

---

# **United States Farm Policy in a World Dimension**

**Report of Seminar  
College of Agriculture  
and Extension Division  
University of Missouri-Columbia  
November 10-11, 1983**

**Special Report 305  
Agricultural Experiment Station  
University of Missouri-Columbia**

---

## UNITED STATES FARM POLICY IN A WORLD DIMENSION

A short title for the statewide seminar held on the University of Missouri-Columbia campus November 10-11, 1983 might have been, "What Comes After PIK?"

Something different from PIK is a certainty. Many of the issues involved in choosing a post-PIK farm policy are old and familiar. What is new is the sharply increased emphasis on the international dimension, and attention given it. The place of the United States in world trade, and the terms of trade, received much attention from the speakers at the seminar, and from the 125 persons attending.

The seminar was eleventh in a series devoted to Agricultural Marketing and Policy, sponsored by the College of Agriculture and Extension Division of UMC. The seminar, including this publication, was funded from the Agricultural Marketing and Policy Forum Fund, a part of the UMC Development Fund.

### Contents

U.S. Farm Policy in a World Dimension: the Setting in 1983 Harold F. Breimyer	Page 5
Economic and Policy Outlook for U.S. Agriculture Luther Tweeten	Page 13
U.S. Agricultural Policy in a 'Managed Trade' World Barbara Chattin and John E. Lee, Jr.	Page 18
Money Growth, Exchange Rates, and Agricultural Trade Dallas S. Batten and Michael T. Belongia	Page 28
The Growing Sensitivity of U.S. Agriculture to World Events Philip M. Raup	Page 37
U.S. Food Policy in an Imperfect World Grain Market Paul L. Kelley	Page 46
Policy Evaluation: Longer Term Objective Abner W. Womack	Page 52
How an Internationally Oriented Farmer Cooperative Views the Future Michael L. Cook	Page 57
Minimizing the Management of Trade John K. Hosemann	Page 61
Agricultural Trade and U.S. Policy Response Andrew Schmitz	Page 69
Significance of Trade Policy to U.S. Farm Policy V. James Rhodes	Page 81
Summary and Review Jerry G. West	Page 84

UNITED STATES FARM POLICY IN A WORLD DIMENSION

Report of Seminar on  
Agricultural Marketing and Policy  
College of Agriculture  
and  
Extension Division  
University of Missouri-Columbia  
held  
November 10-11, 1983  
Columbia, Missouri



U.S. FARM POLICY IN A WORLD DIMENSION:  
THE SETTING IN 1983

Harold F. Breimyer  
Professor of Agricultural Economics, UMC

Years ago (1945) I was privileged under duress to study the principles of naval strategy at the Naval War College in Newport, Rhode Island. I learned there that the first step to be taken in devising a strategy for defeating an enemy at sea is to develop an "estimate of the situation."

Persons studying strategy for farm policy at a College of Agriculture should likewise begin by making an estimate of agriculture's situation.

My assignment is to do that, and it is an awesome one. How indeed can the state of affairs in U.S. agriculture, both internally and in its connections worldwide, be "estimated" in a way that will help toward forming a wise farm policy for the future?

Permit me two opening dogmatic statements. The first is that how the situation is estimated or defined makes a difference. The sea dogs at Newport knew the importance of an initial naval estimate. A mistake in reading the situation could lead to disaster at sea. Likewise, I suggest that our sharpness of insight in defining agriculture's situation today will have much to do with how we can design a policy for the nation's farm and food system.

The second dogmatism is to reject any notion that a governmental role is about to end. Total abandonment of farm price and income supports is simply not a viable option. We should waste no time in even considering it. In my judgment, when Secretary Block's chief economist William Leshner, the Secretary himself, or a few dream-world economists go around the country saying there are three choices of which the third is to stop everything, they are muddying the water. They are confusing the issue, not clarifying it. In reality, choices are numerous but not a single one is to abandon everything.

Why am I so positive? During my 50 years of involvement in agricultural programs I have heard the no-program refrain fifty times, a hundred, maybe five hundred. Yet the legislative process has never come close to total abandonment. I foresee nothing different in the near future.

A second reason for disavowing the no-program option is that so many parts of our economy now depend on farm programs. A majority of farmers want some degree of price and income protection. Consumers beg for food reserves as safeguard against a 1983-style drought. But the clinching argument is that farm products now play an instrumental role in our international affairs. Not only do we distribute surplus foodstuffs worldwide as food relief and diplomatic lubricant. Nor is it only that the foreign exchange earned from exports of farm products is so treasured these days. It is also that we are moving toward transnational negotiation of trade relationships, including using government to back up bilateral trade treaties. The 1983 grain agreement with the Soviet Union calls for a major effort to make nine million tons of grain always available. The agreement virtually amounts to state trading. It is ludicrous to propose total disinvolvement of government from agriculture when government is committing itself to backstop foreign trading.

#### 1983 as Background

Always, in projecting into the future we start from where we are. The year 1983 was tumultuous. I need not recite the details. Devastating drought in much of the country; a PIK program so costly as to invite a backlash of resistance to all programs; scene three of act four in the continuing drama of trade relations with the Soviet Union. The setting carries both good news and bad news. The bad news first: that the adverse circumstances of 1983 could be allowed to dominate our thinking about the future. No mistake has been made more often than to administer programs to fit the conditions of the moment. Apparently it is assumed that the future will be an extension of the present. It never is. The rest of the 1980s will not be a repetition of 1983.

The good news, almost what we used to call Pollyanna good news, is that the anguishing experiences of 1983 may jolt us into taking a responsible, long-run, even generous view of agricultural policy. Maybe agriculture can rise above narrow commodity and regional loyalties. When things are truly tough there's at least a chance that common interests of the whole will supersede selfish aggressions of the constituent parts. We dare to hope that will prove true now.

I offer my "estimate" of agriculture's situation in the expectation that at least for a while

we all are going to be statesmen.

### Rationale for Farm Programs

It hardly seems necessary, after 50 years of programs, to repeat the basic reasons why the federal government engages in price, income, acreage, and storage programs for farm commodities. I remind of them briefly. The reasons are two. Significantly, only the first is pro-agricultural. That first reason is the vulnerability of the proprietary farmer to agriculture's inherent instability, itself explained as variable weather leads to variable crop harvests, which in turn interact with highly inelastic demand for farm products. In the absence of farm programs, variations in supply convert to sharp ups and downs in farmers' prices and to major fluctuations in income also. In addition, demand for farm products is far from stable. Export demand is notoriously undependable but in the last five years domestic demand has not been a bastion of strength either. All this mercurial behavior is a disturbing fact of life for farm business units whose financial reserves are modest at best.

I stress agriculture's instability as cause for programs more than I do the average level of farmers' returns. It is hard to show that in the last decade or so agriculture as a whole has fared notably worse than other parts of the economy. The income picture in agriculture is now characterized less by disparity with other sectors than by sharp differences within agriculture itself. This feature of today's agriculture complicates the making of agricultural policy. Moreover, events of recent years have accentuated the internal income differences. I will comment on income issues again later.

I said above that in principle farm programs are designed with the proprietary farmer in mind. For 50 years farm policy has been intended to succor the traditional unit in agriculture, a unit with limited shock-absorbing capacity. Something close to the family farm has been envisaged. Forget the hypocrisy and limited applicability of the programs themselves; it remains true that if agriculture were to become exclusively the tax-write-off plaything of urban investors, or a mere division of conglomerate corporations, today's farm policies would vanish into thin air. Even now, it is often said that farming is made up, on the one hand, of small farmers who are only rural residents and not helped by commodity programs, and on the other hand, of very large farm units that do not need program aid. So why have programs? The question is asked.

What I am saying is that issues revolving around what we economists call the organizational structure of agriculture are intrinsically a part of national farm policy. No one should beguile himself into believing otherwise.

I said above that there is a second origin of support for farm programs. Two nonfarm groups have an interest in the stability and dependability of the supply of farm products and food. One is the consuming public. The second is everyone concerned for export trade, even the federal government in its eagerness to earn foreign exchange.

Farmers are not alone in their interest in farm programs, nor do they have an exclusive role in making farm policy.

### The First Y in the Policy Road

I am still setting the framework for describing agriculture's situation today. I suggest the first big decision in making farm policy, the first Y in the road, is whether we design policy to fit the most likely pattern of events in, say, the rest of the 1980s or whether instead we draft a highly flexible, maneuverable policy that can be adapted to changing situations as they evolve. Something is to be said for each. We all wonder whether the prospect is for chronic surpluses. Will export markets revive? Will high interest rates and costly inputs restrain our production capacity? I will offer a few speculations at the end of this paper. Other papers, including Dr. Tweeten's, present more information.

My preference, though, is to take the right hand fork. I think the most certain statement to be made about the remaining years of the 1980s is that they will be uncertain. They will almost surely be variable, with ups and downs. Therefore we ought not design a program for a hypothetical situation but stay loose, flexible, ready for whatever may come. One's guess about the rest of the 1980s, though relevant and useful, is not crucial to program design.

## Income Support vs Commodity Stabilization in a World Dimension

My choice of a right hand Y calls less for statistical analysis than for philosophy. It particularly opens up the philosophical question I raised earlier, the choice of emphasis between income support versus commodity stabilization.

This has been the nexus of disputes in policy-making from 1933 to this day. The first New Deal farm programs were enacted for one simple reason. Farmers were poor. Many were desperately poor. For a decade farm programs had been campaigned for in the name of farm relief, to give relief from low incomes and even poverty.

Secretary Wallace's men saw the farm problem more broadly. They thought it involved more than handing out money as "relief." I remember how hard they struggled to convert the language from "farm relief" to "agricultural adjustment." The first law, it will be remembered, was called an "Agricultural Adjustment Act." I insist there is deep meaning to the choice among idioms. To this day many farm leaders look on farm programs as only temporary expedients to be drawn on at times of distress. Surely that is Secretary Block's attitude. The opposite concept is sharply different. For it the language has now been updated from agricultural adjustment to "supply management."

The idea underlying supply management is to reconcile the conflict between the variability and unpredictability that go with unmanaged supply of farm products, and the demands of buyers worldwide for a steady, dependable flow into trade and commerce. In a sense the interests of farm producers are subsidiary, not primary. In 1938 I helped my Chief, O.V. Wells, draft the first farm law that provided for a degree of supply management. It was the Agricultural Adjustment Act of 1938, which remains the prototype for much of the law of today.

For 45 years since, we have vacillated between income relief on the one hand, and commodity stabilization via supply management on the other, as goals for farm programs. Generally, when times are good we are willing to bail out a few unfortunate farmers but want no part of supply management. When times turn tough we beg for it. My next moralism can be anticipated. Supply management cannot be an in and out affair. Either we decide to make the federal government a gyro-stabilizer for grains, cotton, and tobacco, or we do not. And we stay with the decision.

Lest I be misunderstood, I do not say that income objectives are omitted when supply management is carried out for purpose of commodity stabilization. I do say that (a) stabilization can itself be a goal separate and apart from income level; (b) other goals enter in such as having reserve stocks on hand and developing foreign markets; and further that (c) the division of emphasis between income objective and stabilization as such is a major and difficult consideration in the design and administration of farm programs.

Most of the remarks that follow build around this theme. As an aid in understanding them I call attention to the chart on the next page. Clearly, a commodity management program interlinks price policy and production control with sales volume. Buffer stocks are in an intermediate position. Worth noting in the chart is that price policy bears on both commodity management and farmers' incomes. Incidentally, I extended the income effect out to deficiency payments, which are the makeweight in fulfilling the income objectives of programs.

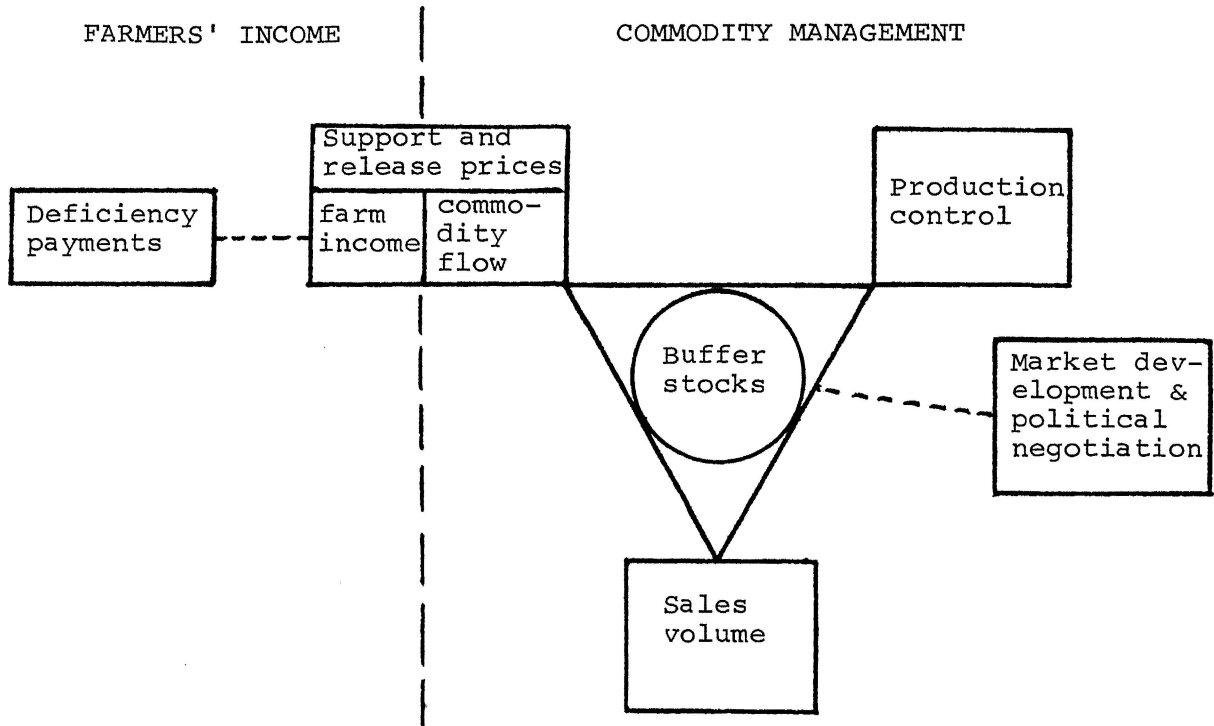
Also a feature of the chart is the satellite position of market development. Secretary Block, like some of his predecessors, has believed we can merchandise our farm products abroad so successfully that the need for production control is minimized. That was his thinking prior to the 1982 program. The Secretary can't do it, nor can anyone else, and we should promise ourselves never to smoke that opium pipe again. Oh, surely, there is a place for market development, including making sure our grain is clean, but it is not a magic instrument, a panacea.

### Price Policy and Export Trade

One of the most difficult, tricky parts of the whole farm policy issue is the relation between price policy for our commodities and our export trading. I add fast that for the feedstuffs --corn and sorghums -- we ought also to consider the effect on our own livestock and poultry producers. Their interests have virtually been scorned in recent years. But I confine these remarks to price policy for export trade.

I also confess that I am as confused as anyone. I am sure that a couple of ideas or images which circulate freely are not correct. World trade in wheat or soybeans is not a "market" in the

COMPONENTS OF COMMODITY PROGRAMS



sense of an oriental bazaar or board of trade. I'm not sure we should even use the term, "world market," for there really isn't any such thing. Least of all are trading relationships so poised that if we reduce our price 25 cents we will be able to sell all we want to. Heavens, if we reduce ours a quarter France will go down 30 cents. When the world is surfeited with surplus there is no meaningful equilibrium price.

World trade is dominated nowadays by state trading, marketing boards, bilateral agreements; and it is shaped by countless variable levies, selective exchange rates, and so on ad infinitum.

We hear it said that the United States is a poor old weak residual supplier in world trade. Hokum! World trade is not an empty barrel to be filled in some pecking order. Trade is a continuous flow, and no one contributes to it residually. There is no such thing as a residual supplier.

Furthermore, the United States, far from being a timid pusillanimous Mr. Milquetoast in world trade, is the dominant supplier of grains and soybeans. We set the tone. To be sure, when trade is slow it's painful to play that role. By the same token, when trade picks up no one profits as much as the giant in the picture, namely, the USA. I ask anyone, which of the world's grain exporters reaped the biggest bonanza in 1973-74?

Thus, we face several problems, it seems to me. Our style of conducting export trade does not mesh with the state trading done in much of the world. We are groping for a solution. As another problem, how ought a giant in world trade behave? How can we gracefully accept the burdens of that status even as we reap the occasional benefits?

But the biggest question is how we interconnect our price support policy and whatever may be our goals in export trade. Obviously, price support policy has a bearing on what we are able to do in our export trading. Many critics say we have not been very sensitive to that relationship. Some declare that price supports have been the dog and exports only a tail that is wagged.

Let me put it another way, reintroducing the word, "residual." Our grain and cotton farmers create pressure to base price support policy mainly on income goals. They want support levels to be high enough to provide the income they think they should have. Insofar as their wishes are



met, foreign trade consequences become a residual. In a sense, there is no trade policy at all. Yet just about everyone says we need a trade policy, including a price policy for foreign trade.

The most extreme position would be to choose price support levels primarily so as to accommodate our goals in foreign trade. Export trade would be the dog, and price supports the tail.

Another course of action is clearly different. It would be a sharp break with our past. It is to set up a separate export trading corporation. The corporation would manage foreign trade independently of domestic programs. As of now, not many people want to go that route. But the idea will stay alive.

### Price Policy, Supply Management, and Farmers' Income

Although foreign trade partisans would like price support policy to be slanted strongly in their direction, in reality support levels will be established as a blend among several considerations and objectives. It is always that way in policy-making. Individual groups want policy to be made solely for their benefit. Invariably, policy must be a compromise and not single-purpose.

At this point I call attention once more to the Program Components chart and especially the box for support and release prices. Price policy bears separately on income goals and the several components of commodity management. The level of prices affects commodity flow, including flow into and out of stocks, and sales volume. But price policy also interacts with production control. If price supports are relatively high, production control must have a bite to it -- it must be effective. If supports are lower, control can be looser.

Even so, I stress most the actual or potential conflict between income objectives of programs and the particulars of commodity management. That conflict is troublesome but it absolutely must be dealt with. As I said above, many farmers want price supports to be high enough to give them a satisfactory income. Most program administrators, including Secretaries of Agriculture, argue for more modest price objectives of programs, so as to make their commodity management task easier.

Economists point one way out. It is to keep support and release prices fairly low and use Treasury payments to make up any shortfall below income objectives. We have in fact done that for 20 years. Farmers have never been entirely happy with the arrangement. They prefer to get their returns from commodities rather than Secretary Regan's checkbook. Moreover, they are afraid David Stockman will succeed one of these days in taking away the farm program checkbook. That is to say, the income supplement device is at the mercy of annual appropriations as engineered by the Executive Office of the President and by Congress.

The income-commodity management connection has yet another angle to it. As soon as we talk about income objectives for farm programs we shift the focus from commodities to people. Commodities do not get income; people do. When income from programs is mentioned questions are asked about who gets it and how much. So another shouting contest begins. Critics scream that if commodity price supports are pushed high enough to provide a good income for moderate sized farmers, not only will supply management be jeopardized but the biggest farmers will be enriched so much as to invite public disapproval.

But that's not all of it. If deficiency payments are relied on heavily as income supplement, their size also is on public display and leads to even greater public objection. Hence, for reasons of political expediency if not equity, deficiency payments cannot be made proportional to volume of a farmer's sales. The technique used to date has been to put a size limit on payments. I have preferred instead to scale payments by formula. I have won few converts. To repeat, what all this amounts to is that the innocent box on the chart in which support and release prices subdivide into farm income and commodity flow is the focal point of very difficult problems in design and execution of farm programs. And the deficiency payments that compensate for inadequacy of commodity price present complications of their own.

### Production Control Methods

Methods for controlling production are a separate topic. On other occasions I have set forth a stair step sequence of control methods from the loosest voluntary devices to the tightest. At the time a farm law is written it is impossible to foresee what control method might be needed. Therefore I have long advocated giving the Secretary of Agriculture a range of methods, a repertory or shopping list. Some tools of control must be sharp. They must include authority for

cross compliance, not excepting cotton, and for mandatory acreage allotments and marketing quotas. We all hope the harshest methods will rarely be needed but there is no point in calling for supply management unless the Secretary is equipped for the task.

