takes advantage of differences in demand elasticities for the same product between markets. For example, export demand is invariably more elastic than domestic demand. Producer returns, therefore, can be increased by restricting the flow of products into domestic markets (raising the price) relative to export markets. This difference in demand elasticities is only being effectively exploited under market orders.

- Food is a necessity of life. Its absence or even its high price is a source of substantial political unrest. As a result, most countries pursue policies of maintaining a degree of self-sufficiency or have state trading in major commodities, or both [Bredahl *et al.*]. This is done for food security reasons regardless of economic comparative advantage principles. Food security motivations make free trade in farm products a myth. While efforts to pursue expanded trade and reduced trade barriers should be continued and even intensified, this pursuit must be approached with realism. Domestic farm policy must likewise be pursued with a realistic understanding of the chance that export markets may not be able to absorb the output of a full production agriculture while yielding politically acceptable rates of return.

Cyclical Characteristics

In the past, the impact of business cycles on agriculture has not received sufficient

recognition. That changed in the 1980s with the initiation of macroeconomic monetary restraint in the face of high deficits. Current high real interest rates not only adversely affect costs of production, but also the level of exports and the value of agricultural assets.

For farmers, reductions in the deficit can be as important as farm policy decisions [Schuh, 1983]. Yet reality suggests that as a small political minority, farmers have little impact on macroeconomic policy decisions. Accordingly, farm program decisions need to be made in recognition of prospective macroeconomic conditions rather than the other way around.

In tuning farm policy to macroeconomic conditions, major questions arise regarding the extent to which U.S. farm exports, prices, and incomes would rise if the deficit were materially reduced and the value of the dollar declined markedly. There is some quantitative evidence to support the Schuh (and the Reagan administration) position that a lowered value dollar would contribute materially toward solving the farm income problem [Knutson *et al.*]. At the same time, only a few countries operate in a market setting that is expected to be immediately responsive to changes in the value of the dollar. For many others, international demand is administered and is unresponsive to price changes—particularly in the short-run [Hathaway; Schmitz *et al.*; and Bre-dahl *et al.*]. Regardless of the net magnitude of these opposing forces, cyclical macroeconomic factors are a major destabilizing force in agriculture. Therefore, macroeconomic effects are a more important factor justifying farm programs than was the case in the pre-1970 era.

Secular Characteristics

There is increasing evidence that the current problems of low farm prices and incomes are more than cyclical phenom-

ena. Rather they are the result of basic secular changes in the fabric of agriculture that, in the absence of government intervention, will not be overcome without major economic turmoil. These changes are occurring on both the supply and demand sides of the market for farm products including:

- An accelerated rate of technological change will result in more rapid increases in yields thus complicating the surplus problem and requiring a large exodus of resources from agriculture. Conferring patent rights on bio and information technology discoveries has been a major factor increasing private sector investments in agricultural research. U.S. private sector agricultural research now actually exceeds public sector research [Office of Technology Assessment]. The resulting flow of new technologies has already begun with initial productivity impacts being the most profound in animal agriculture. For example, milk output per cow could easily increase 25 percent over trend in the next decade through application of the bovine growth hormone, feed additives, scours vaccines, and computer technology [Office of Technology Assessment]. The marginal cost of this new technology to the dairyman will probably be only about one-third of the current milk price [Kalter *et al.*]. When anticipated lags in adoption rates are considered, regional shifts in milk production patterns out of the Upper Midwest are anticipated [Office of Technology Assessment]. Such rapid changes in output and differential adoption rates will require a continued, albeit enlightened, approach to dairy policy.
- It often appears to be assumed that U.S. agriculture has an absolute cost advantage in the production of a

wide array of agricultural products. Protectionist policies have been pursued with regard to a number of commodities such as milk, sugar, and beef where a comparative advantage obviously does not exist. There is increasing evidence that U.S. farmers have lost their comparative advantage in producing rice [Adelman]. Policy changes in China that provide increased economic incentives to farmers have substantially increased their productivity, their self-sufficiency in cotton and wheat production, and their competitiveness in world textile markets. Similar changes could occur in the USSR under new Soviet leadership, in Eastern Europe, and in several developing countries. The result is the potential for substantially reduced export demand relative to expectations based on past trade projections as well as on population and income increases. Yet it would be wrong for the United States to turn its back on export markets. A long-range strategy will be needed to expand exports. Such a strategy will require a combination of programs designed to develop markets and income supplements comparable to those of the past.

