U.S. Public Policies and Institutions in an Unstable Future

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The papers by Sanderson and by Edwards and Harrington paint a relatively optimistic view of the future facing U.S. agriculture to the turn of the century. They show a moderate rate of growth in exports which will reemploy our current excess productive capacity and require a marginal increase in the acreage of land in crop production. The authors expect productivity to increase fast enough that real prices will continue their downward trend of the last 125 years. Nevertheless, the authors note that the growth in export exposure of American agriculture will be accompanied by greater year-to-year variability in demand -- bringing some years of high prices and tight supply, and other years, like the present, of low prices and excess capacity relative to demand.

This paper addresses the extent to which the policy environment itself may be a source of uncertainty or instability for U.S. agriculture. It closes by briefly drawing some implications for public policies and institutions. The policy environment discussed here includes macroeconomic policy, trade policy, and domestic agricultural policy.

Macroeconomic Policy

Macroeconomic policy -- monetary and fiscal policy -- probably has a greater effect on U.S. agriculture today than those policies which are conventionally viewed as farm

policy. Through both the interest rate and the exchange rate, macroeconomic policy influences the sector.

Agriculture is very sensitive to interest rates. First the capital-labor ratio in U.S. agriculture is twice that in the economy as a whole, and the capital-output ratio is three times that of the economy as a whole. Second, the interest rate is the opportunity cost of carrying inventories and maintaining livestock herds. Third, when interest rates rise, land prices tend to fall. Fourth, farmers spend about half their gross returns on purchased intermediate inputs -- often purchased with operating credit. Finally total farm debt today is about $215 billion, and each one percent increase in interest rates lowers net farm income by over 10 percent. For all of these reasons, the well-being of farmers is strongly dictated by the interest rate.

The second means by which macroeconomic policy affects agriculture is through the exchange rate. Agriculture, which generates twenty-five percent of its gross sales from exports, has one of the largest export exposures in the U.S. economy. This makes it very sensitive to macroeconomic policy in an environment of floating exchange rates. Budget deficits in the face of tight monetary policy bid up interest rates. Given the freely functioning international capital market this attracts capital inflows. However, the market clearing condition in the foreign exchange market is that the balance of payments -- the current account plus the capital account --

must equal zero. So, when the United States attracts net international capital inflows, as we have done recently, the exchange rate has to be bid up enough to run an offsetting current account deficit. That is, the dollar must rise to stimulate larger imports and to reduce exports. Agricultural exports suffer in such an environment. This means that under floating exchange rates unstable macroeconomic policy imposes substantial adjustment shocks on traded goods sectors of the economy.

Because the United States is such a large country within global capital markets and world trade, macroeconomic changes are quickly transmitted throughout the world economy. Many U.S. farm exports are products used to produce livestock products in countries where demand is income elastic. These exports include grains and soybean meal in particular. The United States' fastest growing export markets in the 1970s were the more rapidly growing developing countries. Macroeconomic policies that alter the rate of economic growth in export markets in turn affect the demand for U.S. farm products. To the extent that high interest rates and the strong dollar compound the debt problems of Third World countries, this further limits growth in farm exports.

Macroeconomic policy can also cause other shocks in the agricultural sector. Contrary to the traditional assumption, it is now recognized that monetary shocks alter relative prices at least in the short run (e.g. Frankel). That is,

money is not neutral. Agricultural commodity prices tend to be more flexible in the short run than manufactured goods' prices. Therefore, in response to any given monetary shock, agricultural prices can be expected to adjust more quickly than other prices -- thereby causing relative prices to change in the short run. In fact, as Frankel argues, overshooting, or a larger than equilibrium price-adjustment, in response to monetary shocks is likely in the short run. This subjects agriculture to larger shocks than sectors in which prices are less flexible.

Finally, there are at least two other means by which macroeconomic policy affects agriculture. First, in periods when inflationary expectations are built up, farmers have an incentive to borrow heavily to pay more for land than its agricultural earning potential can justify. If inflation continues long enough, the nominal asset value appreciation makes the loan a bankable investment. When inflation is brought under control -- as it inevitably must -- those investors who jumped on the bandwagon late, and got heavily leveraged, can easily find their collateral worth less than their loans. This type of investment is not good for the health of the farm sector.