### The State of Affairs, 1983

I now sketch briefly a few relevant data on farm production, income, and foreign trade.

#### Farm Income

To the consternation of farmers who had virtually no income in 1983, at mid-fall the U.S. Department of Agriculture reported net farm income for the year as appreciably better than that of 1982. Specifically, the 1983 figure has been estimated as a range between \$25 and \$29 billion, up from \$22 billion in 1982. Data follow:

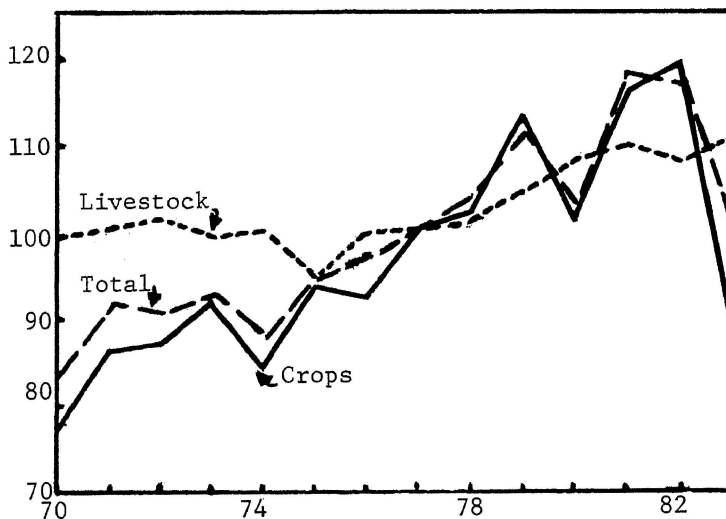
	Net Farm Income <sup>1</sup> (billions)	
	Current Dollars	1972 Dollars
1979	32.3	19.7
1980	21.5	12.0
1981	30.1	15.4
1982	22.1	10.6
1983 Forecast	25-29	11-13

Income in 1983 quite possibly varied more widely among individual farmers than in any other recent year. Drouth always is viciously inequitable, as crop failure in drouth areas boosts prices and enriches farmers who are fortunate in harvesting a crop. In 1983, though, PIK added a new dimension. It amplified the effect of drouth while creating a new beneficiary of the higher prices, namely, the recipients of PIK grain and cotton. So incomes of individual farmers were extremely uneven in 1983.

#### Farm Output

The chart below on annual gross farm output is presented for information. The reduction of 15 percent in 1983 -- 26 percent for crops -- is shown clearly. Perhaps the principal observation is that output advanced rather slowly in the early years of the 1970s. But the late 1970s saw a surge in farm output, culminating in the bountiful harvests of 1982. The only observation I offer is that the erratic pattern shown should make us cautious in projecting what lies ahead.

U. S. FARM OUTPUT  
Index, 1977=100

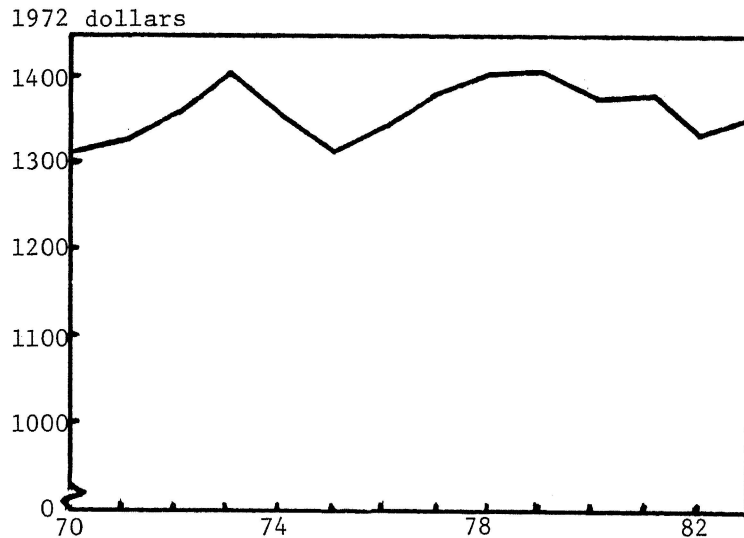


<sup>1</sup>Data are from Agricultural Outlook, Aug. 1983, Economic Research Service, USDA, p. 12.

## The Domestic Economy

I turn now to a gloomy chart that reveals what has happened in the U.S. economy the last 10 years or so. In our preoccupation with export trade the last few years we have forgotten that three-fourths of the products of our agriculture go to our own consumers. Only one-fourth is exported. We may also have failed to remember that the state of employment and income influences demand for our farm products, particularly demand for the high value livestock products. Surely beef cattle producers have seen their markets shrink the last five years.

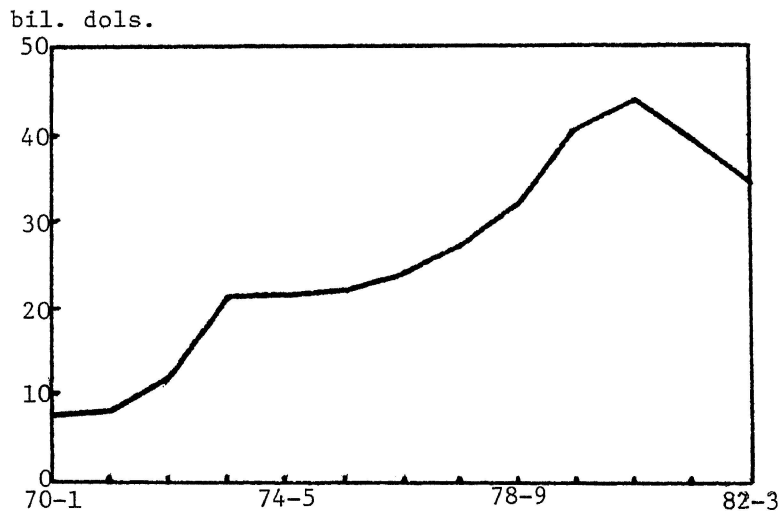
DEFLATED GROSS NATIONAL PRODUCT PER  
PERSON OF CIVILIAN LABOR FORCE



The chart presents data since 1970 on deflated gross national product per person in the civilian labor force. Twice in the period a cyclical improvement failed to be sustained. Little gain is to be seen for the period as a whole. In a nation accustomed to steady economic growth, the absence of growth the last decade is shocking.

Furthermore, if an increasing proportion of consumers' incomes is precommitted (as often alleged), consumers' discretionary incomes have been progressively reduced. Food buying comes out of the discretionary part of consumers' income.<sup>2</sup>

VALUE OF U. S. AGRICULTURAL EXPORTS



<sup>2</sup>GNP per person of the population would show a somewhat brighter picture. In many respects, though, production relative to the number of persons in the labor force is a more significant datum.

## Farm Product Exports

The last chart shows data for value of exports of farm products, 1970-71 to date. The high mark was the \$43.8 billion in 1980-81. Preliminary estimates are that sales the past year (year ending September 1983) were only \$34.5 billion.

Where next? I forbear from predicting.

Three years ago, at this same seminar, Dr. Womack and I were prophets of a continued export boom. He demonstrated conclusively that the world's food needs were growing steadily and we in the United States were best positioned of all exporters to supply those needs. Our forecasts went awry, even though the analysis was sound.

Explanations for the downturn in exports are legion. Embargoes of past years are the most popular scapegoat. For my part, I put first emphasis on worldwide economic recession and the overvalued U.S. dollar. Professors Bredahl and Green, writing in the October 1983 Economic and Marketing Information letter, point out that the most rapidly developing nations contributed much to our export boom in the 1970s and have also cut back most in the 1980s.<sup>3</sup> A slowdown in their economies, complicated by stringency in international credit, accounts for their reduced buying. Prospects for early turnaround are not bright.

I remain convinced that in the longer future the export capability of our nation will be drawn on heavily. Somehow, in some way, we are going to supply large quantities of foodstuffs to the world's peoples that need them. But how is that "longer future" to be dated? As of what years? I do not know.

### Summary

Probably the only summary remark to be made is so obvious as to be redundant. Without being morbid about what the future holds, there are no grounds for assuming that sudden bursts of new demand at home and abroad, or worldwide crop failures, will relieve us in the United States from considering once again the desired role of government relative to the financial stability of its agriculture. To us veterans it's all a re-run from earlier years. It is not an attractive re-run. But as the man said, "Who promised a rose garden?"

---

<sup>3</sup>Maury Bredahl and Leonardo Green, Economic and Marketing Information for Missouri Agriculture, October 1983.

ECONOMIC AND POLICY OUTLOOK FOR  
U.S. AGRICULTURE

Luther Tweeten  
Professor of Agricultural Economics, Oklahoma State University

Is the basic framework of farm commodity programs devised a half century ago appropriate for today's agriculture? Our political representatives will have to answer that question when enacting new commodity legislation in 1985. The answer to the question is partly economic and partly political. History has taught us that substantive policy changes come rarely--mostly in times of crisis such as the Great Depression, World War II, and the seemingly uncontrollable surpluses of the early 1960s. Will a crisis motivate new directions for farm policy in 1985?

History also has taught us that events dominate political philosophy in determining the course of farm policy. Secretary of Agriculture Earl Butz, from a presumably stable ideology, presided over the most massive and later the least government support of farm income in his decade. Secretary of Agriculture John Block entered office with claims that demand expansion was the way for government to restore farm economic vitality, only to see demand plummet in his first years of office.

The purpose of this paper is two-fold: (1) to review the economic environment and structural circumstances likely to influence agriculture and farm policy, and (2) to examine the policy options in light of the prospective economic environment and structural circumstances.

### The Economic Environment

Economic conditions in agriculture will have a strong bearing on commodity legislation in 1985. The case for a market orientation will be stronger if agriculture is prospering than if it is depressed. Economic recovery in agriculture depends on several factors including:

- (1) worldwide economic recovery and attendant revival of export markets;
- (2) reduced real interest rates and a lower value of the dollar in international markets,  
and
- (3) no better than normal weather.

U.S. economic recovery was well underway in the fall of 1983, with gross national product growing at an annual rate of eight percent in the third quarter. Such a high rate of growth is not sustainable but the recovery is likely to continue through 1984. Recovery in other countries is lagging but will be enhanced by rapid economic growth in the United States. As we import more from other countries, they will import more from us.

Some troublesome problems remain. High real interest rates (nominal interest rate less the inflation rate) and an unusually strong dollar are causing real hardship for American farmers. A root cause of these difficulties is seemingly uncontrollable federal deficits. Economists are largely in agreement that deficits are appropriate during recession and that a balanced budget is appropriate following recovery. Large full-employment deficits require huge federal borrowing in national financial markets, driving up interest rates and driving out private investment needed to sustain employment.

The economic response to federal borrowing depends strongly on the reactions of the Federal Reserve Board, which could be of two kinds. If the Board increases the supply of money to accommodate the demand for funds, the result will be high nominal interest rates and inflation. Financial investors fear that the Board will in fact expand the money supply to accommodate federal borrowing needs at lower interest rates. Those investors try to establish--demand--interest rates consistent with expectations of revived inflation. On the other hand, if the Federal Reserve Board restrains the money supply to hold down inflation, the result will be high real interest rates--rates high not only "nominally" but in real terms.<sup>1</sup> Neither option helps farmers.

---

<sup>1</sup>Interest rates in the fall of 1983 were high in real terms. That is, they were farther above the inflation rate than is usual.

Not only are high real interest rates (averaging two to three times normal levels) of special burden on farms directly. They also impinge through international linkages. High real interest rates attract investment from abroad, providing the United States with foreign exchange that ordinarily we would earn by exporting our farm and other products. When the demand for dollars abroad is strong relative to supply, the value of the dollar is bid up in international markets. U.S. products then become relatively less attractive to buyers compared with products of competing exporters. A dramatic and substantive move by the federal government towards a balanced budget is the single most important action necessary to create a healthy and sustained economic recovery, that would benefit not only farmers but the nation as a whole. The prognosis for such a policy is not favorable.

In 1983 widespread drouth coupled with the payment-in-kind (PIK) program massively reduced stocks of major farm commodities. Only wheat and dairy stocks are now well in excess of normal carryover requirements. The 1984 wheat program does not offer promise of reducing stocks next year. One of the reasons is the lack of attractiveness of the PIK program offered in wheat.

At issue is whether PIK for wheat should be made more attractive -- or even if it should exist. Despite its help in reducing production and burdensome stocks, the PIK program has come under fire by critics. The program has been faulted for trying to do too much in one year, for being poorly administered, for making large payments to big producers, and for being too expensive. To be sure, it would be desirable to avoid PIK by reducing production through lower support prices or by paying farmers in cash not to produce before huge stocks accumulate. But given the price support parameters and highly excessive stocks in the case of wheat, PIK is attractive. The reason is that the expected cost of holding excessive stocks exceeds potential salvage value. Thus the opportunity cost of PIK payments is near zero to the federal government. Furthermore, if the goal is to reduce production, the large farmers who account for most farm output need to be included despite the large payments to them. Payments have not been generous relative to minimum requirements to obtain compliance -- in fact, a case can be made for raising the payment rate from 75 percent to 80 or 85 percent of normal production in the case of wheat to obtain participation. Many farmers owe their economic life to PIK.

Although stocks of other major crops are below normal levels and need to be replenished, the outlook for prices of these commodities in a year or two is not favorable. The reason is that current economic incentives will induce more production than can be absorbed by a market depressed by worldwide recession. Thus, the policy environment for 1985 legislation is likely to be characterized by falling prices and growing production and stocks, if weather is normal.

#### Structural Environment for Policy

A recent report of the Council for Agricultural Science and Technology as well as other sources lists several characteristics of agriculture that bear on farm commodity legislation.

(1) The demand for farm output is becoming more responsive to price. Hence, if this nation is to retain and expand its international markets, it must do so at a competitive price in export markets.

(2) The supply of farm output in the aggregate is becoming more responsive to the prices farmers receive for their products and pay for their inputs. Farmers in the aggregate now have more capacity to adjust production than they had in the past. Productive inputs such as fertilizers and pesticides purchased from the nonfarm sector are responsive to price, and they comprise a higher proportion of farm inputs than formerly. Recent studies show that at least large farmers exercise considerable control over expenses by cutting back inputs when product prices are low.

(3) Advances in productivity have enhanced the capability of U.S. agriculture to compete in world markets. A recent study I made (see references below) led to estimates that larger farmers who account for only 5 percent of all farms but for half of all farm output cover all resource costs of production at just over 50 percent of 1910-14 parity. Many of these farmers can compete in international markets without price supports. Instead, the nation has sheltered them from competition by supporting farm prices.

(4) The principal economic problems of agriculture are instability and cash flow. Prices held above competitive market-clearing levels over extended periods do not increase net farm

income because long-term demand for farm output is elastic, because benefits are bid into land values, and because farmers increase output in response to favorable incentives. Furthermore, prices held artificially above long-term equilibrium levels contribute to cash-flow problems of farmers by inflating land values. This creates barriers to entry for would-be farm operators. Addressing the cash-flow problem in agriculture requires monetary-fiscal policy to reduce real interest rates, avoid inflation, and restore a more normal value of the dollar. Commodity programs only alleviate short-term cash-flow problems.

(5) Excess labor in agriculture is no longer a serious problem due in part to the integration of farm and nonfarm input markets. Fully 90 percent of all farmers have at least one source of off-farm job. Despite relatively unfavorable farm prices in 1981, disposable income per capita of farmers averaged 89 percent that of nonfarmers. Small farmers no longer tend to be low income farms (low income to families), due to growth of off-farm income.

(6) Commodity programs emphasizing voluntary production controls are becoming more costly and less capable of reducing farm input. Irrespective of which party controls the White House and Congress after the 1984 election, pressures will be intense to reduce the federal budget. Options include reducing price support levels or focusing payments more narrowly on the small and moderate-size farms that are most at economic risk.

(7) The farming industry is evolving into a dual economy. One sector is composed of a few large commercial farms accounting for most farm output. The other sector is composed of a large number of small farms, many of them part-time operations, accounting for a small portion of total output. Many large farms can cope with risk and cash-flow problems by astute use of marketing and management tools including diversification of income and capital sources; they can produce efficiently enough to compete in international markets at world prices; and they are not a proper focus for government assistance based on need -- as viewed by many Americans.

Many small farmers cope with risk and cash-flow problems with off-farm income. They do not benefit much from commodity programs. Hence they also are not of central concern for commodity program policy.

Caught between are traditional middle-size family farms which do not have sufficient size to achieve the economies of large farms and, unlike part-time small farms, lack off-farm income to cope with cash-flow and instability problems. One option for public policy is to cut federal budget outlays by more narrowly focusing on the small and mid-size farmers most at risk.

(8) Based on a number of projections reviewed by Tweeten in March 1983 (see references), supply and demand for farm output are expected to grow at similar rates, approximately 1.5 percent per year, in the 1980s and 1990s. Real farm prices are expected to show no strong upward or downward trend. There will be considerable instability around that trend, and the farm economy will continue to be characterized by periods of excess supply and low prices alternating with periods of excess demand and favorable prices. With capital gains included, rates of return on farming resources are likely to average near those realized in the nonfarm sector. Best estimates are that productivity gains will continue about as in the past, because emerging technologies such as improved enzymes, vaccines, varieties, and breeds (made possible through bioengineering) offer substantial promise. However, exports will need to increase only approximately 3 percent a year to help demand keep pace with a productivity gain of 1.5 percent per year. That rate of export growth seems feasible, as it is much less than the annual real growth of 8 percent in the 1970s. Prices are unlikely to average much above 50 percent of parity -- the resource cost of production on efficient and adequate-size farms.

#### Outlook for Legislation

Given this policy environment, what commodity legislation is likely to emerge in 1985? A number of innovative programs have been proposed but few are likely to win legislative approval.

#### Programs to Reduce Federal Cost--With Little Chance of Enactment

Programs to serve the needs of farmers and consumers at lower government costs include demand expansion, a supplemented private market price system, mandatory controls, and a two-price system.

Demand expansion through promotion and subsidies offers some opportunities to increase farm income at favorable benefit-cost ratios, but is primarily a long-term rather than short-term option. Demand expansion does not deal adequately with instability and cash-flow problems in agriculture.

Several options have been proposed to supplement the private market and eliminate supply control and price supports. One is "put options" or hedging in futures markets, with the government serving as speculator of last resort. Farmers would pass their price risk on to speculators. Another variant is income insurance. Farmers would pay premiums to insure 50, 60, or 75 percent of their historic revenue base. Because these programs would entail greater cost and less protection to farmers than current commodity programs, they are unlikely to be favored by farmers. They stand little chance of legislative acceptance.

Many farmers voice strong support for mandatory controls. Mandatory controls might, in time, lose 50 percent or more of our export markets for grains. To maintain farm income, consumers would have to pay much higher prices for food. Low-income consumers would bear a special burden because they spend a sizable portion of their income for food. The internationalization of American agriculture virtually rules out mandatory controls. There is little chance of serious consideration of the proposal in Washington.

A two-price plan might retain some features of mandatory controls along with market-clearing export prices. The procedure could be to issue certificates to farmers requiring domestic purchasers to pay, say, 75 percent of 1910-14 parity prices for farm output. Additional output would be sold in the export market at whatever price the market would bear. The low world price that farmers would receive for their additional output would restrain production. Shortcomings of the program include very serious problems in administration, including difficulties in policing domestic prices, and rigidities and inequities in providing certificates to farmers. The program would bring charges of dumping in export markets. The proposal probably does not have much support in Congress. It would generate inflationary pressures throughout the economy and high social costs among low-income consumers.

#### Commodity Programs with Greater Chance of Political Acceptability

I see two scenarios as most likely for 1985 farm legislation.

Scenario 1 is modification of existing programs. Because no crisis looms to warrant entirely new directions for farm policy, the best guess is that existing programs will only be modified -- to reduce government costs and to be more responsive to world market conditions. Candidates for modification include using a moving average of market prices to set loan rates and target prices -- if target prices are retained. A variant would be to adjust target prices according to a moving average of market prices, while giving the Secretary of Agriculture flexibility to set loan rates. He would be constrained from setting loan rates too high by the high cost of excess production and of the stocks thereby generated. He would be constrained from setting loan rates too low by the high deficiency payments that would result.

