Vol. 25 No. 2
JUNE 1986

Price R2-00
(R1-79 +21c GST)

Agrekon

FOUR-MONTHLY JOURNAL ON AGRICULTURAL ECONOMICS

Issued by the Department of Agricultural Economics and Marketing

NEW DIRECTIONS IN FOOD AND AGRICULTURAL POLICY

by J.B. BULLOCK
University of Missouri

Development and evaluation of alternating agricultural programs is constrained by answers to the following two questions:

(i) What role is the agricultural sector to have in the economy and in international trade?

(ii) What role is government to have in the operation of the agricultural sector?

Until very recently the first question has received almost no attention in the U.S. Even now it receives only tangential attention. There is considerable concern about declining export sales of U.S. agricultural products. However, there has been no meaningful assessment of the nature of the contribution the agricultural sector can or should make to the future growth and performance of the U.S. economy.

The contrast to this is to interpret the recent "White Paper on the Agricultural Policy of South Africa" as an attempt to deal with the questions posed above. The White Paper does not provide a roadmap showing how to get to a specific destination. However, it appears to be a good effort at selecting the targeted destination.

Unfortunately, U.S. farm programs tend to be a set of roadmaps covering the next few kilometres of a journey to some unknown destination. U.S. farm legislation is revised almost completely every four years. Each program tends to reflect the economic environment facing agriculture at the time the legislation is developed rather than to be defined by longer term efforts to achieve stated goals.

We are currently in the midst of developing the 1985 farm program that will be in operation for the next four years. There are a wide range of proposed programs currently being discussed by congress. Each proposal is presented as a cure for the U.S. farm problem. However, almost no one has stopped to define the farm problem to be solved by the 1985 legislation.

Numerous economic and political factors are cited as having an adverse impact on American agriculture. These include: high interest rates, the high value of the dollar, trade embargos, unfair trade practices of our international competitors, declining farmland values, widely fluctuating prices of commodities and farm product prices that are "below the cost of production".

Surveys indicate that large numbers of U.S. farmers perceive low commodity prices and regard low farm income as the 1985 farm problem.

Low commodity prices and low rates of return to management and capital in the agricultural sector are merely *symptoms* of the farm problem (and apparently the farm problem in almost all developed economies) is an over-investment of human and physical capital in agricultural production. The *symptoms* of over-investment in any sector of the economy are downward pressure on prices and rates of return to management that are below other sectors of the economy. High interest rates and the value of the dollar compound (aggravate) the symptoms of the farm problem - but they are not the cause of the farm problem.

The solution to the farm problem then is to withdraw resources from agriculture until competitive rates of return are achieved. Efforts to support commodity prices above market clearing levels in order to maintain existing investments in agricultural production simply provide partial and temporary relief to the symptoms of the farm problem. Moreover these programs severely distort the clear signals for long run adjustment being generated by the market.

Many farmers and politicians fail to accept that modern agricultural production has evolved from a way of life to a high technology, capital intensive business. As a result the economic signals to reduce investment in, and output of, certain segments of the agricultural sections are viewed as threats to a referred way of life rather than signals from market forces to alter the economic organisation of the industry.

Effective government programs (i.e. programs that successfully achieve the stated goals of agricultural policy) are the merger of economic reality with political reality. The effective government programs result when political reality ignores and/or overwhelms economic reality. Political reality justifies government intervention in agricultural markets (government farm programs) on the grounds that the equilibrium solution that would result in the absence of a program has some indesirable consequences (e.g. small inefficient farms will be unable to stay in business). Economic reality is that there is no such thing as a free lunch. Government programs have costs associated with them. Benefits of these programs will exceed costs only if the programs are consistent with the economic realities of the problem.

Government farm programs can take one of two approaches:

(i) Prevent equilibrium from occurring and thus avoid the perceived adverse consequences of equilibrium, or

(ii) let equilibrium occur and then compensate those adversely affected by the equilibrium conditions.

The second approach is clearly the economically preferred solution. Unfortunately policy makers almost always choose the first approach.

The second appraoch is economically preferable for at least four reasons:

(i) It does not perpetuate the need for the program.
(ii) It does not interfere with efficient allocation of resources.
(iii) It clearly targets the recipients of the program benefits to those being "banned" by the equilibrium solution.
(iv) It clearly identifies the cost of the program.