- Historically moderate-size farms have been viewed as being the backbone of American agriculture. While what constitutes a moderate-size farm has increased over time, there is increasing evidence that large-scale farms experience substantial economies of size [Smith *et al.* and Cooke]. These economies are of both a technical and pecuniary nature. The advantages of large-scale farms are increased even more by their expertise in dealing with increased risk. In addition, the propensity of large-scale farms to more rapidly adopt new technologies evolving from the bio

and information technology era will further accentuate the trend toward fewer but larger farms [Office of Technology Assessment]. A move toward free market agriculture will intensify the trend toward integrated agriculture. The most highly integrated production is in products where relatively free market conditions exist—poultry, processed fruits and vegetables, cattle feeding, and hogs. When general surplus conditions are combined with economies of size and new technologies, rapid structural change and turmoil in agriculture can be expected to ensue without a farm program. With a more sophisticated labor force and a less robust economy, those forced out of agriculture will not be as readily assimilated into the nonfarm labor force as in the pre-1970s off-farm migration.

- Changes are also occurring in demand patterns for farm commodities. In a very real sense, the much criticized dietary goals and guidelines combined with changes in relative prices are having major impacts on product demand. Reduced demand for milk (particularly butterfat) and eggs are the most widely recognized. However, the most profound future change could result from reduced demand for beef. Wohlgenant recently found that more than half of the decline in beef consumption can be explained by decreased poultry prices. Reduced beef demand means less use of pasture land. The demand for feed-grains and soybean meal likewise would fall because less feed is required per pound of poultry than per pound of beef. Agricultural adjustment problems are complicated by shifts in demand which could become more common and pronounced over the next decade.

Consequences of Abandoning Commodity Programs

The conditions that would exist in agriculture in the absence of farm commodity programs are implied by the previous discussion of the characteristics of the agricultural economy. There would be continued downward pressure on real farm price levels. Price volatility would increase markedly. Regional shifts in production would become increasingly common as new technologies, integrated farming structures, and resource availability change the mix of regional comparative advantages. Agriculture would become more concentrated and highly integrated.

One of the ironies of farm policy is that while in absolute terms large farms benefit the most from farm programs, if these programs were discontinued it is the moderate-size commercial farms which would go out of business [Smith; Office of Technology Assessment]. Moderate-size farms are the most dependent on price and income supports for their survival. Their dependency on farm programs increases as the level of risk associated with the crop rises. Thus moderate-size wheat and cotton farms are more dependent on farm programs than are Midwest corn farms. The OTA analysis suggests that less than half of the moderate-size dairy farms located in the Upper Midwest would survive without a milk price support program. On the other hand, large-scale farms located in the Southwest would continue to generate substantial profits. While adjustments in dairy policy are needed to reflect such changes in comparative advantage, simply dropping commodity programs would create much social and economic strife in the dairy industry.

As moderate-size farms are forced out of business, resource values will fall even further, potentially jeopardizing confidence in the farm credit system. Dis-

placed farmers' attempts to enter the labor force would exacerbate rural unemployment and economic recession problems. Rural communities would continue to encounter increased survival problems as economic activity became concentrated in population centers that would serve the needs of large-scale farmers. Support for public sector agricultural research and extension programs would decline as private sector investment in and control of the agricultural research and extension agenda expanded.

One reaction might be that these changes are not substantially different than those experienced in agriculture since the 1930s. In many respects, except for the reprieve experienced in the 1970s, this is true. However, the rate of structural change could intensify substantially. In addition, the rate of transformation of agriculture from a decentralized to an industrialized economy would be considerably more apparent than it has been in the past. Control of agriculture would become a very viable issue, whereas until now it has been more of a point of departure for discussion of structural change [Guither].