This scenario would require retaining acreage diversion program authority to control the excess output likely to be generated. Because large farmers who account for most farm output must be included to make acreage control programs effective, this scenario would not place much emphasis on payment limitations. The Farmer Owned Reserve (FOR) would be retained. A cap on FOR would serve little purpose because it would cause surplus commodities to fall into the hands of the Commodity Credit Corporation when loan rates exceed market prices. FOR stocks are preferred to government owned stocks.

Scenario 2: commodity programs to serve a structure policy. A win by Democratic candidates in 1984 would bring pressures for a "structure" policy to influence farm size, numbers, tenure, and organization of family farms. Such a structure policy could be fostered by stringent payment limitations to focus payments on small and middle-sized farmers. Payments could be made to farm operators. Thus efforts by large landowners to avoid payment limitations of, say, \$20,000 per operator would cause a break-up of large farms into several units. Such efforts to establish more day-to-day farm operators serve family farm objectives. Low and stringent payment limitations virtually preclude supply control because such controls would need to idle much of the cropland on small and middle-sized farms to obtain sufficient production cutback. Hence, production controls and loan rates might be terminated under this scenario. The Farmer Owned Reserve would be



retained to provide stability in food supplies and prices but with a cap. The Farmer Owned Reserve could have acquisition prices adjusted by the Secretary of Agriculture to obtain adequate target buffer stocks but with any unfilled capacity in FOR allocated to producers based on historic production bases. Because this scenario is a more radical departure from current programs than Scenario 1, it has less likelihood of acceptance.

### Summary and Conclusions

Restoring vigor to the farm economy will require worldwide economic recovery, a more nearly balanced federal budget with lower real interest rates and lower value of the dollar in international markets, and no better than normal weather.

The outlook for the farm economy is for continued instability and cash-flow problems. The government will valiantly attempt to address these problems at lower cost to the Treasury. There is likely to be an emphasis on holding support prices low enough to restrain production and to be competitive in foreign markets. Voluntary supply control program options are likely to be retained for use by the Secretary of Agriculture. But the desire to focus a higher proportion of benefits on middle-size and small farmers most at risk, and to foster market-clearing prices competitive in international markets, might motivate a serious look at direct payments without production controls.

The internationalization of American agriculture has indeed created a new economic environment but is unlikely to be viewed as of crisis dimension. It is unlikely to motivate major new policy directions in 1985. The best guess is that existing programs will be modified.

Irrespective of which political party occupies the White House and Congress after 1984, a program will likely be adopted to reduce production through long-term diversion of erosion-prone soils. The program is likely to be modest under any circumstances. It will be more a political move appealing to those with environmental concerns than a serious effort at supply control. The form of the program could be crop easement under long-term contract to allow haying and grazing but not cropping of diverted acres. Another variant could be government purchase of whole farms in areas subject to high erosion rates, and combining those farms into wildlife areas, hunting and fishing preserves, or other recreational uses.

### REFERENCES

- Tweeten, Luther, et al, "The Emerging Economics of Agriculture: Review and Policy Options." Report 98, Council for Agricultural Science and Technology, September 1983.
- Tweeten, Luther, "Excess Farm Supply: Permanent or Transitory?" in Proceedings for the National Agricultural Policy Symposium, March 27-29, 1983. Department of Agricultural Economics, University of Missouri-Columbia, 1983.

## UNITED STATES AGRICULTURAL POLICY IN A 'MANAGED TRADE' WORLD

Barbara Chattin, Agricultural Economist  
and John E. Lee, Jr., Administrator  
Economic Research Service, USDA

On several occasions in the history of the United States, expanding world markets have seemed to offer a partial solution to domestic farm problems. That prospect seemed more real than ever in the 1970s. Now, as in the past, there is some disillusionment with that prospect.

The sharp slowdown in exports in the early 1980s has caused farm policy positions or "camps" to form, ranging from all-out "trade war" for regaining our market shares, to the opposite extreme of selling in world markets only if prices are high enough to guarantee high returns to producers. Many farmers are understandably confused about which camp they should be in. Their confusion arises in part from an increased awareness that the United States has operated its farm policy so that in effect we have been somewhat of a free trader in a world market not characterized by free trade. As a result, the United States has become the residual supplier to the rest of the world, and U.S. farmers and taxpayers have absorbed the costs of adjusting to volatile world trade balances.

The object of my remarks is to say that neither extreme--neither expansion of trade at any cost, nor turning our backs on world markets--is realistic. A strong case can be made that an intelligent and expanding involvement in world agricultural markets is in the enlightened economic and political self-interest of U.S. farmers and citizenry generally. Expanded trade involvement offers many potential benefits to us and to the rest of the world. But realization of those potential benefits requires:

- domestic agricultural, trade, and economic policies consistent with realities of today's complex world markets; and
- demonstration of economic and political discipline in the management of these policies.

Before we turn to the specific implications for U.S. policy, it is essential to review what we know about the policy setting.

### The Economic and Political Setting for Agricultural Trade Policy

Formulation of rational and intelligent agricultural trade policy requires understanding of a myriad of complex and interrelated economic, technological, political, and social forces. Five especially significant aspects of the trade policy setting are highlighted here:

- World demand for U.S. farm products is not likely to grow fast enough to take the slack out of our farm sector without adjustments in farm programs.
- Nevertheless, world markets are our only potential source of significant growth in demand.
- Macroeconomic policies, here and abroad, are now critical to U.S. exports.
- A changed U.S. farm sector offers new flexibility for competing in global markets and raises questions about the efficacy of traditional commodity programs.
- Global markets are unlike domestic markets and pose major challenges for our domestic and trade policies.

### Revised Global Demand Prospects

The experience of the 1970s led many of us to believe there would be continued strong growth in world demand for U.S. farm products. We knew there would be occasional, unpredictable shocks from weather and economic and political sources. But the underlying trends suggested consumption would grow faster than production in the rest of the world, leaving the world increasingly dependent on the United States for food supplies. The possibility seemed strong that our exports could rise faster than yields were increasing, meaning both expanded acreages and rising commodity

prices. Parenthetically, we did warn that the potential for price instability was great and that many highly-leveraged producers were vulnerable to the cash flow problems associated with instability.

A number of forces were at play in the seventies that led us to these conclusions. Incomes were high and rising in the developed world. In the OPEC and middle income countries also, incomes were rising rapidly, translating into demand for upgraded diets. While there were problems in the poorer countries of the world, their food imports too were rising. Over the decade of the seventies there was a gradual decline in the value of the dollar, making our goods even more attractive to foreign buyers. There were large credit flows, public and private, to Eastern European countries and to the middle income countries, financed in part by the huge surpluses of OPEC money flowing to financial institutions in developed countries. These credit flows enhanced demand for U.S. farm products directly by financing food purchases, and indirectly through the economic growth they stimulated.

On the supply side, it appeared that a number of factors would mitigate against rapid increases in production in the United States as well as in other countries: most of the good land was in production; the easily developed irrigation had been developed; energy prices were rising rapidly, hence fertilizer and irrigation costs were being driven up; and no new major technological breakthroughs were imminent.

Today, trade prospects are considerably less promising, at least for the next several years. What happened? The major unseen development has been the deep and prolonged global recession. A number of factors contributed to it. In the seventies the whole world was on an inflationary fast track, a kind of economic pyramiding that had to keep growing at an increasing rate, or collapse. The U.S. recession, deepened by our attempts to get inflation under control, may have punctured the balloon. In an integrated world economy, the slowing of growth in a major nation such as the United States has a domino effect, first on our major trading partners, and then on the rest of the world. Slowed growth in the developed world meant sharp reductions in OPEC oil exports, which not only reduced the countries' ability to import but also eliminated a major source of credit for financing development in the rest of the world.

The slowdown in the global economy concurrent with slowed credit flows left many East European and Latin American countries in untenable debt positions. The debt payment defaults which resulted further discouraged both private credit and credit from governments and institutions such as the World Bank. Countries short of foreign exchange for meeting debt payments curtailed all but essential imports. These logical actions and reactions caused the global recession to feed on itself.

To complicate matters, the slowed rate of U.S. inflation, relative to the rest of the world, stopped the erosion in the value of the dollar. Our high interest rates, which trace to large budget deficits, combined with the relative economic security of the United States, made the dollar very attractive. As a result the dollar has appreciated sharply since 1980, making our farm products much less attractive in other countries. Over the last two years, the real value of the dollar has appreciated just over 25 percent (on a trade weighted basis) for importers of U.S. corn and 16 percent for importers of U.S. wheat. Our analysts estimate that over the last two years, the United States has lost up to \$6 billion in farm export sales due to the strong dollar.

We also have learned that the production capability of the world is greater than we thought. Some of the higher incomes and large credit flows in the seventies were invested in productive capacity here and abroad. It began to come on stream in the late seventies and early eighties. Energy prices and production costs rose less rapidly than anticipated. And we learned that farmers the world over can and do respond to economic incentives by increasing output.

Prospects for the remainder of the eighties, while highly uncertain, look something like this: recovery from global recession will be slow and gradual, hence incomes and demand will increase slowly; creditors who have been burned will be much more cautious over the next several years, thus reducing a major source of potential growth; petroleum sales and prices are likely to show more modest growth than in the seventies, thus holding down costs but also reducing a major source of income and credit that once financed world trade in farm products; and the value of the dollar is not likely to decline substantially so long as we have large federal deficits and high interest rates. As a result of these and other factors, most analysts now expect U.S. farm exports to grow at trend rates, over the rest of this decade. Exports will remain substantially

below earlier expectations. If the forecasts are correct, and if yields and productivity increase at rates similar to the past 15 years, the marketplace will not likely generate commodity prices in the neighborhood of the target prices contained in the 1981 farm bill.

### World Markets: The Major Source of Demand Growth

Despite prospects for slow growth in world demand, foreign markets offer potential for growth--in fact, the only potential of significant size.

Food consumption and fiber use in the United States are relatively stable and change little in total as prices and income change. True, consumption of some meats is somewhat price responsive. Food expenditures of some unemployed people are likely to rise when they are once again employed. But overall, these represent small changes at the margin. Generally, use of farm products in the United States can be expected to grow only slightly faster than population growth. Yields could grow faster, meaning that fewer and fewer acres will be required to meet domestic needs. Cropland harvested to supply domestic needs has declined from 315 million acres in 1950 to 228 million acres in 1981. By the end of the century, not far away, only about half the cropland acres in production in 1981-82 will be needed to meet needs of our domestic consumers. Cropland needed for domestic consumption will be even less if some of the recent developments in biogenetics produce productivity breakthroughs.

It is possible that we could develop major industrial uses of agricultural commodities and significantly increase demand. The best-known example is biomass for alcohol fuels, but the economics of that are not promising. Not enough is known about other prospects to speculate at this time.

In contrast to flat domestic demand, global demand for food is growing, and that demand is price responsive, especially over the longer term. This means that if a country is consistently price competitive, other countries that have a comparative disadvantage in food production will adjust their internal policies and import more food.

Just how responsive world agricultural markets are to prices is a subject of some controversy. In all honesty no economist can predict exactly the price elasticity of export demand. But there is little argument that, over time, export markets are more price responsive than domestic markets. If that responsiveness is as great as some think (i.e., if the price elasticity is greater than -1.0) rising productivity in the United States could translate into rising revenues rather than more adjustment problems.

Moreover, global demand for food is income responsive. This is especially true in the developing and middle-income nations. Economic recovery worldwide and economic development in the poorer countries would expand food trade and the United States would share in the increase.

In a nutshell, despite current problems, exports to the rest of the world are our greatest--perhaps our only--source of market growth. Whether U.S. agriculture ever sees the benefit of that potential growth depends heavily on economic progress in the rest of the world, and on U.S. domestic economic and farm policies.

### Macroeconomic Policies Critical to Exports

Events of recent years have shown U.S. farmers just how much stake they have in macro- or general economic policy (fiscal and monetary). This is a complicated subject that cannot be treated in detail here. Let me deal briefly with a few points.

First, one cannot treat the components of monetary and fiscal policy separately; they are interrelated. For example, one cannot focus concern on interest rates alone, because interest rates link to money supplies, budget deficits, inflation, tax policy, dollar strength, and a host of other factors. Without dealing with these linkages, farmers could push for actions, say lower interest rates, that appear to be in their best interest, but which lead to negative indirect effects that more than offset the direct gains.

The pain of high interest rates and the distortions of rapid inflation are known all too well. We are now experiencing the withdrawal pains of trying to come off our inflation "high." Let me walk quickly through some key linkages.

The federal budget deficit is large. As a nation we have not yet come to grips with whether we will close that deficit by reducing expenditures or increasing taxes or some combination of the two. We seem to be in a state of political paralysis over this issue. But the future of our economy depends on resolving it.

A federal deficit can be financed by monetizing it (printing more money) or by borrowing from private capital markets. Printing more money creates artificial demand and is a primary source of inflation. To minimize the danger of refueling inflation, especially after going through so much pain to get it under control, the Federal Reserve (the monetary policy authority) has chosen to hold down the growth in money supply. Hence the deficit is being financed by the government's going into the money markets and borrowing in competition with private borrowers. If federal borrowing continues throughout 1983 at the pace established during the first six months of the year, it will require \$230 billion out of about \$500 billion loanable capital available. By comparison, corporations will only issue about \$21 billion in new bonds. A large Federal deficit financed by borrowing leads to fierce competition for money and drives up the price of money (interest rate). Inflation is kept in check but farmers are impacted in several ways. High interest rates--

- increase the cost of doing business and add to cash flow problems for heavily debt-leveraged farmers;
- discourage domestic investment, slow economic growth, and slow income growth, hence reduce farmers' domestic sales;
- make it attractive for other nations to hold dollars; the competition for dollars in world markets then drives up the value of the dollar, makes our exports more expensive to others, and reduces farm export sales;
- attract foreign capital, and although this may appear beneficial to the United States, it means that U.S. farm exports are reduced because fewer funds are available in foreign countries to pay for imports and less capital is available for internal investments and growth;
- worsen the credit problems of debt-ridden countries and make it more difficult for other countries to borrow for internal investment; in both cases the net result is a reduced ability to import U.S. farm products.

Again, we could lower the interest rates and reduce the above problems by printing more money, running the risk of rekindling inflation. Clearly, we are riding a tiger, and intelligent policies combined with political will are required to dismount without being eaten. The point for this conference is that how all this is resolved (or not resolved) could mean more for American farmers in the long run than the 1985 farm bill (although that, too, is terribly important).

One other point. Because of the size of our economy, a U.S. recovery is important to lead recovery overseas. It is necessary that we be strong and that we import if others are to recover and thus be able to import from us.

### The Changing Reality of U.S. Agriculture

In formulating policy for the future, we must recognize the major transformation in American agriculture since the 1930s and 1940s. The conditions that led to policies in the Great Depression and following World War II are no longer the dominant characteristics of the farm sector. The commercial farming sector today is high technology, capital intensive, and large-scale, albeit still family dominated.

As a recently published CAST report puts it:

In 1981, agricultural production units were comprised of 112,000 large farms, which produced 49 percent of the U.S. farm output; 582,000 medium-size farms, which produced 39 percent of the output; and 1,742,000 small farms, which produced 13 percent of the output. Many of the operators of small farms are engaged in part-time farming by choice to follow a valued way of life paid for out of off-farm income... Most part-time operators of small farms do not have

low income.<sup>1</sup> [Their total income from all sources averaged above the U.S. median family income.]

The CAST report goes on to note that the "changes in the size-structure of the farming industry have made the industry more able to compete in international markets".<sup>2</sup> Large farms, in particular, "usually can compete effectively in world markets".<sup>3</sup>

Continuing to quote:

A case can be made that [traditional] commodity programs either are unneeded for many large farms or inhibit them from competing in world markets. For small farms, commodity programs provide few benefits and are not needed if off-farm income is substantial. Existing commodity programs retained because they serve medium-size farms do not address the needs of these farms efficiently.<sup>4</sup>

Several points about the reality of American agriculture are pertinent to the trade issue: a preponderance of our commercial farms are big, technologically advanced, and efficient, and can respond competitively in world markets. Although, at recent market prices, a majority of our producers produced at a loss, a majority of commodity production was produced at a profit. Our trade policy for agriculture no longer needs to be constrained by the requirement that our domestic farm policy address a welfare issue.

### Characteristics of Global Agricultural Markets

The import, export, and domestic policies of the 100-plus individual trading nations of the world determine trading behavior in international markets. Thus, the world marketplace can be likened to a giant game of Chinese checkers, where each of the many players plays by a unique set of rules and objectives, and where other players have only vague insight into them.

What countries buy and sell on international markets results from their strategy for developing their internal economy and from their foreign exchange needs. Some countries use scarce foreign exchange for food imports while others promote agricultural self-sufficiency and save foreign exchange for industrial development. Developing countries, in particular, must make these kinds of choices. Exporters who compete with us also come to the international market with the objective of seeking relief for problems generated by their domestic policies. Like the European Common Market, the United States is not immune from this temptation.

For example, to keep their wheat farmers' incomes high, the EC countries guarantee very high prices with little constraint on production. The not-surprising response of EC farmers has generated a large and growing surplus of wheat. The most cost-effective disposal is just enough subsidy to slightly underprice their competitors. As a result, the EC increases its share of the world wheat market but at an enormous cost to itself and others. The cost is as subsidy and high food prices. The cost to the United States and other exporters is loss of market share and a world wheat price lower than otherwise would prevail.

Nowhere is this tendency to dump problems created by domestic policies more evident than in the world dairy market. Many major dairy producing countries of the world (including the United States and the EC countries) support prices at levels above those that would equate supply and demand.

---

<sup>1</sup>The Emerging Economics of Agriculture: Review and Policy Options, Council for Agricultural Science and Technology, Report No. 98, Ames, Iowa, pp. 1, 8.

<sup>2</sup>p. 7.

<sup>3</sup>p. 8.

<sup>4</sup>p. 1.

As consequences: surpluses are growing; the percentage of milk consumed as fresh milk has declined sharply; and the percentage left over that has to be processed into cheese, butter, and dry milk products has risen far faster than domestic demands. Two kinds of actions (temptations) logically follow: to impose import barriers to keep out other peoples' surplus; and to look for ways to dump one's expensive surplus on the world market. Our analysts estimate that by the end of 1983 the EC and the United States will have the equivalent of 28 million tons of milk (fat solids basis) in storage. This equals 30 percent of their annual domestic and export uses. An economist would say there are wasted resources in the world dairy industry.

There are essentially no totally free trading countries in the world. All countries, including the United States, have policies that in some way restrict or discourage certain imports and underwrite or subsidize certain exports. The differences among countries are matters of degree, although some of these differences are large and significant.

Consider the case of wheat. The bulk of wheat purchased in 1980 went to state traders. Only about 3 percent of the wheat imported in 1980 was purchased by free trading countries, while 84 percent was imported by countries with central purchasing agents (state traders). The sellers of wheat present a different picture. The United States provided most of the 49 percent of wheat exports freely traded. State traders, principally Canada and Australia, supplied 29 percent of the wheat exports in 1980. The EC accounted for almost 22 percent of the wheat exports in 1980, up from the 17 percent the EC supplied in 1970 and 7 percent in 1960. In contrast, 25 percent of corn imports and nearly 89 percent of corn exports occurred among countries with relatively free trade policies (primarily the United States). Free trading countries also account for over 92 percent of soybean imports and exports.

Country policies, weather, and episodic political events make global (export) markets volatile. The instability arises from the thinness of trade relative to total world production and consumption. Hence, small percentage changes in world production translate into large percentage changes in the residuals traded. The outcome is that U.S. farmers, indeed any agricultural producers in the world who are residual suppliers to the world market, are whiplashed by these ups and downs in demand. Producers' fortunes and misfortunes then reverberate through the surrounding agricultural industries. This instability is a price countries must pay to trade in world markets, and they must be prepared to use domestic policies for any cushioning of internal impacts.