Inefficient investment decisions are also encouraged by tax laws which facilitate creation of farm tax shelters. This has reached the point that the farm sector as a whole now shelters more nonfarm income through tax losses than it

generates in taxable profits. Tax policy clearly distorts the investment incentives in agriculture. Further, uncertainty about future changes in the tax laws impose greater uncertainty on agriculture.

So, through a wide range of mechanisms, monetary and fiscal policy have substantial effects on the well-being of American agriculture. Monetary and fiscal policy have frequently undergone unpredictable changes in the last decade or so. Because the agricultural sector is now so closely interlinked with the rest of the economy and is so sensitive to interest rates and exchange rates, macroeconomic policy has become a major source of instability in American agriculture. Agriculture would benefit from greater macroeconomic stability and -- at most -- small federal budget deficits.

International Economic Policy and Institutions

International economic policies have also become an important source of uncertainty and instability in U.S. agriculture -- particularly as our export exposure has grown. There are two dimensions to this source of instability -- trade policy and international monetary institutions.

First, the world agricultural trading environment is dominated by nontariff barriers to trade -- such as quotas, variable import levies, and variable export subsidies. By cutting the link between world and domestic prices, nontariff barriers stabilize internal prices, but at the cost of passing all the adjustment onto the world market. Thus, the necessary

adjustment in world prices is magnified in response to any shock. In addition, some countries use export subsidies to reduce stocks accumulated through price support operations. Progress on reducing nontariff barriers to agricultural trade should reduce the variability in world market prices and in turn domestic prices of our exported commodities. However, we have to recognize that we too use nontariff barriers to agricultural imports -- such as dairy, sugar and beef import quotas. The United States is unlikely to find other countries willing to reduce nontariff barriers to agricultural imports unless we are willing to put our own import quotas on the bargaining table.

As we saw before, a major source of uncertainty concerning future farm export prospects lies in the future import demand by developing countries. Their economic growth is a necessary condition for rapid U.S. farm export expansion. However, if those countries are to grow -- and in turn to increase their demand for U.S. farm exports, they will have to be allowed to export the goods in which they have a comparative advantage to the industrialized countries. Unless the developing countries find an open trading environment for their exports -- whether they be shoes, shirts, sugar, steel, or whatever -- the United States is unlikely to experience rapid growth in farm exports. We are finding more and more cases in which continued U.S. purchases of developing country exports of labor-intensive manufactured goods is made a

necessary condition for those developing countries to purchase of our farm products.

Finally, as noted above, unstable monetary conditions impose considerable instability on traded goods sectors such as agriculture. A number of proposals for reform of the international monetary system have been advanced (e.g. Schuh). One such proposal begins with recognition that the world is in effect on a dollar standard, and that the U.S. is effectively the central banker to the world. The proposal argues that this is not an unmitigated blessing and suggests expanding the responsibilities of the International Monetary Fund. It is argued that if the IMF were given responsibility for expanding the reserve base for the world's money supply at a constant rate, this would establish more stable international monetary conditions and this in turn would contribute to more stable international commodity markets.

There are many other proposals for international monetary reform, but from the perspective of U.S. agriculture, an essential element is to seek greater monetary stability to reduce the variability in exchange rates and in turn in commodity prices.

Agricultural Policy

While one of the principal objectives of U.S. farm policy is to mitigate uncertainty by reducing market instability, our farm policies themselves have evolved as a source of uncertainty. The levels of loan rates are often revised late

in the season. Since the 1980 grain export embargo to the Soviet Union, the rules of the game of the Farmer Owned Reserve have been changed frequently. Last year the PIK program caught not only the crops sector, but also livestock producers and farm input suppliers quite unprepared.

The U.S. commodity loan rates and the PIK program have provided some price stability around a higher mean than would otherwise have prevailed in the world market. This "stability" is provided to other countries, however, at no cost to their taxpayers, and at the cost of smaller United States exports. When world market prices fall to our loan rates, we withdraw sufficiently from the export market to support the world price at our loan rates. Our producers sell instead to the Commodity Credit Corporation or the Farmer Owned Reserve. When stocks become burdensome, we have a PIK program to reduce them. This policy approach makes the U.S. the "residual adjuster" in the world market. Other exporters appreciate our doing this, but this approach damages the United States' prospects as a commercial exporter. Even more damaging, however, are the large year-to-year changes in the volume of U.S. export sales which this causes.