The third and fourth reasons explain why the second approach to farm programs is seldom selected by policy makers. Inefficient farmers do not want to be identified and politicians really don't want to know the magnitude and nature of the income transfers being generated by the program.

As noted earlier farm programs will be effective only if the economic realities are consistent with the operation of the program. Price support programs, whether administered via government price guarantee schemes or by marketing boards are no longer consistent with the economic realities of modern agriculture.

Two main reasons have been offered for government involvement in U.S. agriculture:

(i) Without government intervention agricultural prices would fluctuate too widely and thus create hardships for both producers and consumers.
(ii) Price support programs are necessary to keep farm family income on par with non farm family income.

To interpret goal no. 5 (pursuit of orderly marketing) and goal no. 3 (pursuit of maximum number of financial source farmers) in the White Paper as similar justification for South African agricultural programs.

At the time price support programs were implemented in the U.S. (about 50 years ago) the economic realities of the agricultural sector were compatible with the operation of price support programs. All farms were about the same size and were quite homogeneous in management skills and capital investment. In that environment price changes have similar effects via all producers. However, the economic realities of modern agriculture are inconsistent with the assumptions of price support programs. Consequently these programs are increasingly expensive and difficult to manage.

About 30 per cent of U.S. farms (those producing more than $40 000 in gross sales) produce about 90 per cent of the output and account for 100 per cent of net farm income. In sharp contrast the remaining 70 per cent of the farms produce only 10 per cent of the output and as a group collectively share annual losses from their farming operations.

At least in the U.S. there is a wide difference in production costs between the large-scale/low-cost producer and the small-scale/high-cost producer. Supportive prices above market clearing levels provide strong incentives for output expansion by the 30 per cent of the farms that control 90 per cent of the productive capacity of agriculture, thus compounding the supply/demand situation that originally generated the "low" price. Therefore to be effective price support programs must be accompanied by strong supply reduction programs or by large purchases of agricultural products. Successful voluntary supply reduction programs require substantial expenditures and a continuing commitment to making these outlays.

The farm programs are to correct the farm problem and then these programs must focus on the source of the problem rather than the symptoms. Therefore, from an economic perspective, farm programs of the future should have the following objectives:

(i) Facilitate movement of human and physical capital resources out of agriculture.
(ii) Remove artificial incentives for investment in agriculture.
(iii) Provide institutions and mechanisms that help farmers deal with risk and uncertainties caused by weather and unstable markets.

Facilitate movement of resources out of agriculture

The ongoing development and adoption of new agricultural technology will continue to require that fewer people be involved in the agricultural production process. Farm programs that effectively deal with the farm problem will help ease the exit of resources from agriculture rather than create artificially favourable incentives for investment in agriculture.

Remove artificial incentives for agricultural investment

Farm programs that support commodity prices above market clearing levels and tax policies that provide preferential tax treatment for agriculture provide artificial incentives for agricultural investment. These programs also result in land values that are higher than economically justified and draw marginal land into production which from a natural resource perspective should be used less intensively.

Removal of tax incentives is an obvious solution to over investment generated by tax laws. Restricted property rights associated with land ownership such as restricting certain uses of various types of land would make a significant contribution to natural resource conservation.

Provide institutions for dealing with uncertainty about price and production

Price instability is often viewed as the primary economic problem of the food and agricultural system.

I submit that variability of supply and demand per se is not a serious problem of agriculture. Rather the problem is the shortrun context in which market signals (prices) are interpreted. Farmers and policy makers tend to treat a price increase as a reflection of permanent expansion of agricultural markets. On the other hand, they treat price declines as being caused by temporary market weaknesses that will soon disappear. In the U.S. at least this naïve mentality has been coupled with price support programs that tend to isolate agricultural producers from "unfavourable" market signals. Increased variability of U.S. farm income in recent years is not caused by market failures. Rather it is because of inappropriate interpretation of market signals often caused by distortions of those signals by price support programs.