Global markets are highly competitive (albeit not purely) and there is a substantial probability that competition will become more intense in the years immediately ahead. A growing number of countries are agricultural exporters; their production capacity is growing faster than domestic demand, and all are looking for a place in this shrinking globe to sell their goods. EC surpluses are likely to continue and pressures within the EC will be great to unload those surpluses to ease budget problems. Argentina needs foreign exchange. Canada and Australia, like the United States, will try to maintain market shares. And importing nations in the developing world will continue to try to improve their own agriculture to reduce the drain on their foreign currencies.

What does this mean for the future? We can safely say that the probability is greater than zero that competition in international agricultural markets will be fierce at times. Fierce competition will put pressure on domestic policies and institutions in both exporting and importing countries. Countries will react by making internal adjustments, adopting protectionist measures, or increasing subsidization of exports. However, such response could be balanced by some overriding considerations that all nations have in common.

- One way or other, every nation has to deal with the issue of food security.
- No nation has unlimited resources.
- No nation is totally immune to market forces, especially over long periods of time.

It is around these considerations that we may be able to identify some common ground with other nations and develop a trade strategy to everyone's ultimate best interest.

## How Does the United States Respond?

Farmers and policymakers in our country face some difficult choices. Domestic markets require less productive capacity, while foreign markets are fiercely competitive, unstable, unpredictable, and unfamiliar. There are no easy solutions that assure prosperity to farmers and serve the best interests of this nation and the world.

Withdrawing from export markets has been shown to be an unrealistic option. It would mean a dramatic and costly scaledown of the U.S. farm plant. It would be costly in terms of disinvestment by farmers, taxpayer costs of adjustment assistance, loss of sales in farm input and product marketing, and loss of net export earnings to the U.S. economy.

It is clear that we need export markets. But how much should we try to export? My colleagues in the Economic Research Service tell me that an annual export growth rate of about 3 percent over the rest of the decade would be required to keep the slack out of the farm sector (i.e., to utilize current cropland without sharply lower prices). Export growth rates below 2 percent would require significant downward adjustment of our farm sector capacity and continued downward pressure on land prices. Export growth rates of more than 5 percent annually (highly unlikely) could bring pressure on our land and water base and a mix of concerns different from those of the low-export scenario.

An important challenge for the research community is that of sorting out the criteria and conceptual framework for determining the optimum level of exports, the level which best serves our overall national interests.

Despite the situation in which we find ourselves, there are some things we can and must do as traders in a "managed-trade" world.

### Domestic Farm Policies Have to be Strategically and Economically Consistent with Realities of World Markets

In 1985, our current farm legislation expires. The new legislation will be critically important to our future competitive position in world markets. We cannot separate our agricultural trade policy from domestic farm policy. The subject is too complex to treat in detail here, but the following points are pertinent.

- Our domestic farm programs must be flexible and responsive to global market developments. The 1981 farm bill assumed a continuation of the export growth trends and inflation rates of the seventies, and called for higher loan rates and rising target prices. There is strong evidence that these support levels provided an umbrella under which our competitors expanded their share of world agricultural markets. No one is suggesting totally "free" markets or abandoning support for farmers. What is important if we are to be efficient and competitive is that our programs not insulate farmers from the realities of the marketplace. Any industry that remains healthy over the long run must be responsive to the forces of supply and demand.
- We must be a dependable supplier at competitive prices. This means that our programs should encourage our most efficient producers without unduly sheltering the high cost, inefficient producers. This will assure that our competitive position is based on an industry of low cost producers who can withstand periods of low prices. Providing price guarantees that get capitalized into higher asset values (hence costs) undermines our competitive position.
- Farm policy should provide for an equitable sharing between farmers and the public of the risks inherent in expanded involvement in world markets. The entire economy benefits from expanded trade, so it is reasonable that the related risks be shared.
- Likewise a case can be made that there are both private (farmers') and social costs to excessive instability of prices. Hence there are benefits to be gained from having stabilization programs which help limit price variability to ranges within which farmers can respond in an orderly and efficient manner.



- A commodity reserve program can be an effective tool for price stabilization and for helping assure our dependability as a supplier. Reserves get farmers and taxpayers in trouble when politicians and program managers, in the face of heat from their farm constituency, yield to the temptation to use reserves to try to raise farm prices and incomes. This is usually done by raising reserve loan rates that signal farmers to produce for the reserve at times when the markets may be sending signals to reduce production.

### Fiscal and Monetary Policies Have to be Consistent with Trade Objectives

It has already been demonstrated that farmers' well-being is affected as much today by budget deficits, interest rates, money supplies, and other aspects of general economic policy as by traditional farm programs. Management of economic policy is difficult enough in a closed economy. That difficulty is compounded in an open economy when it turns out that domestic policy actions have international consequences that ultimately feed back, in sometimes perverse ways, into the domestic economy.

Nevertheless, there must be increased recognition of the linkages between our general economic policies and trade. Informed voters and citizens must seek improved understanding of those linkages.

### Our Overall National Trade Policy Must be Consistent and Enlightened

We will not be credible in our efforts to promote free trade and expand our exports if our trade policies are not consistent across all sectors of the economy and, indeed, for all agricultural commodities. In other words, we cannot be free traders for one product or industry and protectionist for others. If other countries are to have the foreign exchange to import, they have to export to earn that money.

In times of economic recession and of high unemployment and keen foreign competition, the temptation is great to erect barriers to imports and to subsidize exports. There may be times and reasons for legitimate use of those tools. But any industry that continuously seeks and obtains shelter from the forces of competition is contributing to inefficient use of our nation's resources and is often failing to deal with more fundamental problems. Farmers do have a stake in so-called "domestic content" legislation and in other attempts to avoid competitive forces rather than adjust to them. The pressures to erect trade barriers will likely increase during early stages of economic recovery. When we lead a global recovery, our improved incomes cause imports to rise faster than exports until the recovery catches on in other countries.

Agriculture itself does not speak with one voice on trade policy. Grain, soybean, and cotton interests oppose other countries' barriers to imports. But our cattlemen often have sought to tighten the quotas that limit our imports of beef. Our domestic sugar producers are likewise protected by import restrictions. And our dairymen worry about imports of milk products.

### A Commitment to Expanded Trade Means We Must be Prepared to Make Tough Internal Adjustments

Economic theory suggests that if each nation produces and exports that in which it has a comparative advantage, and purchases (imports) what other nations have a comparative advantage in producing, the world's resources will be used more efficiently. Citizens of all countries will realize a higher level of well-being. Despite imperfections in world markets, mostly man-made, experience and history have more or less validated this concept.

But since we start from a history of limited trade, we likely have some industries and perhaps commodities that are not competitive and will shrink or succumb under free trade pressures. Again, if we are at a national disadvantage in producing widgets, economics tells us we would be better off to stop producing widgets and import them from countries that can produce them cheaper. Our citizens would be better off because they get more widgets for the same money or the same widgets for less money. In addition, the resources we once used to produce widgets can be used to produce the more valuable products in which we have the competitive edge.

That's where the rub comes in. Shifting resources from one sector of the economy to another is often slow and painful. Capital has been sunk into widget factories; many widget factory workers know no other skills; and the more competitive industries that would get these resources

are in other states or regions. Thus, the widget factory owners face loss of capital; workers face loss of jobs or major retraining and relocation; unions face loss of members and power; localities lose economic base; and, above all, politicians lose constituents. Is it any wonder, then, that all the widget interests seek to halt imports?

Thus, a commitment to expanded trade requires both the political will to face up to tough internal adjustments, and intelligent programs for sharing the benefits and costs of those adjustments. If, for example, the public on the whole benefits from importing widgets, some of those benefits could be used (perhaps via the tax system) to assist widget companies and workers through the adjustment process.

Not all the "widgets" may be outside agriculture. If we can afford to produce some commodities only by limiting imports and subsidizing producers, a free trade posture may require some adjustments in that commodity sector.

The point is this: if we are to see our agriculture grow we have to expand exports. If we are to expand exports, we must be prepared to import what others produce cheaper (in relative terms). We thwart those trade prospects if we seek to avoid our own economic and political adjustment pains.

### We Must be More Astute Traders

Producers and marketers in the United States have long enjoyed the luxury of a large domestic market. As a consequence, we have not had to be experts on world markets, or know the nuances of successful trading in various countries of the world. Conversely, the Europeans, for example, with small domestic markets, have long been experienced in multicountry trade. Their traders know the culture-related preferences of their foreign customers, and are experienced in tailoring products to a variety of submarkets. Moreover, they are more likely than Americans to be able to talk trade in the customers' language.

Trade circles abound with horror stories of U.S. mistakes and lost trade opportunities. Some critics say that the United States has not even been a "residual trader" but a residual "order taker." If we are to move beyond simply filling orders when the world needs our farm products, we must become more sophisticated in our knowledge of markets and foreign customers' needs and preferences, and more astute in our trading (and trade negotiation) skills. Some of that will come with experience. But we also need to work at it consciously.

### We Need to Add More Value to Our Exports

Almost two-fifths of the farm products traded in the world now originate in the United States, compared with one-fifth in 1970. Measured in value terms, however, the U.S. share of world agricultural exports stagnated at about one-sixth. The EC, by contrast, had a growth rate in market share that was 27 percent higher than the U.S. rate, in value terms. The reason is that the EC was more successful than we were in selling products that had been further processed, including converted livestock products. The further processing of crop products and conversion of grains and oilseeds to livestock not only adds substantial value to products but also creates more jobs and secondary economic activity than primary crop production. Thus the Europeans, Japanese, and others have been very successful in buying our primary agricultural products, getting the benefits of job creation and added value, and selling these further processed (high-value) products to third party countries.

One ERS study estimates that if the U.S. share of the high-value export market could increase by only 5 percent, an additional \$15 billion in export sales would be generated and one million new jobs would be created. Achieving progress in this area will not be easy because many countries are anxious to add value and create new jobs; hence there will be little incentive for others to buy our further processed products rather than our basic commodities. Nevertheless, even small progress in expanding value-added exports would offer large benefits.

### It is in our Enlightened Self-Interest to Support a Healthy Global Economy

A healthy economy in the rest of the world is vitally important to expanded agricultural exports. This is more than a matter of others having the wherewithal to buy from us. Trade liberalization, so vital to expanded trade, comes earlier when economies are growing. It is

always easier to get countries to reduce trade barriers when the overall pie is growing. When the overall trade pie is shrinking, countries act to protect their market shares, further shrinking the pie. Economic growth is also important for political stability in the world, a condition important for orderly trade growth (as well as for our national survival).

Two implications for our national policy: we must be sensitive to how our domestic economic policies and trade policies aid or hinder economic growth in other countries; and we have a strong national interest in seeing the countries with serious debt problems successfully resolve those problems.

#### Farmers Must be Better Informed on Economic and Policy Matters

In this regard, two points are germane. First, most farmers know a lot more about production technology than they know about the policy and market forces that are dictating their well being. Those of us in the USDA-Land Grant system bear much of the responsibility for the unbalanced knowledge. It is one of our most grievous failures. Public policy education is difficult but equally as essential to the long-term well being of farmers as is education on technical matters. We in the system must give top priority to this task, and farmers and taxpayers must not let us off the hook.

Second, we hear a lot about the inability of the Congress or Washington generally to come to grips in any disciplined way with the difficult problems of our day. An observation is that those folks do have a lot of information at their disposal, and often do understand the consequences of alternative courses of action. But they take the course of action they believe their constituencies will support. Thus, the burden of developing policy directions consistent with the long-term health of the economy and a sound, competitive agriculture for the future depends on commitment of citizens including farmer-citizens.

#### Conclusion

In conclusion, let me restate my theme. We have little choice but to expand our involvement in world agricultural markets. But those markets offer difficult challenges. The setting is one of uncertainty and in all probability, fierce competition. Domestic food and economic policies of other nations, and of the United States too, will work against expansion of exports. To make progress in this setting requires more enlightened and consistent economic, trade, and farm policies; more sophisticated trading; and the national will to make the tough adjustments and bear the costs necessary to realize the substantial benefits that can be realized from intelligent expansion of our agricultural trade.

MONEY GROWTH, EXCHANGE RATES,  
AND AGRICULTURAL TRADE

Dallas S. Batten and Michael T. Belongia, Economists\*  
Federal Reserve Bank of St. Louis

During the 1970s foreign trade became increasingly more important to agriculture. Furthermore, exchange rates were allowed to float in 1973 and international capital markets have become more integrated. Monetary policies have become less coordinated across countries, exchange rates (and consequently, traded-goods prices) have been more variable, and international capital has moved more freely among countries. As a result, agricultural policy discussions can no longer be conducted in a closed economy, commodity market context. Instead, such discussions must contain macroeconomic linkages that relate monetary factors to commodity markets within and across countries.

The purpose of this paper is to establish a framework within which these macroeconomic linkages can be developed. In particular, a general characterization of the asset-market view of exchange rates is presented first. This is followed by the development of a simple conceptual framework linking exchange rate movements to money growth. Next, the attempts to include macroeconomic linkages in agricultural models are evaluated in general. Finally, we conclude by evaluating possible policy responses to the problems arising from international and/or macroeconomic origins.

### The Asset Market View of Exchange Rates

An exchange rate is simply the relative price of two assets--one country's currency in terms of another's--which is determined in relatively efficient markets in the same manner as are the prices of other assets, such as stocks, bonds, or real estate. In contrast to the prices of services or nondurable goods, asset prices are influenced comparatively little by current events except insofar as such events are surprises.<sup>1</sup> Thus, for example, daily fluctuations in the flow of buyers to farmers' markets have a great impact on the prices of vegetables sold there but almost no impact on the price of the farms producing those vegetables; instead, the value of farms is governed by longer term expectations about demands and supplies of vegetables. Similarly, the values of national currencies do not rise or fall with contemporaneous exports or imports of goods and services but rather with the long term expectations of their countries' economic prospects. Given the dominance of this long term perspective in exchange rate determination several characteristics of the modern theory of asset price determination are of both theoretical and empirical relevance. Five of these features especially salient to agricultural trade are described below.

First, empirical evidence has indicated that asset price movements are irregular and unpredictable; that is, they behave as a random walk in the short run. Since the current price already reflects the expected future value of assets, this observed unpredictability can only reflect unexpected events or "news."<sup>2</sup>

This feature can be summarized by the following reduced form model.<sup>3</sup> Let the logarithm of the spot exchange rate ( $S$ ) in period  $t$  be represented as

---

\*The views expressed are those of the authors and do not necessarily reflect those of the Federal Reserve Bank of St. Louis or the Board of Governors of the Federal Reserve System.

<sup>1</sup>This sketch of the asset market view of exchange rates follows that of Batten and Ott (1983).

<sup>2</sup>For a more detailed analysis, see Frenkel (1981b).

<sup>3</sup>This representation is similar to that presented in Frenkel and Mussa (1980). This reduced form can be derived from several structural models of exchange rate determination. While these models may differ in the composition of  $Z$ , they all share a common general view of the determination of exchange rates.

$$(1) \ln S_t = (1-\alpha)Z_t + \alpha E_t(\ln S_{t+1} - \ln S_t),$$

where  $E_t(\ln S_{t+1} - \ln S_t)$  is the expected percentage change in the exchange rate between  $t$  and  $t+1$ , based on information available in  $t$ , and  $Z_t$  summarizes the influences of other factors in  $t$  (e.g., foreign and domestic money supplies, incomes, etc.). By repeated substitution, equation (1) can be rewritten as

$$(2) \ln S_t = \frac{1-\alpha}{1+\alpha} Z_t + \sum_{j=1}^{\infty} \left(\frac{\alpha}{1+\alpha}\right)^j E_t(Z_{t+j}).$$

In other words, the current exchange rate reflects not only current market conditions, but also an exponentially weighted average of expected future conditions as well.

Second, exchange rates reflect the anticipated relative inflation rates following from the expected future monetary and fiscal policies of the countries whose currencies are valued in the exchange rate. Therefore, currencies of countries with relatively lower expected inflation rates will be cheaper to hold over time and would be in greater demand at the same price than those with higher expected inflation rates. Consequently, high inflation currencies will tend to depreciate relative to lower inflation currencies.

Third, spot (current) and forward exchange rates will tend to move together since only new information causes any change and will cause both to move. The difference between spot and forward exchange rates is determined by the relative cost of holding the currencies and reflects the difference in nominal interest rates.

Fourth, in the long run, exchange rates move to maintain purchasing power parity (PPP); PPP means that a dollar's worth of the foreign currency (at the current exchange rate) will buy the same amount of goods in the foreign country as a dollar will buy in the United States. If so, the ratio of the U. S. price level to that of the foreign country will equal the exchange rate. Nonetheless, short-run departures from this condition are observed frequently due to interest rate movements. Also, over long periods relative scarcities and comparative labor productivities in different countries may change at different rates, altering the equilibrium absolute purchasing power parity. Therefore, a somewhat weaker form of the condition, relative purchasing power parity (RPPP), which asserts that changes in the exchange rate will equal changes in the ratio of U.S. to foreign price levels, is a more reliable short-run guide.

Fifth, paralleling PPP is a condition called interest rate parity (IRP); IRP means that the real yield--net of expected inflation and expected exchange rate changes--obtained by investing in securities in any given currency will be roughly equal to the yield obtained from securities in any other currency. For example, IRP implies that a German investor would obtain the same return from buying a short-term Bundesbank security and then selling it 3 months later as he could alternatively obtain from selling Deutsche marks to get dollars, using the dollars to buy a U.S. T-bill, selling it 3 months later, and then using the dollar proceeds to buy Deutsche marks.

These five elements of exchange rate determination operate simultaneously so that exchange rate movements can seldom, if ever, be attributed to a single causal force. All of these elements can be understood to result from the aggressive interactions of well-informed, profit-seeking traders transacting in well-organized international currency markets. Any trader who by his possession of some new information sees an opportunity for profit makes transactions which tend to move exchange rates to both reflect that new information and to foreclose the opportunity for further profit. This tendency for market prices of assets, such as exchange rates, to reflect quickly all relevant new information is the primary characteristic of an "efficient market."

#### The Determination of Prices and the Exchange Rate: A Long-Run View

As it is the relative price of two currencies, the exchange rate reflects, inter alia, the relative inflation rates of the two economies. In particular, the rate of domestic inflation and changes in the exchange rate are determined jointly by the rate of domestic money growth relative to the growth of the amount that individuals, domestic and foreign, desire to hold.

A country's money supply essentially is determined by its monetary authority; the demand for money (i.e., an individual's desire to hold a portion of his wealth in the form of money) is

determined primarily by income, real interest rates, prices, and price expectations in that country. The equilibrium rate of inflation is the one at which the growth rate of the money supply equals the growth rate of individuals' desired money holdings. Any other inflation rate motivates individuals to alter their spending rate, thereby attempting to change their money holdings at a rate more than or less than the rate at which the money supply is growing.

Changes in the rate of consumer spending affect not only domestically produced goods and services but also those produced abroad. Altered demands for foreign goods and services, in turn, produce changes in U.S. demand for foreign currencies and as a consequence, changes in the foreign exchange value of the dollar, all other things equal. That is, a monetary disequilibrium, through its impact on the rate of aggregate spending, induces simultaneously a change in the rate of domestic inflation and the foreign exchange rate. Furthermore, in the long run, the change in the foreign exchange rate will exactly offset the change in the rate of domestic inflation, all other things equal.

Consider, for example, a situation in which the money supply in the United States is growing at a rate less than that of the desired money holdings of individuals. In such an instance, both an excess demand for money and an excess supply of goods, services, and securities exist at the current rate of inflation. In an attempt to increase the rate of growth of their money holdings to the desired rate, individuals decrease their spending rate for all goods and services, placing downward pressure on the rate of domestic inflation and, simultaneously, upward pressure on the foreign exchange value of the dollar. In the long run, the decline in the domestic rate of inflation will exactly offset the rise in the foreign exchange value of the dollar. Consequently, monetary disequilibria should have no long-run effects on either the foreign currency price of U.S. exports or the competitive positions of U.S. exporters in foreign markets.