Modern American agriculture involves large capital investments in specialized types of equipment that have few alternative uses. The average commercial farm has an investment in land, buildings, and machinery of over $1 million today. The value of the land and specialized

equipment reflects the expected earning capacity of those resources in the future. Therefore, instability in market prices and uncertainty concerning future market trends leads to instability in the value of the resources employed in agriculture. This creates a problem because most American farmers rely on fairly long-term debt financing to buy their farm. Farm land prices can get bid up as they did in the 1970s on the basis of buoyant exports and rapid inflation. Long-term debt is incurred on the basis of those earning prospects. When the market turns down, and land prices fall, those farmers who get heavily leveraged, find themselves with collateral worth less than their loans, and some face foreclosure. If this situation is very concentrated in certain areas, it can be highly disruptive to the farming economy.

On the other hand, we have to recognize that exports are a fact of life. They provide 25 percent of all U.S. farm sales revenue, and if we are unwilling to live with the instability they bring, we are going to have to squeeze a significant fraction of the resources out of American agriculture. I assume we shall opt for not only maintining but expanding the role of exports in U.S. farm marketings in the future. What then are the options?

Where government policies themselves are the source of instability, the most efficient solution is to modify the policies to reduce this source of instability. Negotiating

a more liberal trade policy, in particular reducing nontariff barriers, would be an important start. Greater stability in monetary policy and maintenance of a balanced Federal budget would also help. Where agricultural policies themselves are a sorce of uncertainty, policies could be announced further in advance -- or, at least, adjustments in the levels of policy variables could be made conditional in announced ways upon variables that decisionmakers can predict (Just and Rausser) Other observers who doubt that this can be done suggest removing control of farm policy from the legislative and executive branches. They would give authority over farm policy to an autonomous Federal Reserve-type board (Flinchbaugh).

Market instruments such as futures markets and commodity futures options, make it possible to insure against some relatively short run price instability. However, we do not have insurance markets that extend several years into the future. Therefore, to sustain a viable, high productivity export-oriented agriculture, we need to redesign some public policies and institutions to reduce this uncertainty or to minimize its adverse effects on American agriculture. A number of proposals have been advanced, and we should expect more to be forthcoming. Let me mention only a few for purposes of illustration.

First, we need research to reduce on-farm uncertainty as much as possible. This may involve agronomic research to

breed more drought-tolerant and disease-resistant varieties of crops. It will also involve research on optimum farm business management under uncertainty.

The 1981 farm bill mandated a study of farm revenue insurance to be offered possibly as a rider on a farmer's crop insurance policy. Several analyses that have been carried out suggest that the idea has sufficient merit to try a pilot project. Other observers have looked north of the border at Canada's Western Grain Stabilization Scheme as a possible prototype for a means of smoothing out interannual variation in farm revenue. It is argued that this would help reduce the boom and bust cycles in the land market that accompany export expansion and decline.

Still others have suggested that we should focus on the land market itself. One proposed approach would create low interest rate farm mortgage instruments in which the bank would share in any asset appreciation or depreciation. A similar proposal for low interest farm mortgages would have the principal indexed to the value of farm land. Some argue that it is too disruptive to rely mainly on debt refinancing in agriculture with the whole farm business being refinanced every generation. If so, more equity financing or greater reliance on land rental is suggested.

A different class of proposals addresses the possible role of buffer stocks in reducing market price instability. The Farmer Owned Reserve was designed for this purpose, but

the rules have probably been changed too often for it to serve this stabilizing function well.

Conclusion

Modern American agriculture is a highly capital intensive, export dependent industry which is closely linked to the rest of the American economy. Some amount of instability is inevitable due to the effects of weather conditions on crop yields here and abroad. However, American agriculture is also buffeted by instability from macroeconomic policy, trade policy, and agricultural policy itself. Excessive market price instability complicates the formation of price expectations and makes efficient resource allocation difficult.

We have reached the point in American agricultural development that farm family incomes on the average are not substantially lower than family incomes in the rest of the U.S. economy. So, while there may be little defense for farm price and income supports, there may be a case for price and income stabilization -- particularly if we are unsuccessful in reducing the instability originating in macroeconomic policy, trade policy, and agricultural policy.

Footnotes

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