If we had perfect information about the future there would be no need for programs to help stabilise prices. However, keep in mind that even with perfect information and perfectly functioning markets there would be season to season variability in agricultural prices. Effective management of agricultural resources does not require perfectly stable farm prices and income. Too much stability can be as costly as too much instability. (The economic solution to Jacob's problem of seven good years followed by seven lean years, was not a set of prices that remained constant for 14 years.)

Current prices and year-to-year price variability can be put into perspective only by considering multiseason periods. That is, a sharp increase (decrease) in current market prices can be interpreted as a market signal to expand (reduce) future production only if the conditions causing the price change are expected to continue into the future. Futures markets are an effective way of generating and transmitting information regarding expectations about market conditions at various points in the future. However, for a variety of reasons U.S. futures markets for agricultural products have not developed beyond one year into the future. Agricultural policies and programs that foster development and effective operation of longer term future markets will make an important contribution to the agricultural sector's ability to manage the risk associated with increased uncertainty.

We have observed that price support and stabilisation programs operated in cash markets can lead to costly stockpiles of commodities. The use of price stabilisation programs that operate in future markets provide alternatives to programs operated in cash markets. Professor Houthakker of Harvard University suggested one such program several years ago. His proposal involves extending future markets for two or perhaps three years into the future and for a government agency to buy and sell future contracts for selected distant months in order to keep prices of those contracts within target range. These stable futures contract prices would then provide producers and processors an opportunity to hedge production and storage decisions if they wished to do so. Moreover since the program would operate through purchase and sale of futures contracts no stockpile of the commodity would accumulate unless the stabilisation agency took delivery of large volumes of future contracts.

Houthakker suggested that a government trading agency maintain prices of selected target futures contracts in a range about the trend three-to-five-year average price.

A preferred alternative would be to maintain prices of the contracts close to projected market equilibrium rather than an arbitrarily selected average of past prices.

The system could be implemented in the wheat market for example, by establishing four new contracts. Contracts for July (harvest time) and December for each of two years (beyond the existing contracts one year ahead) would be offered. A government trading agency would then:

(i) Make an analysis of projected supply and demand conditions over the next three years;
(ii) determine the projected equilibrium price pattern over this period, and
(iii) announce the price band within which it is prepared to buy or sell each of the December contracts that are more than nine months into the future.

The agency would then buy or sell whatever number of contracts is required to maintain the price of the target contracts within the defined price boundary (for example ± 0,25 cents above or below the projected equilibrium price).

The major contribution this type of program would make is that it would provide a mechanism for markets (buyers and sellers) to put current supply and demand conditions into perspective with expectations about the future. The government trading agency would also make public the information and analysis used to establish the price band on the target futures contracts. Potential traders could then examine that analysis to see if they agree with the projections developed by the agency. If potential traders agreed with the projections of the agency then no sales of the target contracts would be made. However, if traders thought that the agency projections were too low they would purchase the target contracts at the quoted upper bound price. Conversely if traders thought the agency projections were too high they would sell the target contracts at the quoted lower bound price. The hedging option would be available for any producer or processor who wanted to lock in prices for up to three years in advance if they chose to do so.

An important feature of this program is that the agency projections would be continually updated to reflect new information as the delivery dates on the target contracts approach. The agency would update and make public its projections quarterly and

alter its projections accordingly. Keep in mind that the purpose of this activity is to provide mechanisms and liquidity for forward markets to function effectively based on the best available information. The purpose is not to keep prices pegged at artificial levels. The program would reduce uncertainty and provide more stable prices, *ceteris paribus*. The program would provide for orderly marketing based on the best information available. It provides an opportunity for farmers and processors to transfer price risk to speculators if they wish to do so.

Agency trading on target contracts would cease nine months in advance of delivery date. The agency would liquidate its position in the futures market at that time and take its profits or losses accordingly.

Programs of this type have the desirable characteristic of channeling government resources into helping markets assess the future and of providing producers with a means of dealing with risk created by uncertainty about the future. Moreover, cash and nearby futures markets (up to nine months into the future) are left free to operate in response to evolving market forces. This type of program would indeed provide the mechanism for orderly marketing to occur.

RISK MANAGEMENT

A program of the type described above would not completely stabilise prices, nor will it take uncertainty out of agricultural prices. Risk management will be a continuing challenge to agricultural producers and processors. Variability of weather and export demand cannot be eliminated by government programs. The best we can hope for is that government programs do not introduce artificial instability (or stability) into agricultural markets and that they do not distort the economic signals developed by well functioning markets.