These relationships can be seen quite clearly in charts 1 and 2. Chart 1 displays (a) the trade-weighted exchange value of the dollar and (b) the difference between the U.S. rate of inflation (measured by the CPR) and the trade-weighted rate of inflation of the Group of Ten countries (excluding the United States) plus Switzerland.<sup>4</sup> It is apparent from the chart that, when the rate of U.S. inflation falls relative to that of its major trading partners, the foreign exchange value of the dollar rises and vice versa.<sup>5</sup> Chart 2 contains the year-over-year rates of growth of the producer price index for farm products, food, and feeds (adjusted for relative price changes), the GNP price deflator, and the export price deflator for the United States. Even though movements of the growth rate of the producer price index for farm products are relatively more noisy than movements of the growth rates of the other two indexes, it is clear that, in general, all three of these move together.<sup>6</sup> Consequently, since the exchange rate and relative inflation rates move in opposite directions, yet agricultural prices move, in general, with the overall price level, monetary policy does not exhibit any substantive impact (either positive or negative) on the competitive positions of U.S. exporters over time.

#### Domestic Prices and the Exchange Rate: A Short Run View

In a short-run adjustment to a monetary disequilibrium, however, producers are not likely to discern immediately whether the resulting change in aggregate demand (spending) is permanent or

---

<sup>4</sup>The trade-weighted exchange rate is a geometric average of the value of the U.S. dollar against 10 other currencies, weighted by each country's trade share with the U.S., relative to a base of 100 in March 1973. The countries included are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, and the United Kingdom. The trade-weighted inflation differential is the difference between the rate of growth of the U.S. CPI and the rate of growth of the trade-weighted CPI for the same countries using the same weights as above.

<sup>5</sup>The simple correlation coefficient between the trade-weighted exchange rate and the trade-weighted inflation differential over the period from I/1975 to II/1983 was -0.77; the correlation coefficient between changes in the two series was -0.50. Each is statistically significant.

<sup>6</sup>The correlation coefficient between the rates of growth of the GNP deflator and the rates of growth of the producer price index for farm products and the export price deflator are 0.54 and 0.62, respectively. Each is statistically significant.

merely temporary. Thus, they respond initially by changing their rate of production. That is, a short-run change in the rate of money growth results in a deviation of real economic activity from its "normal" rate. Only when this change in spending is recognized as permanent will producers change their prices and attempt to return their production to its normal rate. Hence, the impact of the monetary disequilibrium on output eventually vanishes, leaving only the rate of inflation permanently affected. These long-run adjustments, however, are not realized immediately.

On the other hand, the exchange rate responds to a monetary disequilibrium much more rapidly than do the prices of domestic commodities.<sup>7</sup> This more rapid adjustment occurs because the exchange rate is the relative price of two assets and, unlike commodity prices, is determined in highly organized, internationally integrated markets that quickly and efficiently assimilate new information. Consequently, the exchange rate will change before commodity prices change sufficiently to regain a domestic monetary equilibrium.

During the interim period, then,<sup>8</sup> a currency will be over- or undervalued in the sense that the PPP condition will be violated. For exporters this means that they will face either a temporarily deteriorating or temporarily improving competitive position in foreign markets as the foreign currency prices of their products will be rising more rapidly or more slowly than those of domestically produced products because the exchange value of the dollar has changed before the rate of domestic inflation has fully adjusted to the monetary disequilibrium. This situation, however, cannot persist in the long run.

#### Previous Attempts to Estimate the Effects of Exchange Rate Movements on Farm Prices and Income

The points raised in the foregoing discussion are not merely textbook exercises limited to academic discussions. Instead, the success or failure of attempts to formulate policy will hinge on the degree to which these conceptual linkages are captured in econometric models. The existing empirical literature on the effects of monetary policy on exchange rates and agricultural trade--although smaller than many other areas of policy research--is widely quoted in policy discussions. But are the empirical estimates reported in this literature based on the simple principles of monetary trade theory discussed above? Our survey of the literature suggests that the models developed have not reflected these basic theoretical principles and, as a result, their results are not useful to policy debates.

Although our purpose in this paper is not to provide a detailed discussion of the existing literature, two of its deficiencies seem particularly important to future research in this area. First, let us recall that the earlier discussion indicated a simultaneous determination of three price variables: commodity prices, the general price level, and the exchange rate. In our reading of existing studies, this has never been done. Analysts regress prices on the exchange rate or rate of money growth individually but never is there developed a model in which all three variables are jointly determined. But since a given change in the domestic rate of money growth will affect commodity prices and the exchange rate in opposite directions--and with different lags--estimation of these simultaneous changes seems particularly important to our understanding of monetary policy's effect on agriculture. To our knowledge, estimates of this process do not yet exist.

The closest the profession has come to modeling this simultaneous determination of commodity prices, domestic inflation, and exchange rates is found in the work of Chambers and Just (1982). Even in this work, however, there is no linkage between the U.S. money supply and commodity prices nor between foreign money supplies and the exchange rate. The only monetary link lies in their inclusion of the U.S. money supply as a determinant of the exchange rate and then, the exchange rate as a determinant of agricultural exports.

Furthermore, their work illustrates our second concern over the policy relevance of the existing agricultural trade literature. After estimating a quite detailed model of the

---

<sup>7</sup>See Mussa (1979).

<sup>8</sup>Even though the PPP condition has been violated frequently in the short run during the 1970s, there is no evidence that its usefulness as a condition of long-run equilibrium has been mitigated. See Frenkel (1981a).

agricultural sector and its links to monetary variables, Chambers and Just simulate the effects on prices and trade from a reduction in the level of M2. However, changes in the growth rates of monetary aggregates--more specifically, growth rates of domestic monetary aggregates relative to the growth rates of foreign monetary aggregates--are more closely related to changes in nominal commodity prices, the rate of inflation, and the changes in the exchange rate. Based on these simulations, they conclude that monetary policy has quite dramatic effects on agricultural prices.<sup>10</sup> Gardner (1981), however, has labeled the price changes estimated by Chambers and Just as "implausible." Although Gardner provides no firm explanation for his judgment, his intuition is quite correct: the Chambers and Just estimates are based on a change in monetary policy equivalent to the credit reduction of the Great Depression. Their estimates are implausible because their simulation of a reduced level of M2 is implausible. Yet, our apparent professional misunderstanding of the importance of monetary growth rates--and not levels--to policy discussions has let the Chambers and Just error go by with little question.

#### What Can Monetary Policy Do For Agricultural Trade?

The dramatic decline in the dollar value of U.S. agricultural exports the past two years has led many agricultural policymakers to call for changes in the Federal Reserve's comparatively tight monetary policy. Their argument claims that relatively slower U.S. money growth has created and supported an "overvalued" dollar that has made U.S. exports relatively more expensive in world markets. Because these analysts expect U.S. exports to be at a competitive disadvantage until the Federal Reserve increases the rate of money growth in the United States, they have called for a number of policies to promote U.S. agricultural exports and maintain, if not increase, our share of the world market. Export subsidies frequently appear at the top of lists of actions recommended to offset the perceived negative effects of recent efforts to reduce the domestic rate of money growth.

What these discussions fail to recognize, however, is that monetary policy is a macro policy that is essentially neutral in the long run. A number of studies have shown that its long run effects will be on nominal magnitudes with few meaningful impacts on real values.<sup>11</sup> In contrast, micro policies--like export subsidies and other recommendations to promote agricultural exports--are directed at individual markets and products with their primary effects necessarily reflected in real values. This distinction between macro and micro policies, then, begs two fundamental questions:

Can monetary policy be changed to improve the long-run competitive position of agricultural exports?

Can micro policies--such as an export subsidy--successfully offset the short run real effects of a change in monetary policy?

---

<sup>9</sup>This analysis could be conducted in terms of levels of the relevant variables. However, in the context of a steady-state equilibrium, the growth rates of these variables are more closely related. Furthermore, the policy discussions follow much more readily when the analysis is couched in growth rates. For example, a tightening of monetary policy typically means a reduction in the growth of the money stock, not a decline in its level as Chambers and Just suggest.

<sup>10</sup>In fact, Chambers and Just find that a sustained 10 percent reduction in U.S. domestic credit (M2) would evoke, in the long run, a 20 percent decrease in wheat exports, a 22 percent decrease in corn exports, and a 10 percent decrease in soybean exports. They fail to note, however, that such a reduction in M2, which is currently growing at a 10 percent annual rate, would also generate a massive recession in the United States. Consequently, the impact of this abrupt change in monetary policy on the U.S. agricultural sector would be of only minor significance. Furthermore, on the margin, their analysis indicates that for the recent decline in agricultural exports to have been monetarily induced, we should have been experiencing declines in the level of M2 (i.e., negative M2 growth). During the last five years, however, the level of M2 has declined in only one quarter--a fact which further discredits the Chambers and Just results.

<sup>11</sup>For example, see Friedman (1968).



We would argue that the answer to both questions is "no."

### Monetary Policy

Consider first the potential role of monetary policy. Again with reference to the preceding theoretical points, monetary policy could provide some short term support for agricultural trade if the rate of domestic money growth were accelerated to the point that it exceeded that of our major trading partners. Because the exchange rate would fall more rapidly than U.S. commodity prices would rise (at least in the short run), our agricultural products would be priced temporarily below the export prices of foreign competitors. But after commodity prices were given sufficient time to adjust to this monetary shock, the only long term effects would be a higher rate of domestic inflation.

As the rate of domestic inflation rises, so do expectations of future inflation rates. Since the stream of services from physical assets is totally unaffected by inflation, individuals prefer to hold less of their wealth in the form of money and more in the form of physical assets. (That is, physical asset holdings are increased as an inflation hedge.) Consequently, the prices of these assets rise faster than the general rate of inflation. Farmers who owned assets prior to this change in monetary policy would realize real wealth gains as their assets--especially land--appreciated in value. Conversely, young farmers attempting to enter the industry would be affected adversely as asset prices and higher nominal interest rates moved the start-up costs of farming to higher levels. So monetary policy could provide some short-run stimulus to U.S. agricultural exports. This stimulus, however, would have the undesirable side-effects of higher domestic inflation and higher barriers to new farmers attempting to enter the industry.

### Domestic Micro Policies

At the outset, one thing should be made clear: the United States has pursued domestic agricultural policies for some time that serve, in practice, as very effective export subsidies. The dairy program that combines price supports to induce excess production and export subsidies to dispose of the surplus is the most glaring example of predatory trade practices by the United States. Less variable, but still against the spirit of GATT principles, is our system of target prices that, again, stimulates<sup>12</sup> excess production which, until only recently, could be sold at a discount in the world market. To blame current declines in the value of U.S. exports on the predatory trade practices of the European Community, for example, is an exercise in hypocrisy.

Two effects can come from further micro interventions in agricultural trade such as the "blended credit" export subsidy adopted last year. The first effect will be a further restructuring of relative prices in the agricultural sector; specifically, the relative prices of exported goods and the resources used as inputs to their production would be expected to rise as they were protected further from market fluctuations. As with so many other domestic agricultural programs, however, the primary long-run effect from such intervention will be to increase the wealth of those farmers already producing commodities for export.

The second effect of further government intervention in export markets will be an increased cost to taxpayers of government price support programs. To the extent that marginal resources are given an incentive not to adjust out of agricultural production, surpluses will continue to be produced and the cost of maintaining prices at support levels will increase. We have heard that the cost of European Community farm subsidies has escalated to the point where formerly passive consumer interests have called for changes in policies that would reduce the cost of food to consumers.<sup>13</sup> From our reading of current farm policy debates, the \$20 billion-plus cost of this year's price support effort--not to mention the off-budget cost of PIK--has pushed the cost of

---

<sup>12</sup>To compare the magnitudes of competing export subsidies, European countries spent \$12.8 billion on farm subsidies in 1981, a four percent increase over 1980 figure. In the fiscal year ended September 1982, the Commodity Credit Corporation spent \$15.4 billion on price supports and other grants, an increase of 127 percent since 1980. "Europe's Farm Policies Clash with American Export Goals," New York Times, February 22, 1983.

(Footnote Continued)

farm programs to the politically-tolerable limit. Not only would further U.S. attempts to subsidize agricultural exports be unwise in terms of their economic impacts but, at this point in time, they appear to be an unacceptable additional budgetary burden.

### Conclusions

Our review of economic theory indicates that monetary policy can have short-run effects that will reduce the value of U.S. agricultural exports. In the long-run, however, after prices, exchange rates, and the domestic rate of inflation adjust fully to the trend rate of money growth, monetary policy is neutral with respect to agricultural trade in this era of floating exchange rates. Despite the incorrect arguments that the dollar is "overvalued" and that monetary policy must be more expansionary to reduce the dollar's value, our analysis shows that monetary policy is incapable of having any long-run effect on agricultural trade. We also find that micro policies designed to offset the short-run real effects of exchange rate fluctuations will have permanent effects on the wealth positions of some farmers but, again, will not contribute to the long-run status of agricultural trade. Instead, our response to the current position of agricultural trade is to let nominal commodity prices, inflation, and the exchange rate find new equilibrium values without further interference in agricultural markets. Because export subsidies are harmful to all trading partners and market resolutions of political conflicts are not feasible, our recommendation for the long-run health of exports and agriculture is a cooperative dismantling of domestic agricultural policies that, by design or accident, serve as export subsidies. Any other approach surely will result in an inefficient allocation of resources and an increasingly costly transfer of wealth from taxpayers to farmers.

### REFERENCES

- Batten, Dallas S. and Mack Ott, "Five Persistent Myths About Floating Exchange Rates." Federal Reserve Bank of St. Louis Review (forthcoming November 1983).
- Chambers, Robert G. and Richard E. Just, "An Investigation of the Effect of Monetary Factors on Agriculture." Journal of Monetary Economics, March 1982, pp. 235-47.
- Frenkel, Jacob A., "The Collapse of Purchasing Power Parity in the 1970s." European Economic Review, May 1981a pp. 145-65.
- \_\_\_\_\_, "Flexible Exchange Rates, Prices, and the Role of 'News': Lessons From the 1970s." Journal of Political Economy, August 1981b pp.665-705.
- \_\_\_\_\_, and Michael L. Mussa, "The Efficiency of Foreign Exchange Markets and Measures of Turbulence." The American Economic Review, May 1980, pp. 374-81.
- Friedman, Milton, "The Role of Monetary Policy." The American Economic Review, March 1968, pp. 1-17.
- Gardner, Bruce, "On the Power of Macroeconomic Linkages to Explain Events in U.S. Agriculture." American Journal of Agricultural Economics, December 1981, pp. 871-78.
- Mussa, Michael L., "Empirical Regularities in the Behavior of Exchange Rates and Theories of Foreign Exchange Markets." In Karl Brunner and Allan H. Meltzer, eds., Policies for Employment, Prices and Exchange Rates, Carnegie-Rochester Conference Series on Public Policy (1979), pp. 9-57.

---

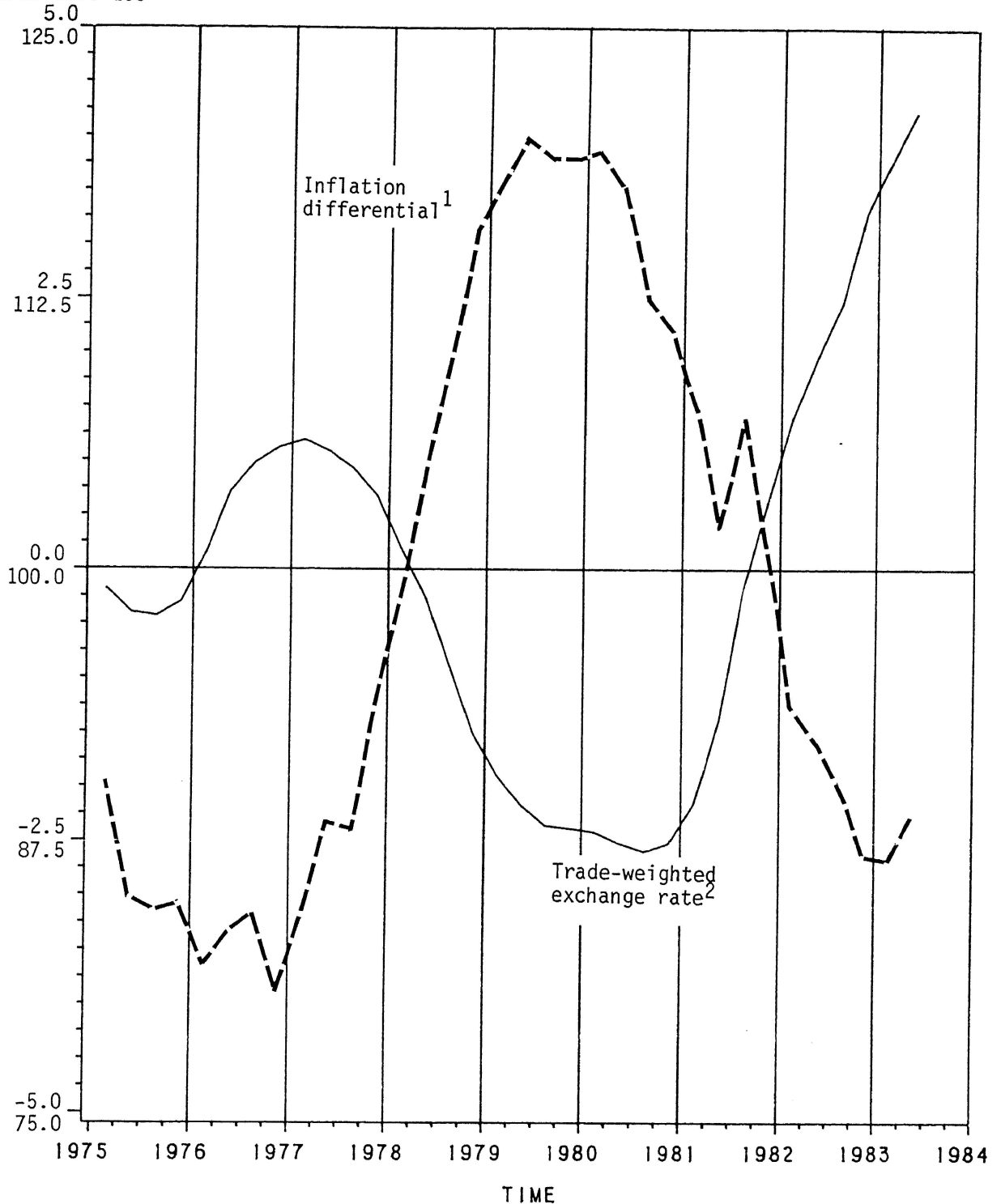
(Footnote Continued)

<sup>13</sup>Unlike U.S. attempts to support farm income directly with deficiency payments while allowing market prices to decline to lower levels, the European farm subsidies force consumers to bear the cost of income support programs indirectly in the form of higher food prices.