Limits on Government Involvement

In establishing the goals and the roles of commodity programs over the next decade, limits on what government **can** do need to be realistically assessed. In an era of rapid technological and demand changes, it would be futile for farm commodity programs to attempt to prevent adjustment. Programs with this effect and/or intent, such as those for tobacco, sugar, peanuts, and to a lesser extent dairy, have clearly been counterproductive by distorting both production and consumption patterns. Farm commodity programs can facilitate adjustment and ease the pain associated with it, but they should not be used to prevent adjustment.

Farm Commodity Policy Goals and Implications

If farm commodity programs are to be operated in the public interest, they must be sufficiently market-oriented to adjust to change and to cause U.S. competitors to do likewise. Much confusion exists over the nature of the term market-oriented farm policy. The term "market-oriented," not surprisingly, has its origin in the marketing discipline. It means to produce in accordance with the needs of markets [Kotler].

The term "market-oriented farm policy" has acquired an erroneous free market connotation—an absence of government efforts to manage markets. A firm that does not manage its markets is not market-oriented. A government policy that does not manage markets in accordance with needs is not market-oriented. A firm that attempts to manage markets to the point where its needs are not satisfied is not market-oriented. By analogy, a government policy that manages markets to the point where production patterns are distorted, exports are reduced, and surpluses accumulate (e.g. tobacco, sugar, and dairy) is not market-oriented.

Farm commodity policy has consistently run into problems when it fails to recognize changes in markets and adjust to them. This does not mean that commodity policies are outdated; although it may suggest the need to keep fine-tuning the provisions of commodity policy—something that has been going on since the 1930s.

The major goals of commodity policy over the next decade could reasonably include:

- to stabilize farm prices and incomes;
- to expand markets for farm products;
- to provide producers the opportunity to survive;
- to minimize the pain of adjustment; and

- to conserve the resources utilized in production for the benefit of future generations.

Farm commodity programs consistent with these goals, which could be viewed as a blueprint for modernizing commodity policy in the 1985 Farm Bill, include:

- The current target price-loan rate framework would be continued. To minimize interference with export demand, loan rate determination would be based on a percentage (75–85 percent) of the moving average market prices as has been proposed by the Reagan administration.
- To protect farm income while reflecting market needs, the target price would likewise be based on a percentage of moving average market prices. The specific percentage must be a political determination based on balancing the need for farm income protection against budget constraints. It is critical that farmers and policymakers recognize that target and/or loan rate prices cannot and should not continuously rise in times of rapid technological change. This is one of the lessons that should have been learned with past parity pricing procedures. Yet even the 1981 Farm Bill provided for annual **increases** in the target price—one of its major pitfalls.
- Deficiency payments would be targeted toward moderate-size farmers. With more market-responsive target prices, payment limits might reasonably be lowered from the current \$50,000 level. Likewise, increased emphasis would be placed on targeting public research and extension programs toward moderate-size farms.
- Market development efforts would be continued with expanded government efforts to secure producer support. Emphasis would be placed on

developing country markets by integrating economic and market development efforts.

- Strong initiatives would be taken to remove market imperfections—particularly in international trade. U.S. officials would “carry a big stick” into trade negotiations as a means of opening up markets. The U.S. arsenal for trade negotiations would include the potential for export subsidies, export credits, export PIK, reciprocity, and even state trading. Unilateral reductions in trade barriers would not be taken. Agricultural trade negotiations would be conducted **along with** those of the industrial sector.
- New fragile lands brought into production would be excluded from receiving farm program benefits—the so-called sodbuster proposal. A soil bank type policy would be utilized to remove excess productive capacity, emphasizing removal of the most erosive land. Such programs should assure wise alternative use of retired land—such as reforestation.