Because uncertainty is an unavoidable characteristic of agricultural markets, development of institutions and government programs that enable the agricultural sector to manage production and price risk more effectively will likely be constructive government activities.

Government programs to subsidise risk-taking by agricultural producers can be justified on the basis of possible differences in the extent of risk averseness of individual producers and society as a whole and because of differences in the ability of individuals and society to bear risk. The public policy question then becomes how much subsidisation is to occur and what form it is to take. There has been a strong tendency of policy makers to use subsidised credit as the mechanism for helping farmers cope with the risk associated with agricultural production. However, subsidisation of the cost of any or all inputs is not an appropriate method of handling this problem. Subsidisation of credit is a particularly poor method. Credit (even at subsidised interest rates) creates a stream of debt servicing liabilities that don't disappear if there is a crop failure. Thus, additional debt decreases rather than increases the farmer's ability to withstand adversity. Moreover, subsidisation of credit provides incentives for more substitution of capital for labour than normal market conditions would call for. This in itself may make the producer more vulnerable to weather and market uncertainties to say nothing about its impacts on allocative efficiency.

Agricultural policy makers often seem to think that any economic or risk management problem can be solved with low interest loans. To the contrary expanded debt (even at subsidised interest rates) often compounds the problem rather than solves it. Expanded use of the credit input into a farm business is a constructive activity only as long as the rate of return on the borrowed capital exceeds the interest rate on those funds. Money invested in paying for production expenses incurred on last year's drought ruined crop will earn a zero rate of return.

Thus relief for losses of those production expenses will maintain the financial position of the producer only if those funds are provided at zero interest costs. This is accomplished only by the provision of insurance indemnity payments for disaster relief.

In the absence of an effective disaster insurance program provided by either the private sector or the government the individual farmer will have to maintain adequate cash reserves to absorb these losses and/or avoid risky production ventures. With the exception of hail damage most weather related crop disasters affect wide-spread geographic areas and large numbers of producers. Thus, it is probably impossible to develop a viable private sector business to provide production disaster insurance. Thus we either force individual farmers to carry their own insurance in the form of large liquid reserves or we provide some type of publicly funded disaster insurance program. The latter can probably be justified by the desirability of shoving a portion of the risk across the entire society. The policy question then becomes one of designing an insurance program that provides the appropriate amount of disaster protection to farmers and a premium structure that approximately shares the cost of that program between farmers and taxpayers.

Various forms of production risk insurance have been available in the U.S. for a number of years. Some improvements in the scope and nature of insurance coverage have been made. However there is a lot of room for improvement. Development of effective disaster insurance programs that can be used as risk management tools is a potentially productive area of research that could make significant contributions to future agricultural programs.

CONCLUSION

The economic realities of modern agriculture are inconsistent with the assumptions and objectives of government farm programs. Consequently, price support programs via voluntary supply reduction schemes are increasingly expensive and frustrating to

manage. Moreover, maintaining farm product prices above market clearing levels creates wealth transfers from consumers and taxpayers to farmers that cannot be justified since as a group farmers are probably wealthier than the average consumer/taxpayer.

Past agricultural programs have been designed to prevent agricultural markets from achieving equilibrium. Future directions of agricultural policy should be to facilitate achievement of dynamic equilibrium in agricultural markets and to develop programs that respond to the undesirable consequences of that dynamic equilibrium. Successful farm programs of the future will separate the income support and the price stabilisation objectives. Income support will be most effectively met by direct income payments to qualified farmers. Price stabilisation (orderly marketing) objectives can best be achieved by development of programs and institutions that help producers and processors take a long-run view of market conditions.

Government programs can make two important contributions to the effective operation of agricultural markets:

(i) The generation and distribution of information about current and future supply and demand. Publicly available information is the fuel on which effective markets operate.

(ii) The development and operation of institutions that provide mechanisms for producers and processors to manage effectively the risk associated with agricultural production.

Such programs will lead to much less direct involvement in cash markets and will enable the agricultural sector to take advantage of its comparative advantage in world trade and to more efficiently satisfy domestic food demand.