CHART1

# INFLATION DIFFERENTIAL AND EXCHANGE RATE

Percent  
March 1973=100

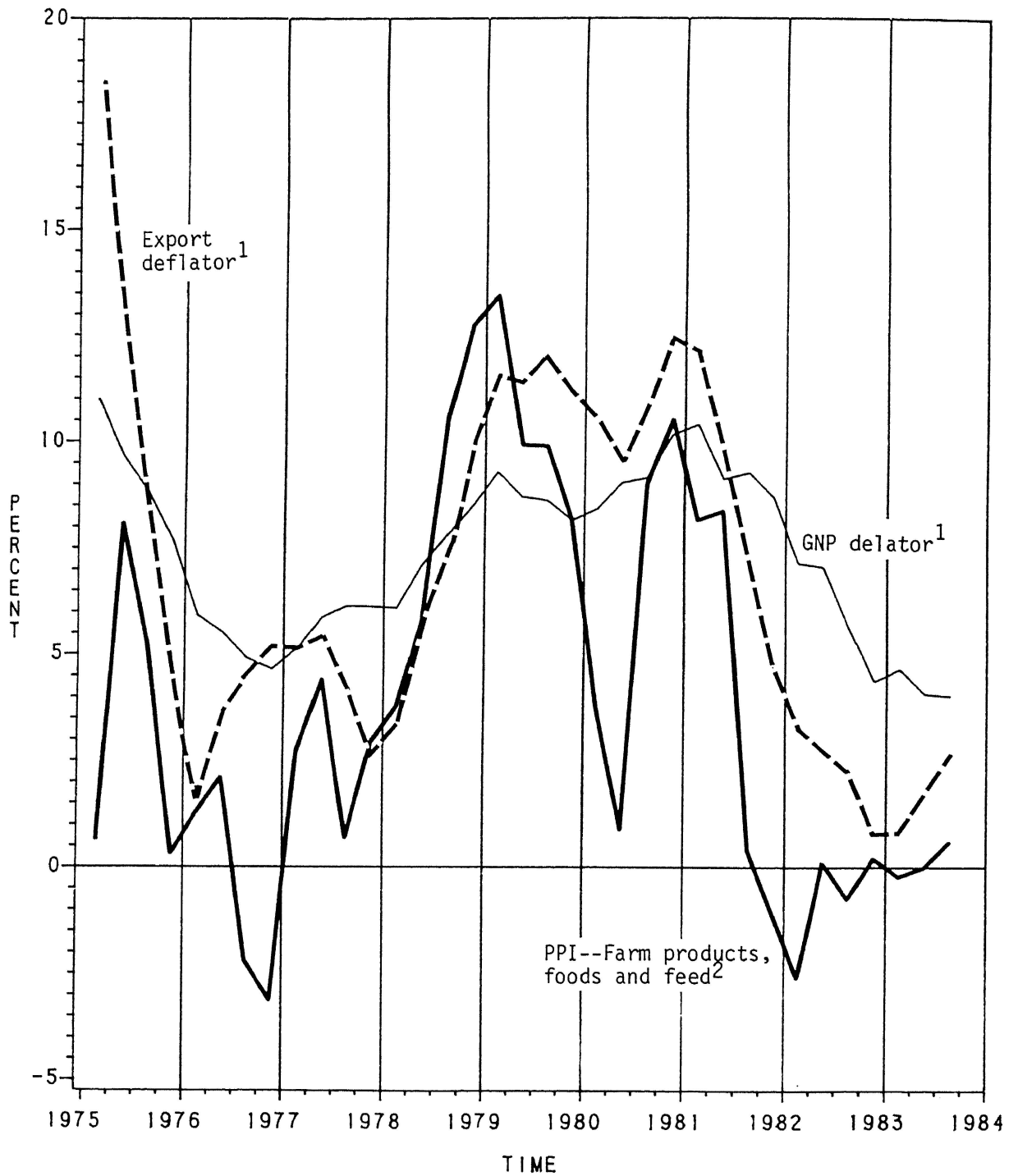


1) U.S. CPI MINUS TRADE-WEIGHTED CPI

2) FOUR-QUARTER MOVING AVERAGE

Latest data plotted: II/1983

MOVEMENT OF SELECTED PRICES



1) FOUR-QUARTER GROWTH RATE

2) ADJUSTED FOR RELATIVE PRICE CHANGES BETWEEN AGRICULTURAL AND INDUSTRIAL COMMODITIES

Latest data plotted: III/1983

THE GROWING SENSITIVITY OF U.S. AGRICULTURE TO  
WORLD EVENTS

Philip M. Raup  
Professor of Agricultural Economics  
University of Minnesota

Introduction

For about a decade following the end of the Second World War the United States continued to function as a largely self-contained economy. It was characterized by an industrial and agricultural leadership that could with some validity regard the domestic market as a private property, open for exploitation from within and relatively insulated against foreign encroachment. The forces that were to change this business climate were in motion in the 1960s but perceptions of impending change were submerged. It required the phenomenal increase in agricultural exports after 1972 and the energy crisis of 1973 to generate public awareness of the fact that a basic change in the structure of markets was under way.

The suddenness with which this recognition was forced upon the total business community was its dominant feature. It is largely responsible for the excesses in response and expectations that shaped the U.S. economy of the 1970s and created the adjustment problems facing it in the 1980s.

From 1950 to 1970 the gross value of U.S. merchandise trade (imports plus exports) averaged less than seven percent of GNP (Table 1). By this measure, U.S. dependence on world trade in the 1950s and 1960s was the smallest of any of the developed countries. This was transformed after 1970 by an order of magnitude. As a percent of GNP, U.S. merchandise trade (imports plus exports) doubled from 1960 to 1976, and increased by an additional 27 percent from 1976 to 1980. The United States entered the 1980s more than twice as dependent on foreign trade as it had been in 1970.

Table 1. Importance of Merchandise Trade to the United States

Year	Merchandise trade				Merchandise trade as % GNP		
	GNP	Exports	Imports	Exports + Imports	Exports	Imports	Exports + Imports
	-----billion dollars-----				-----percent-----		
1940	100						
1945	212	11.8 <sup>1</sup>	5.1 <sup>1</sup>	16.8 <sup>1</sup>	5.54	2.39	7.93
1950	286	10.2	9.1	19.3	3.56	3.17	6.73
1955	400	14.4	11.5	26.0	3.61	2.88	6.49
1960	506	19.6	14.8	34.4	3.88	2.91	6.79
1965	691	26.5	21.5	48.0	3.83	3.11	6.94
1970	993	42.5	39.9	82.3	4.28	4.02	8.30
1975	1,549	107.1	98.0	205.1	6.91	6.33	13.24
1976	1,718	114.7	124.1	238.8	6.68	7.22	13.90
1977	1,918	120.8	151.7	272.5	6.30	7.91	14.21
1978	2,164	142.1	175.8	317.9	6.56	8.12	14.69
1979	2,418	184.5	211.8	396.3	7.63	8.76	16.39
1980	2,633	224.2	249.6	473.8	8.52	9.48	17.99
1981	2,938	236.3	264.1	500.4	8.04	8.99	17.03
1982	3,058	217.9	249.9	467.9	7.13	8.17	15.30

<sup>1</sup>1946 data.

Taken from Economic Report of the President, Jan. 1981; Feb. 1983, Table B-1, p. 163, Table 103, p. 279.

For agriculture, the expanded significance of foreign trade is similarly striking. The dollar value of U.S. agricultural exports totaled \$7.3 billion in 1970; by 1980 this had increased to \$41.2 billion and it peaked at \$43.3 billion in 1981.<sup>1</sup> In volume, agricultural exports rose from 64 million metric tons (mmt) in 1970 to a peak of 163 mmt reached in both 1980 and 1981.

The impact of this suddenly expanded exposure to foreign markets was especially heavy in grain producing areas. Exports of wheat and coarse grains in 1969/70 accounted for only 17.6 percent of production. By 1980/81 they had increased to 42 percent and (due to reduced output in 1983) is projected to reach 46 percent in 1983/84.<sup>2</sup>

Our greater involvement in foreign trade in agricultural products has generated an emotional reaction on the part of U.S. agriculture that is a reverse image of the reaction of U.S. industry to greater foreign penetration of U.S. markets. Industry is tempted to identify the cause of its problems as increased imports of foreign manufactured goods. Farmers, in reverse, are tempted to seek salvation from problems of overproduction in expanded foreign markets. Both reactions originate from the same basic shift in the position of the United States in the world economy. The following sections will examine some of the major consequences for agriculture of this enlarged sensitivity to events that condition world trade.

### The Problem of Over-Valued Land

One consequence of the sudden expansion of foreign agricultural markets was that economic forces and public policies interacted to create powerful pressures for enlargement of farm size. When coupled with the explosive growth in agricultural export demand and sustained general inflation in the 1970s, this generated a belief that farmland prices could only rise. This was widely echoed by farm investment counselors, extension workers, and credit agencies. The result was a boom in land prices comparable to a 100-year flood, and unlike anything experienced since the days of railroad building in the nineteenth century.

Nationwide, farm real estate values increased four-fold from 1970 to 1981; in major grain-producing areas of the corn and wheat belts, the increase was nearly five-fold. Adjusted for inflation, the real value more than doubled.

One aspect of this phenomenal increase merits emphasis. The purchasers who lifted land values to these heights were predominantly neighboring farmers. In the major grain-producing states, over half of the lands purchased at the end of the boom were tenant-operated at the time of purchase. In Minnesota, the only state for which time-series data in this detail are available, from 80 to 90 percent of the crop lands were added to farmland already owned.

The picture that emerges is that of a land market in the principal crop-farming areas that was dominated by farm-expansion buyers. These have been buyers whose lands had appreciated sharply in value since acquisition, whose debt-to-asset ratios were low, and who could devote the income-generating capacity of existing holdings to the repayment of any debt involved in their purchase of additional land. The dominant buyers in the market, in short, were those who received windfall gains through land value appreciation.

This source of demand for farmland is unstable. It depends on the expectation of a continuing rise in land values. Any interruption in the rise reduces land purchase decisions to the calculation of net income from farm operation as a base for bid prices, rather than the expectation of continued capital gains.

This interruption occurred in 1981-83, with declines in nominal land values in the Corn Belt of 10 to 25 percent and in real terms of 20 to 35 percent, or more. Is this interruption transitory? Major differences of opinion exist within the agricultural community regarding the long-run prospect for farmland values, focused primarily on the prospects for future export demand for grains and soybeans. This can be termed the external demand component. Its magnitude is

---

<sup>1</sup>Economic Report of the President, Washington, Feb. 1983, p. 273.

<sup>2</sup>U.S. Dept. of Agriculture, Foreign Agriculture Circular, Grains, FG-31-83, October 14, 1983, p. 22.

capable of wide fluctuation, and cannot be estimated with precision.

A different complex of economic forces surrounds the internal component of farmland demand. This is based on the potential for further economies of size to be achieved by a continuing trend toward farm size enlargement. It is at least possible that the major force of this aspect of the demand for farmland has been spent, at least for the near term, and perhaps for a decade or more.

The average size of farm in many grain-crop areas is now approaching the level at which further economies of size are small, and require substantial additional investment. USDA studies show clearly that the modal farms in corn, soybean, and wheat areas can now command 90 percent or more of any production economies that can be achieved through increases in farm size.

Passage of time guarantees a decline in the number of farmland owners who acquired land at low cost before 1972 and who used their high-equity position to buy more land in the land boom of the 1970s. This source of demand will disappear. When coupled with diminishing opportunities for further economies of size through farm enlargement, this suggests that bidding for farmland in years ahead will include a steadily declining number of buyers who can use the earning capacity of three or four acres to pay for the purchase of an additional acre. The internal component of farmland demand seems likely to return to a more normal calculation of costs and returns.

Arthur L. Wright has pointed out that from 1970 to 1980 the average owner-occupied, non-condominium home in Texas appreciated \$225 per month. Many home owners had virtually "free" housing, in that appreciation exceeded monthly payments for much of the decade.<sup>3</sup>

The same statement could be made about farmland in many parts of the country. The average estimated value of Minnesota farmland increased from \$232 per acre in 1970 to \$1310 per acre in 1981, an average increase of \$108 per acre per year. This was far above the average imputed rental rate plus property taxes for each of the ten years.

By 1981 Minnesota land-owning farmers, together with those in most of the rest of the Middle West, had had ten years of experience of farming with "free lands," in terms of asset values. In many areas, the land was more than free, in that the appreciation in land values was virtually double the amount of imputed rent plus property taxes for the decade.

In financial terms the experience was demoralizing. The net worth statement overshadowed cash flow in financial planning, leading many farmers to use credit supported by land value appreciation to purchase farm equipment or additional land at prices that could not be justified by net cash income. Using this definition, "free land" was a trap into which many farmers and their creditors fell.

The sensitivity of U.S. agriculture to world events is in large part a result of the irrational expectations of inexhaustible export market demand that characterized the 1970s, and that was immediately capitalized into land values. As a consequence, we have a population of farm expansion buyers from the land boom of the 1970s that holds over-priced land. It is probable that this is the group of farmers that feels compelled to use land to its ultimate capacity, to the exclusion of long-run production and conservation goals.

#### The Impact of Demographic Change

The farm population was 30.5 million in 1930 and 30.5 million in 1940. It declined to 23.0 million in 1950, to 15.6 million in 1960, to 9.7 million in 1970, and to 6.9 million in 1981, using the old Census definition of a farm (changed in 1978). Using the new definition of a farm, the farm population was 5,790,000 in 1981.

On the assumption that most of this off-farm migration involved individuals under 25 years of age, this means that the reduction in the farm population of 23 million between 1940 and 1981 involved primarily individuals born after 1915. The oldest members of the generation that contributed to this heavy off-farm migration would thus be under 68 in 1983 and, with normal life expectancy, perhaps 80 to 90 percent of them are still living.

---

<sup>3</sup>Tierra Grande, Texas Real Estate Research Center, College Station, Texas, issue 22, 1983, p. 2.

This means that we have a population of people with farm backgrounds who are no longer in farming that is at least double and perhaps more nearly triple the size of the farm population as currently defined.

If we use the post-1978 Census definition of a farm and of the farm population, it is roughly true to say that for every person now on a farm there are three persons in the non-farm population whose roots were in farming.

This farm-rooted portion of the non-farm population is now at a peak, and will decline gradually to 2000 or 2010, and then precipitously. For the remainder of this century we can reckon with a population that includes a large number of non-farm people who have at least emotional or sentimental identification with agriculture.

The significance of this observation for the structure of agriculture is that many of them, and perhaps a majority, have more than sentimental ties. They are the heirs or prospective heirs of farmland owners. As a result of a massive off-farm migration concentrated in little more than 25 years, much of the beneficial ownership of farmland has moved out of agriculture.

We lack the data that would be needed to quantify this trend, but its results can be read in many indirect ways. Much of the increase in professional farm management services is accounted for by the growth in the number of inheritors of farmland who do not want to sell. Much of the increase in cash renting to part-owner operators is the result of the same demographic and motivational forces. The introduction in agricultural universities of extension-type courses on the problems of non-farm landlords is a measure of the demand for this type of information.

These trends were accelerated by the land boom of the 1970s. From 1972 through 1981 real capital gains in land values made farmland almost the only performing "growth stock" available to investors. Thus, a monumental financial incentive was added to sentimental reasons, to explain why off-farm migrants may have wanted to retain an ownership interest in farmland.

The consequence is a structure of farmland ownership that is probably more fragmented today than at any time in our history. Professional farm managers recount instances in which they have assembled ownership tracts from a dozen to 50 or 60 landlords for rental to a single large tenant. Part-owner operators renting from half a dozen land owners are becoming commonplace.

The implications of this trend for agricultural policy can only be surmised. It raises the distinct possibility that any agricultural support measures that are ultimately capitalized into land values will benefit a small number of large owner-operators and a large number of non-farm owners of relatively small tracts.

There is a growing concern about the extent to which the benefits of farm commodity price support programs flow to a small number of large farmers, an unknown fraction of whose lands are owned by non-farmers. We can anticipate that this concern will increase. A statistic that we do not have and will not obtain from any current data would report the extent to which the ultimate beneficiaries of these programs are non-farm land owners. The possibility remains that a disaggregated analysis would show that the majority of the benefits from commodity price support programs now flow ultimately to non-farmers.

While these changes in the macro climate facing American agriculture were underway in the past decade, related major changes were occurring in the structure of control over agricultural resources. One of the most portentous changes has been the increase in the area of rented land in some of the most productive and erodible cropping areas of the country. The existence of sharply differentiated attitudes towards soil and water conservation on the part of land owners and tenants of farmland has long been documented. A recent study by David E. Ervin (Journal of Soil and Water Conservation, Sept.-Oct. 1982) has provided an up-to-date survey of the literature of this touchy subject. The suspicion that a rise in the proportion of farmland operated under tenant contracts will be associated with a decline in interest in conservation is now approaching certainty.

This state of affairs is also an outgrowth of the shift from profit-seeking to rent-seeking on the part of farmland owners. Much of the increase in rented land in the recent past has been explained by the desire of heirs of former farmland owners to retain their inheritance, in the hope of a capital gain. In a previous generation many of the heirs of deceased farmers eventually sold out, and their holdings were recombined into new farm units. The prospect of rapid capital



gains in farmland in the past decade has narrowed the farmland market substantially, as more owners who in an earlier era would have sold out now emerge as landlords, often of relatively small tracts of land. This results in a motive for landholding that is rooted in capital gain expectations rather than efficient farm management. When combined with the tendency for the size of ownership tracts to decline, this constitutes a major barrier to the efficient promotion of conservation farming. A much larger population of landowners must now be convinced of the desirability of conservation. Their motives for landholding do not make them receptive to arguments based on the possibility of sustained or increased profits from farm operation over a planning horizon stretching into several decades or beyond.

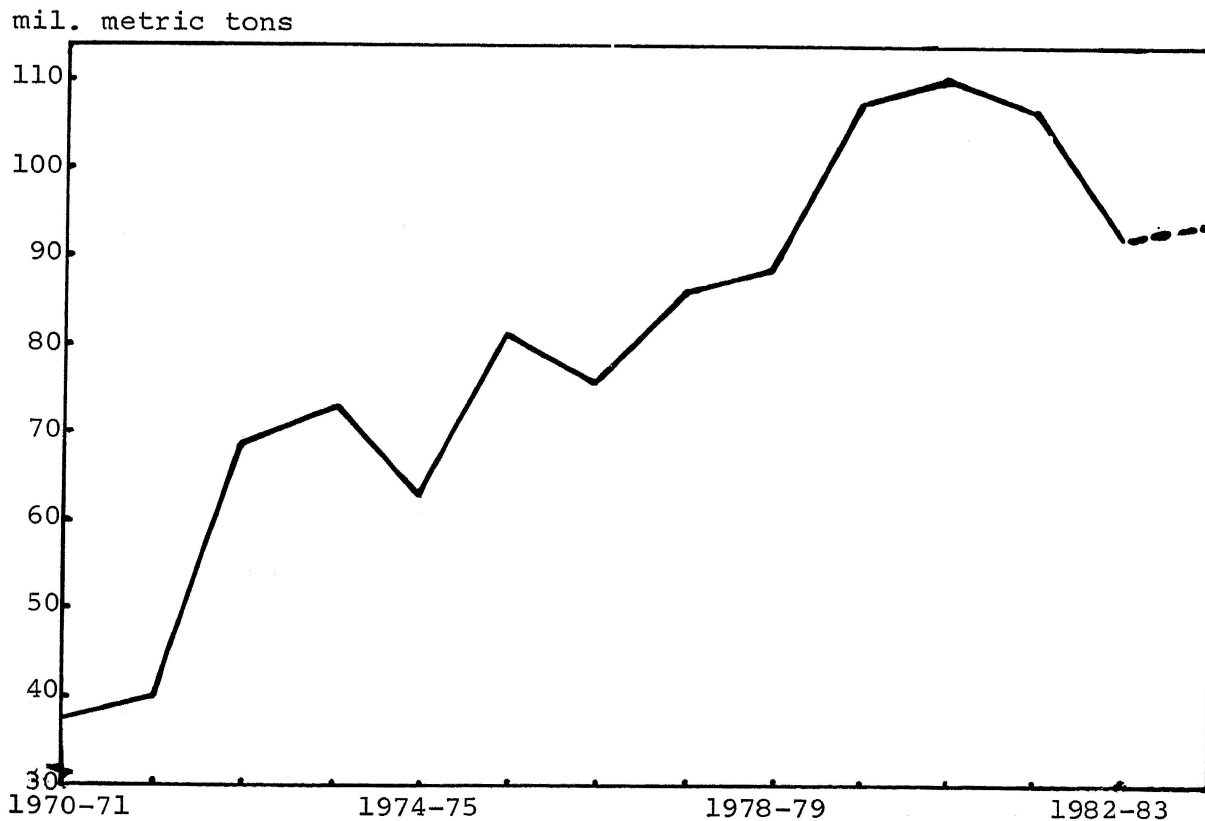
The implications for farm policy are clear. A sustained effort is needed to promote conservation goals among the land owning population, which is not the same as the population of farm operators. The clientele for much of the information provided by land grant universities, experiment stations, extension services, and conservation agencies is increasingly non-farm in outlook. A different mix of effort will be required for successful farm programs in the future.

#### The Embargo on Grain Sales to the USSR

The reaction to the embargo of January 4, 1980 on sales of grain above contract guarantees to the USSR provides a dramatic illustration of the extent to which U.S. agriculture has identified its well-being with a continued expansion of grain exports. The embargo was widely denounced as a disaster for grain farmers. A massive reduction in grain exports was predicted and the issue quickly became the subject of intensely partisan political debate. A promise to repeal the embargo was a prominent part of the campaign of Ronald Reagan in the election of 1980, and was credited with having a significant influence on the vote in key farm states of the Midwest.