Concluding Remarks

Farm commodity programs have adjusted to facilitate change in agriculture. They have been counterproductive when they have attempted to prevent change from occurring. Changes can be made to make commodity programs more market-oriented—in the true meaning of the term market orientation. In a time of substantial economic stress, it obviously is not appropriate to either drastically reduce the level of government involvement in agriculture or to radically change its nature.

References

Adelman, B. R. “Research Results for 1985 Rice PIPD.” Unpublished manuscript, Mississippi State University, State College, 1985.

Bredahl, M. E., W. H. Meyers, and K. J. Collins. “The Elasticity of Foreign Demand for U.S. Agricultural Production: The Importance of the Price Transmission.” *American Journal of Agricultural Economics* 61(1979): 58–63.

Cooke, S. C. “Size Economies and Comparative Advantage in the Production of Corn, Soybeans, Wheat, Rice, and Cotton in Various Areas of the United States.” Unpublished manuscript, Office of Technology Assessment, Washington, D.C., May 1985.

Gardner, B. “Testimony presented before the Senate Committee on Agriculture, Nutrition, and Forestry.” United States Congress, Washington, D.C., March 13, 1985.

Guither, H. (ed.). *Who Will Control U.S. Agriculture*. Illinois Agricultural Extension Service, Urbana, 1973.

Hathaway, D. “U.S. Agricultural Policy and World Trade.” In *Increasing Understanding of Public Problems and Policies—1983*, pp. 106–116. Farm Foundation, Chicago, 1983.

Johnson, J. D. and S. D. Short. “Commodity Programs: Who Has Received the Benefits.” *American Journal of Agricultural Economics* 65(1983): 913–21.

Kalter, R. J., D. Bauman, R. Milligan, W. Lesser, and W. Magrath. “Biotechnology and the Dairy Industry: Production Costs and Commercial Potential of the Bovine Growth Hormone.” *Agricultural Economic Research* 84-22, Cornell University, December 1984.

Kotler, P. *Marketing Management*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1972.

Knutson, R. D., D. W. Hughes, and J. B. Penson, Jr. “Impact of Macroeconomic Policies on Agriculture.” *Food and Fiber Economics* 14(1985): No. 3, pp. 1–3.

Office of Technology Assessment. *Technology, Public Policy, and the Changing Structure of American Agriculture: A Special Report for the 1985 Farm Bill*. United States Congress, Washington, D.C., March 1985.

Paarlberg, D. “Effects of New Deal Farm Programs on the Agricultural Agenda a Half Century Later and Prospects for the Future.” *American Journal of Agricultural Economics* 65(1983): 1163–67.

Rasmussen, W. D. “The New Deal Farm Programs:

- What They Were and Why They Survived." *American Journal of Agricultural Economics* 65(1983): 1158-67.
- Schmitz, A., A. F. McCalla, D. O. Mitchell, and C. A. Carter. *Grain Export Cartels*. Ballinger Publishing Company, Cambridge, 1981.
- Schuh, G. E. "The Foreign Trade Linkages." In *Modeling Agriculture for Policy Analysis in the 1980s*, Federal Reserve Bank, Kansas City, September 24-25, 1981.
- Schuh, G.E. "U.S. Agricultural Policy in an Open World Economy." Joint Economic Committee, Washington, D.C., May 26, 1983.
- Smith, E. G. "Economic Impact of Current and Alternative Farm Programs on Farm Structure in the Southern High Plains." Unpublished Ph.D. Dissertation, Texas A&M University, December 1982.
- Smith, E. G., J. W. Richardson, and R. D. Knutson. "Cost and Pecuniary Economies in Cotton Production and Marketing: A Study of Texas Southern High Plains Cotton Producers." Texas Agricultural Experiment Station B-1475, Texas A&M University, August 1984.
- Tweeten, L. "Economic Instability in Agriculture: The Contributions of Prices, Government Programs and Exports." *American Journal of Agricultural Economics* 65(1983): 923-31.
- Wohlgenant, M. K. "Estimating Cross Elasticities of Demand for Beef." Unpublished manuscript, Department of Agricultural Economics, Texas A&M University, June 1985.