In retrospect, it is difficult to discover any negative effect of the embargo on U.S. grain exports. As shown in Figure 1, U.S. exports of wheat and coarse grains reached an all-time record level of 110.7 million metric tons in the marketing year 1980/81. This reflected decisions to import by foreign customers made almost wholly within the period during which the embargo was in effect (Jan. 4, 1980 to April 24, 1981).

Figure 1. U. S. Exports of Wheat and Coarse Grains



World trade in wheat and coarse grains also reached an all-time high of 201.1 mmt in the trade year 1980/81, as shown in Figure 2. USSR net imports in July-June 1980/81 were 33.5 mmt, and climbed to 44.5 mmt in 1981/82, as shown in Figure 3. In summary, in the trade year affected most directly by the embargo, the United States exported a record amount of grain, world trade in grain reached record levels, and the USSR made import decisions that led to successive record imports in 1980/81 and 1981/82.

The most plausible interpretation of these data is that grain remains a highly fungible commodity, and that the USSR over-insured. Events in Poland in the summer of 1980 must have had an unsettling effect on grain import decisions in Moscow. If the USSR had occupied Poland, it would have incurred major responsibilities for sustaining a Polish food supply. This prospect remained real throughout 1981. When coupled with the sharp drop in domestic production, from 179 mmt in 1980/81 to 152 mmt in 1981/82, it is easy to understand the Soviet decision to import record quantities of grain in the year following the U.S. embargo.

From the standpoint of U.S. agriculture, one of the most damaging effects of the embargo may have been the artificial stimulus it gave to world trade in grains. Instead of a cut-back in exports, U.S. farmers may have been misled into a belief that the potentials for grain exports were greater than in fact they were.

In any case, the significance of the Soviet market to U.S. agriculture has consistently been inflated. In dollar volume, exports to the USSR were 3.6 percent of the total value of U.S. agricultural exports, in 1980. Exports to Canada were 4.5 percent, to China 4.8 percent, and to Japan 14.3 percent.<sup>4</sup> In recent years, the Japanese market has averaged about four times the size of the Soviet market for U.S. agricultural exports.

It is difficult to avoid the conclusion that the monolithic nature of the Soviet market has led to exaggerated faith in its potential as an outlet for U.S. agricultural surpluses. It has certainly distorted the foreign policy posture of the United States. In the months in which relations with our European allies were severely strained by U.S. attempts to prohibit the sale of gas pipeline equipment to the USSR, strenuous efforts were being made by the U.S. government to conclude a new Soviet grain agreement. The irony is compounded by the probability that it may actually be in the long-run best interest of U.S. agriculture to be weaned away from an excessive emotional attachment to a Soviet market that is potentially capable of extreme political gyrations.

One aspect of the preoccupation with the promotion of grain sales to the USSR deserves further emphasis. A guarantee that the United States will be a reliable supplier in world agricultural markets has enormous implications for domestic price policy. In the past, countries that have been heavily dependent on agricultural export markets, Denmark and the Netherlands, for example, have sometimes been willing to tolerate domestic price levels that led to reduced domestic use of the exported products. It is not at all clear that the United States will accept price increases for animal products that will cut back on domestic consumption in order to meet grain export commitments.

Assurance that the United States will be a reliable supplier to foreign customers is easy to give in a period characterized by grain surpluses. It will be much more difficult to sustain this assurance if meat and milk prices begin to rise. The policy commitment contained in these assurances extends far beyond the area of agricultural policy.

There is little evidence that the implications of "reliable supplier" promises have been understood by the non-farm community. There has been almost no discussion of these implications in policy-making circles, nor in the Congress. The "no embargo" guarantee contained in the recent US-USSR long-term grain agreement represents a surrender of policy options that will almost certainly haunt any future grain export trade negotiations. This administration has tied its hands, and the hands of the administration to follow.

The 1980 Soviet grain embargo, and the nature of its repeal, illustrate the high hazard

---

<sup>4</sup>Mark Drabenstott, "The 1980's: A Turning Point for U.S. Agricultural Exports?", Economic Review, Federal Reserve Bank of Kansas City, April 1983, p. 5.

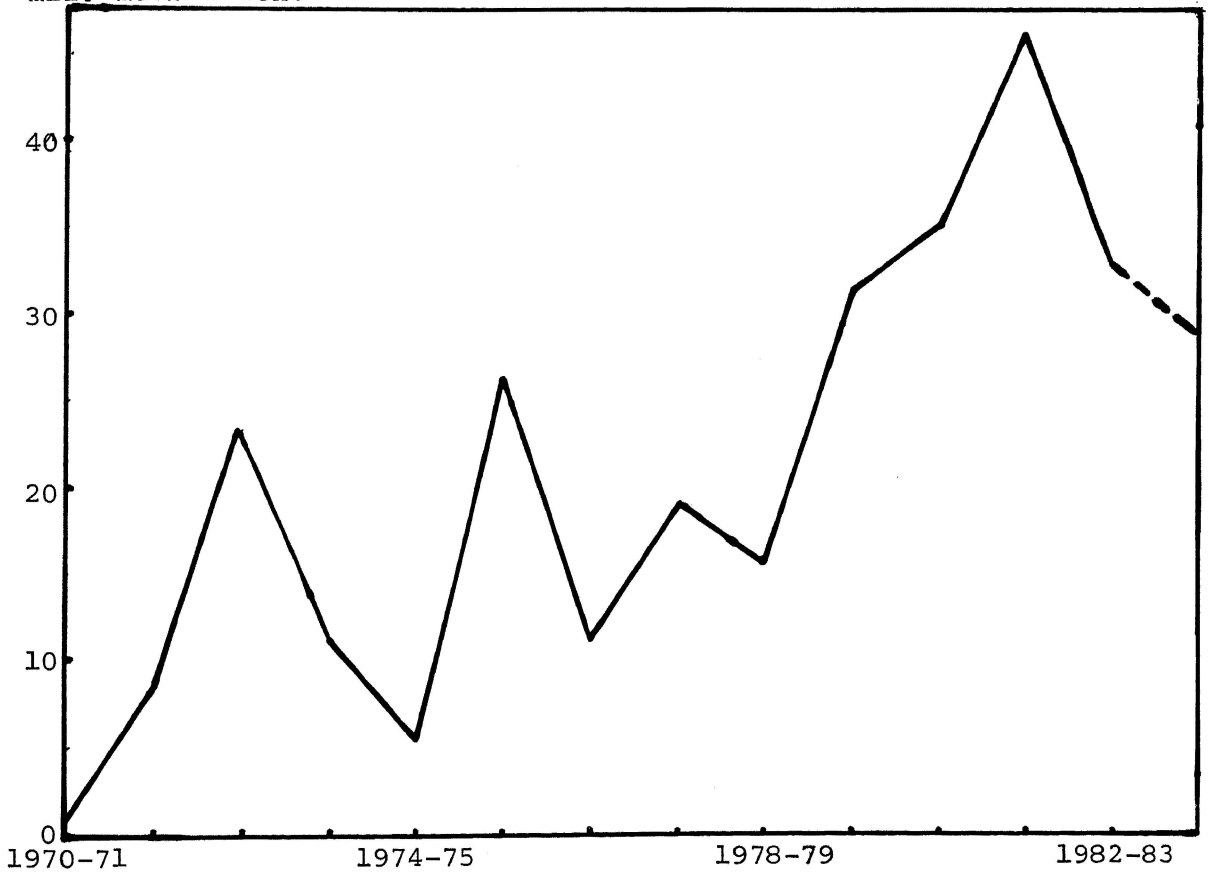
Figure 2. Total World Trade in Wheat and Coarse Grains

mil. metric tons



Figure 3. USSR Imports of Wheat and Coarse Grains

mil. metric tons



created by the temptation to use foreign policy to serve narrow and short-run domestic political goals. The other side of this coin is the temptation to distort the domestic political discussion of policy issues that have both domestic and foreign trade significance. An example is the use of interest rate policy to combat inflation in the United States, with little regard to its impact abroad, or to its differential impact on our own agricultural sector.

Combatting inflation with interest rate policy throws the burden of adjustment on:

- a. slow pay-out activities, of which agriculture is a leading example;
- b. activities that export a high proportion of their output -- again, agriculture is a leading example.

The burden is greatest on those activities that are both slow-payout and export-oriented. Thus the "world events" to which U.S. agriculture has become increasingly sensitive are to a high degree the result of domestic U.S. policies. It has been appropriate to argue that the United States has been adopting policies to solve domestic problems with little regard to their effect on the rest of the world. To this must be added the fact that adoption of these policies has shown little regard for their differential effect within the United States.

#### Sources of Risk in U.S. Feedgrain Markets

It has been a part of the conventional wisdom of the past decade to assume that price instability for U.S. farm products would result increasingly from forces originating outside our country. This belief was reinforced by the unexpectedly large grain purchases by the USSR in 1972-73, by the OPEC oil embargo of 1973 and related oil price increases, and by fears of world food shortages. These events supported a belief in a continuing increase in demand for U.S. agricultural exports, associated with greater price uncertainty in world markets.

Given this mind-set, it comes as a surprise to acknowledge that much of the instability in U.S. agricultural markets of the past five years is explained by events and trends within the United States. This is especially noticeable with feed grains.

Table 2. U.S. Production of Coarse Grains

Year	Production mmt	Change from preceding year	
		mmt	percent
1979/80	238.7	--	--
1980/81	198.4	- 40.3	-16.9
1981/82	249.0	+ 50.6	+25.5
1982/83 <sup>1</sup>	255.5	+ 6.5	+ 2.6
1983/84 <sup>1</sup>	142.8	-112.7	-44.1

<sup>1</sup>Forecast.

Taken from USDA, Foreign Agriculture Circular, Grains, FG-28-83, Sept. 15, 1983, p. 10.

Some sense of the magnitude of these changes in U.S. production is found in the fact that the 1983/84 reduction of 112.7 million metric tons in coarse grain production (mid-harvest estimate) is greater than the estimated total coarse grain production in 1983/84 of the USSR (103 mmt), of all of western Europe (85.4 mmt), or of China (85.0 mmt).

A second surprise is provided by the fact that the big declines of 1980/81 and 1983/84 were due primarily to production short-falls in the heart of the Corn Belt. In the past five years the most productive lands have made the greatest contribution to variations in output and hence to price fluctuations. The big variations in feed grain output have not been due to production swings at the rainfall or temperature margins of feedgrain production.

Part of the explanation for this shift in the sources of variability in feed grain production from the periphery to the core is provided by the rise of irrigation in the western fringes of the Corn Belt and in the Great Plains. This reversed the regional impact of drouth on feedgrain output in 1983/84.

Another part of the explanation is provided by the rise of a duo-culture of corn and soybeans in the heart of the Corn Belt. In spite of the rise of irrigation in the Great Plains states, Table 3 shows that the production of corn has become more heavily concentrated in the traditional Corn Belt counties. This rain-fed area can be highly productive in years of favorable weather, but it also is highly sensitive to pests, plant diseases, and drouth. The triumph of high technology in corn production and its concentration in the traditional Corn Belt counties has apparently increased the prospect of wide swings in feedgrain output. On the evidence of the past five years, the risk factor in feedgrain production has increased in our most productive rain-fed regions.

Table 3. Shift in Regional Concentration of U.S. Production of Corn for Grain, Leading Corn Belt States, 1950-59 and 1980-82

State	Production average		Increase 1950-59 to 1980-82 -----percent----
	1950-59 -----thous. bu.-----	1980-82	
Iowa	569,737	1,604,362	281.6
Illinois	511,252	1,348,260	263.7
Indiana	254,326	690,720	271.5
Total (average)	1,335,315	3,643,342	272.8
Nebraska	207,142	721,680	348.4
Minnesota	244,672	696,443	284.6
Ohio	187,624	425,240	226.6
Total (average)	639,438	1,843,363	288.3
6-state total (average)	1,974,753	5,486,705	277.8
U.S. total (average)	3,013,797	7,747,924	257.1
	<u>Percent of U.S. total</u>		
Iowa, Illinois, Indiana	44.3	47.0	
Nebraska, Minnesota, Ohio	21.2	23.8	
6 states	65.5	70.8	

Data taken from Statistical Abstract of the United States, 1962, p. 659, and current reports of the U.S. Department of Agriculture.

#### The Proper Components of U.S. Farm Policy in an Integrated World Economy

One consequence of the increased exposure of American agriculture to foreign markets is the emphasis it places on the integration of agriculture into the world economy. The essential elements in American farm policy are no longer revealed by a study of commodity price support programs. Perhaps the clearest example is provided by recent proposals for "local content" or "domestic content" legislation in industry.

Efforts of this kind to insulate the American market against import competition from automotive vehicles, electronic equipment, textiles, or machine tools are aimed directly at the American farmer. If we do not buy from Japan, South Korea, or less developed countries, we cannot expect to sell to them. If Detroit succeeds in its current drive for domestic content minimums for automobiles, the jobs saved in industry will be at the expense of markets, and hence jobs, lost in agriculture.

For this to make economic sense it must be argued that relative efficiency in the use of capital and labor is greater in industry than in agriculture. The marginal capital/output ratio (the value of the additional capital required to achieve a specified increase in the value of output) is lower in agriculture than in all but a very few industries, and marginal labor productivity is higher. American agriculture uses capital and labor very efficiently and its rate

of productivity gain has been above that of industry in most of the years of the past three decades.

There is a net gain to the United States by paying for our automobiles with soybeans, corn, and wheat. If we rule out this advantage, the principal effect will be to levy the equivalent of a tax on U.S. consumers to support higher levels of employment and wages in automotive and other protected industries than would otherwise be necessary. This is the sense in which it must be argued that farm policy is now inextricably embedded in industrial and foreign trade policy. It is distressing to note that farm policy debates have largely neglected this issue. It is even more distressing to note that very little of the recent professional literature or research in agricultural economics has addressed this problem.

## U.S. FOOD POLICY IN AN IMPERFECT WORLD GRAIN MARKET

Paul L. Kelley  
Professor of Agricultural Economics  
Kansas State University

D. Gale Johnson in his classic work of 1974 argued that world agriculture was in disarray (see references). In 1983, world agriculture is still in disarray. International food policies interacting with current U.S. agricultural policy have resulted in disastrous consequences for many U.S. farmers and for taxpayers.

U.S. farm policies of the 1930s and up to the mid-1960s were designed to enhance farm income in a closed U.S. economy containing surplus labor resources, and in a world of fixed exchange rates and of a limited international capital market. The transformation of U.S. agriculture has left the excess labor problem behind us. But our agricultural policies since the mid-1960s have only partially adjusted to a new reality of world markets and to an essentially full integration of agriculture into the domestic economy.

World food and agricultural policy issues associated with the internationalization of the world food system constitute a broad agenda. I propose, however, to limit my discussion to policy issues related to price discovery in the international grains market, since these concerns are related so strongly to current U.S. policy.<sup>1</sup>

For analytical purposes it is useful, though difficult, to direct attention to two major price discovery features of the world food system:

1. determinants of long term drifts in real world food prices;
2. determinants of the large year-to-year variability of prices about the long term trend.

With regard to a long term drift in real world food prices, it matters whether the trend is upward, flat, or decreasing. As a general rule, the direction is determined primarily by the state of economic development in nations and regions of the world. The food price trend is tempered but not affected strongly by national or multi-national agricultural food prices.

In the United States prior to the mid-1960s, domestic economic factors and policies largely shaped prices for foodstuffs. International impacts on our agriculture were explained by fixed monetary exchange rates, and effects on the general business cycle and employment, which in turn influenced mobility of labor transfers out of agriculture.

---

<sup>1</sup>I emphasize world trading in grains as they are the dominant commodities linking national agricultural sectors in the world food system. For broad policy purposes, I treat grains as a homogeneous aggregate, although for specific policy actions the wheat market appears to differ substantially from the coarse grains market, structurally.

Starting in the mid-1960s, U.S. real food prices came under more influence from the strong linkage of grains to international markets, from the switch from fixed to floating rates, and from the emergence of a highly integrated international capital market. Today, worldwide events have much to do with trends in food and feed grain prices. Prospects for the future are framed in the world setting, turning in part on forces driving human capital development with its subsequent impact on agricultural productivity.

Analytical tools (and their limitations) to appraise these global issues have been summarized by Schuh (1981). It is prudent to "model" worldwide food balances along current lines, but more attention should be given to incorporating human capital theory in predicting productivity and other features of the world food economy.

In spite of these caveats, where does this leave the policy maker or the interested voter? Will real world food prices tilt upward, move in a flat trajectory, or tilt downward in the 1980s? All is not lost. Tweeten in a recent study is more daring than most and gives us some targets: "...any projection is hazardous but the best guess is that supply and demand are likely to increase at somewhat comparable rates from 1982 to 2000." He adds that the trend will nevertheless be highly variable from year to year.

The most fundamental conclusion concerning the broad drift in real world food price outcomes is that no single nation or small group of nations can do much about it in the short run. The practical policy conclusion is this: individuals and nations should plan their long-term investment decisions based on income and survival strategies that take into account the most likely long-term trend.

Personally, I opt for the flat or decreasing trend at the moment.

The second set of concerns about world food prospects and policy centers around the issue of extremely large year-to-year price variability. By this we mean not normal variations that occur in a reasonably "efficient" market but those arising from unpredictable sources such as weather, political upheavals, and policy actions.

A large body of literature deals with this subject and particularly with the distributive effects as to who are the gainers and losers.<sup>2</sup> There are effects on efficiency and on income of producers in developed nations, and on treasuries of nations that import substantial quantities of food and fiber.<sup>3</sup> For these reasons and many others, wide price variability in world food and fiber markets is not a mute policy issue, even if it is hard to say what is so wide as to be unacceptable.

There is considerable agreement that world food prices will continue to exhibit more year-to-year variability henceforth than in the three decades preceding the 1970s. However, opinions differ as to causes. Schools of thought "explaining" above-normal world food price instability cluster into two major groups, (1) the market structure group, and (2) the exchange rate, international capital market school.

Conventional wisdom of the market structure group holds that price insulating policies of major importing nations of the world contribute greatly to instability in markets of the residual suppliers such as the United States. The market structure group admits that instability is made worse by fluctuations in exchange rate markets. The capital market school, by contrast, argues that large movements in exchange rates are the primary source of instability in export markets. (See Cochrane and Spitze, and Schuh (1974).)

Again, it matters for public and private decision strategies whether structural impacts are more important than monetary impacts -- or, generally, the relative importance of each.

---

<sup>2</sup>See Kelley (1982), Wadekin, and McCalla et al in references.

<sup>3</sup>The effects of risk and uncertainty need more study.

How competitive are world grain markets? Research has not provided a consensus in answering the question. Viewpoints range from calling markets competitive when adjusted for trade barriers, to oligopolistic-oligopsonistic structures -- the latter sometimes seller dominated, other times buyer dominated.

In spite of our limited knowledge of the true state of affairs, I propose that U.S. export policy is best served by leaning on the side of an imperfect market, which at the moment is largely buyer dominated. Further, apparently the structure of the market has been altered substantially since the initiation of the Soviet grain embargo in 1980. If this is the case, U.S. interests would likely be served best by making more serious efforts to get coordination among major grain exporters. This would imply a strategy that minimizes price cutting, and possibly looks toward cooperative agreements on market shares and export growth targets (see Groenewegen). Special consideration could even be given to minimizing any damaging effect such an action would have on Third World countries. Finally, if the cooperative arrangements were strong enough, serious consideration could be given to strategies to counteract variable import levies and similar devices of the EC, and the selective buying strategies of the Soviet Union. Various instruments might be used including export tariffs.

Some will argue that this is a naive view of what is politically possible in the world today -- and that is probably true. Further, it is argued that such collusive arrangements are ultimately unstable. However, it is equally naive, in my view, to adopt strategies of price cutting and subsidies in a world import market dominated by powers such as the EC, Japan, and the USSR without considering the potential reaction among other exporters and importers.

Just as there are disagreements among structural versus monetary explanations for instability, there are conflicts between a structural and a "pure" monetary solution. Some persons have argued that because of structural considerations, producer and consumer prices in many countries are to large degree insulated from monetary influences. But if monetary impacts are dominant in generating price instability, and if the United States and the world community are serious about reducing instability, some form of a new international bank or world monetary authority is needed.

#### A United States Policy

Given the expected future state of competition in international grain markets, what macro policies that the United States might pursue are most likely to accommodate a viable long-term food and fiber policy -- which, not incidentally, would offer hope that efficient firms would be able to survive in the short run?

It is my view that in defining the most prudent U.S. grains strategy, one must make the following assumptions:

1. Real food and fiber prices over the next decade or more will, at best, have a flat trend but are more likely to continue their secular decline.
2. The current buyer-dominated structure of world grain markets will continue. Large centrally planned economies will stay with their selective buying practices.
3. Collusive action among major grain exporters is not a viable political option in the near future.
4. Dampening of exchange rate markets by new institutional arrangements is not likely in the near future.
5. U.S. commodity policies will continue their historical pattern and will have little major impact on the drift in real world food prices. Nor will they reduce the high annual price variability, largely traceable to importers' actions and to exchange rates.
6. The United States will continue to have a farm program.
7. The export demand facing the United States may be becoming more elastic.

If these assumptions are reasonably sound, and if the United States wishes to dampen price variability, the possible courses of policy action are highly constrained.

It appears that a solution must be sought by developing new institutions within the context of the major economic philosophies that exist in world grain markets today. For historical reasons the United States has held recently that an unconstrained "market oriented" philosophy confronting a "market managed" philosophy of most of the other major importers and exporters of



the world is the way to go. While there is much to be said for the rationale of tilting U.S. export strategy in the direction of market orientation, such a strategy must be consistent, and must take account of the great destabilizing effects of world recession, inflation, and the "market managed" orientation of much of the rest of the world.

It may be possible for many of our very large farms to survive, in the existing market situation, without major U.S. government intervention of any kind. But a strong political case will be made, on behalf of many producers and some consumers, that some moderation of price variability is socially desirable.

If an attempt is made to adapt U.S. food and fiber policy to emerging world conditions, it appears that a totally new set of institutional arrangements will be required.

Massive institutional changes involving government intervention in U.S. agricultural commodity markets were set in place by the New Deal legislation of the 1930s. The changes were made in response to the perceived needs of the day. New institutional changes in agricultural commodity markets will be required unless we want to see a repeat of PIK type scenarios.

The objective of U.S. strategy should be to be sufficiently competitive in international markets to clear what are defined as market stocks each year. The better choice may be to stay with trading, but using a governmental arm in price stabilization and activities to enhance export sales. This would seem to offer more in the long run than to turn to a centralized price setting bureaucracy that would meet other state traders and central purchasing groups head on.

I am not proposing a full-blown marketing board, but there is much that the United States could learn and perhaps borrow from the Canadian Wheat Board and at the same time stay within our political philosophies (see Schmitz and McCalla). A true stabilization authority could act as buffer to remove export-induced peaks and valleys in prices, yet still adapt to long term trends in world food prices. A quota mechanism with a cap would be required.

The Canadian system's mandatory participation obviously has an advantage but it is not likely to be possible in the United States. We could only achieve a comparable outcome by a "carrot" technique. Canadian quota strategy, in effect, extends world market processes and market forces to decisions (actions) by individual producers. Canadian stocks strategy seems somewhat more rational than U.S. stocks strategy, as a result. Whether we should pursue the Canadian two-price technique is debatable.

An effective U.S. stabilization authority would need to be "depoliticized" and substantially insulated from the day-to-day political arena that creates so much uncertainty for producers in our present commodity programs. Such an authority could be modeled in a manner similar to our Federal Reserve Board of Governors. To set it up would be one of the first steps toward developing a long-term, practicable, farm program that is sensitive to world market forces, yet offers some possibility of reducing day-to-day, politically-induced, price variability at home and abroad. Difficulties of turf would obviously arise in setting such an authority in place. The concept would be resisted by entrenched committees, the Secretary of Agriculture, and other bureaucrats.

An effective "quasi-independent" stabilization authority may be too big a leap to take all at once. If that be the case, at least we ought to consider appointing a National Food and Fiber Policy Commission composed of highly respected and competent citizens that would propose serious alternatives to our current state of affairs.

Other institutional changes that need addressing include: (1) a new international monetary authority; (2) an effective survival insurance program for efficient producers; (3) a new export financing facility; and (4) a national food and fiber research institute.

#### A National Food and Fiber Commission

U.S. farmers are correct when they say they have little input in formulating either national or international food and fiber policy. This is a paradox in a world in which those farmers are touted as the most efficient. The EC and Japan, whose farmers are obviously less efficient than their U.S. counterparts, are much more sensitive to domestic and international concerns of their farmers. What can be done about this dilemma?

I start from the practical premise that U.S. farmers will have an effective input to national and international food and fiber policy only if they are a part of a national coalition strategy of reason and persuasion. Such a strategy will not likely be effective if it runs up against entrenched institutions. A blue ribbon permanent commission representing farmers, agribusiness, finance, labor, and urban interests could have an enormous impact in developing proposals and dialog for a more rational food and fiber policy. Elements of this concept are being discussed seriously by the National Agricultural Forum sponsored by the Agriculture Council of America. Other groups such as Governor Carlin's Kansas Working<sup>4</sup> Group on Agricultural Policy are exploring possible new directions in U.S. food and fiber policy.

As a concept, these "neutral" groups deserve the support of all agriculture. For reasons we all understand, commodity groups, general farm organizations, and cooperatives find it difficult, if not impossible, to take the lead in formulating new directions in national food policy. These latter groups can, however, be powerful instruments in implementing a consensus that emerges from the dialog of a highly respected coalition commission. Witness the outcome of the recent National Commission on Social Security.

A national food and fiber policy commission as suggested could have informal links to permanent state commissions formed for producing "grass roots" inputs into the national dialog.

#### Cooperation in a New International Monetary Authority

It is sometimes said that only a new form of international monetary authority will bring stability in international exchange rates (see Schuh, 1982). Another viewpoint is that a very large share of U.S. export markets is insensitive to exchange rates because buyers insulate their internal prices. This is a complicated issue and needs careful appraisal.

#### Firm Survival Insurance Authority

I believe a case can be made for protecting "efficient" farms against severe price instability, on either welfare grounds or to avoid a wholesale exit of those farms.

The tremendous escalation of the cost of capital has caused cash flow difficulties, loss of capital assets, and even exit of many farm firms that are normally considered "efficient." We should explore the possibility of a new financial institution to provide risk insurance. Payments would be made to farms in periods of depressed prices, enabling them to survive the cycle for a better day. Market interest rates might even be subsidized as a supplement to such a plan. Repayments -- premiums -- would be paid in better times.

#### Export Sales Financing Authority

In 1929 a macro marketing plan, the Federal Farm Board, was set up. It failed for reasons now well known. Residual assets of what was essentially a national domestic marketing plan for agriculture were transferred to what we now know as the Federal Farm Credit system. That system for 50 years has focused primarily on providing competitive credit for the production and marketing of agricultural products for the U.S. domestic market. Would it not be reasonable to consider a new Farm Credit type of financial authority, in one central self-sustaining agency, addressed to the problem of expansion and stability of U.S. agricultural exports? Such an agency could focus on export assistance as well as making infrastructure loans to extend the export marketing arm of U.S. agriculture.

We now address such matters in an array of financial institutions such as the World Bank, International Monetary Fund, and the<sup>5</sup> blended credit program of the USDA where coordinated agricultural export interests are muted.

---

<sup>4</sup>Executive Order, October 1982, Governor John Carlin, establishing authority for Kansas Working Group on Agricultural Policy.

<sup>5</sup>Such a possibility could be coordinated in the proposal of President Reagan to create a new Department of Trade. See "New Trade Department Proposal," Kansas City Times, April 26, 1983, p. 1.

It is a cliché that everyone is entitled to his value judgments but no one should be entitled to his own set of facts. If a national blue ribbon commission were in place, it would need access to a highly respected source of research output. After working in a Land Grant institution for more than three decades and knowing something about the federal research bureaucracy, I think I can flatly assert that there is a major depression, not recession, in the funding and output of national food and fiber policy research. A new mechanism is needed to assist those areas of excellence where productive research is underway and to bridge the institutional rigidities now in place (see Kelley, 1980). That can come, however, only by a massive leap forward, that is, by creating a new institution that does not confront the stone gods now in place. This proposition cannot be discussed fully here. Certainly a policy research center recently announced for the University of Missouri and Iowa State University is a step in the right direction and can complement and even extend the efforts of a national center.

#### Summary

I have tried to make a case for the proposition that a viable U.S. food and agricultural policy for the 1980s must take into account the major determinants of long term drifts in real world food prices -- that is to say, causes of policy-induced year-to-year instability in international grain prices and flows. We could be handicapped for some time by staying with a "market oriented" philosophy, in the face of a market managed philosophy that prevails in the rest of the world.

There appears to be a hope that some of the "best of both worlds" might be captured by creating new U.S. and international institutions to buffer international price instability, yet allow basic trends in prices of farm products and food to be expressed. One proposal is to establish an authority isolated from day to day political pressures similar to our Federal Reserve Board. If properly implemented, it could serve as a buffering mechanism and thereby bring some longer term stability to U.S. farm commodity policy. Other institutional changes could be pursued, such as an international monetary authority for stabilizing exchange rates.

The biggest challenge facing all of us probably arises not in analysis of international markets but in our lack of understanding of the process of institutional change. If we wish our government to respond to, or counterbalance, the policies adopted in many parts of the world, how do we do it? Seminars such as this one help us increase our understanding in this most important area.

#### REFERENCES

Cochrane, Willard W., M. A. Martin, and R. G. F. Spitze, "Grain Reserve Policies in an Uncertain World." Analysis of Food and Agricultural Policies for the 1980s, N.C. Reg. Pub. No. 271, Nov. 1980, pp. 87-104.

Groenewegen, J. R., "Monopsony, Oligoposony, Soviet Buying Behavior, Exporter Cooperation and the Determination of World Grain Prices." Agriculture Canada Working Papers, March 1, 1983.

Johnson, D. Gale, World Agriculture in Disarray. MacMillan St. Martin's Press, 1974.

Kelley, Paul L., "Implications for World Food Systems Strategies with Special Reference to the Role of the United States." Also other relevant literature in Current Trends in the Soviet and East European Food Economy, Karl-Eugen Wadekin, ed., pp. 339-361, Duncker and Humblot, Berlin, 1982.

\_\_\_\_\_, "Research Technology and Profitable Business," in Views on the Interface of Research, Technology and Profitable International Agribusiness. Kansas Agr. Exp. Station, Manhattan, July 1980.

McCalla, Alex F., and Timothy Josling, eds. Imperfect Markets in Agricultural Trade, Allanheld, OSMUN, Montclair, N.J., 1981.

Schmitz, Andrew, and Alex McCalla, "The Canadian Wheat Board," in Agricultural Marketing Boards, Ballinger, Cambridge, 1979.

References continued page 68

## POLICY EVALUATION: LONGER TERM OBJECTIVE

Abner W. Womack  
Professor of Agricultural Economics, UMC

The departments of agricultural economics at the University of Missouri and economics at Iowa State University have jointly established a Food and Agricultural Policy Research Institute. The University of Missouri portion will be a Center for National Food and Agricultural Policy. A Center for Trade and Agricultural Policy will be located at Iowa State University. The centers will assist in the development and evaluation of U. S. agricultural and food policies. Specific attention will be given to food consumption and prices, farm income, government cost, and foreign agricultural trade.

The Institute's broad goal is to maintain a comprehensive modeling system of the U. S. food and agricultural industry that can be used to evaluate the near and longer term economic implications of alternative farm and food programs. The modeling system will be used to evaluate program options at least twice each year. Evaluations will be provided early enough to be useful in decision-making for wheat programs in the spring, and for feed grain, cotton, and rice programs in the fall of each year.

In addition, the modeling system will be available to be used during the critical periods when future farm bills are being debated. Studies will reflect what might happen under major proposals for programs or modifications of existing programs. Requests for these evaluations will be handled based on priorities determined by the Institute.

### Reasons for an Institute

The growing interdependence between U. S. agricultural markets and (1) macroeconomic policies in the U.S. and (2) international economies has made quantitative modeling more urgent. As information of this kind is not currently available, various governmental agencies and farm organizations have been turning to forecasting services that typically focus on the U. S. economy but give at most only secondary attention to agriculture. Moreover, little has been done to develop, outside the USDA, a capacity for the kind of studies the Institute is planning.

There also appears to be a gap in the education-research process of universities. Graduate students often are not involved in comprehensive and integrated research. By necessity they focus on a particular problem and employ a particular analytical tool. Yet graduate students could develop models that would be valuable in contributing to a larger integrated modeling system. The institutional framework that now exists does not support the long-term commitment needed for economic research of that kind -- for an economic research laboratory..

The opportunity also exists for more effective integrating of extension and research. The Institute's modeling could respond to extension requests involving broad areas of policy analysis, marketing, outlook, and farm management.

Agricultural and food policy research requires a long-term commitment. Without it, significant contributions to the economics as well as political considerations in program design are not possible. Furthermore, the analytical system must extend to each major commodity. Detailed current data banks are required. Quantitative studies must include relationships across commodities, and with the general economy and international markets. Food-nutritional implications for the consumer cannot be omitted.

As an example of longer term analysis, to study acreage set-aside decisions requires projections of two to five years. If a feed grain set-aside is decided on in the fall of a given year, supply and demand estimates must be projected not just for the current year but future ones too. The system must therefore have the capability to anticipate the supply in the coming crop year, the direction of adjustment in livestock, and foreign demand (including the ramifications of exchange rates and foreign government policies), all with allowance for weather uncertainties. The system must also take account of the particular provisions of government programs.

### Institute Organization

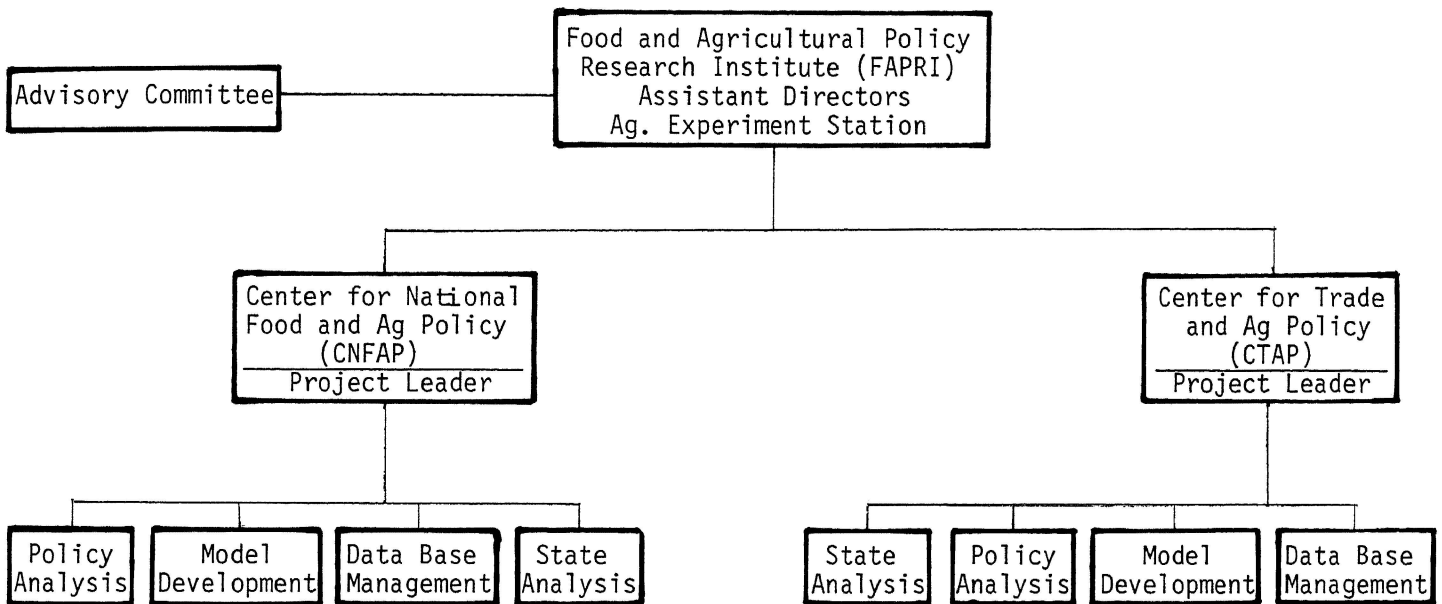
The chart presents the proposed organization of the Food and Agricultural Policy Research Institute (FAPRI). The Institute directors will be at the College of Agriculture level, with one

advisory committee. The advisory committee will focus on the continual support for the Institute and will be concerned for the research issues associated with food, farm, and international trade policy. Committee membership will be composed of leaders of major agricultural organizations as well as technical personnel who have had experience with research on farm policy and programs.

Two research centers are proposed. As stated above, the center at Missouri will concentrate on food and agricultural policy. That at Iowa State will have an international trade orientation.

Each center will have a project leader who will be responsible for four major areas, policy analysis, model development, data base management, and state analysis.

### Organizational Chart for FAPRI

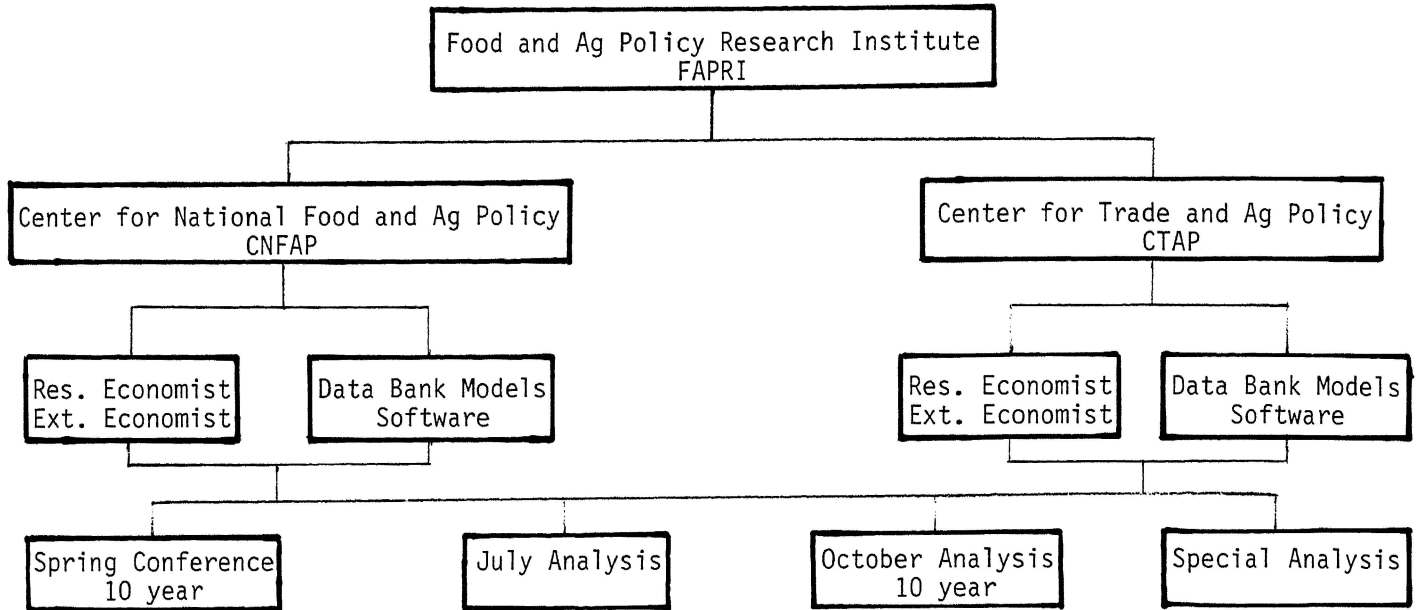


### Institute Operation

The chart below shows operational organization. Included are provisions for four major activities each calendar year. First, a two-day policy conference will be held in the spring. It will have a dual focus. Activity of the first day will be devoted to an intermediate and longer term perspective on policy issues. It will include a presentation of a ten-year baseline for the agriculture sector, with implications for export trade, changes in the general economy, and farm program activity for each major commodity. The second day of the conference will concentrate on farm policy options and consequences for each major commodity. Two other activities are devoted to farm program analysis -- wheat programs in the summer, and feed grain, cotton, and rice programs in the fall. Alternative program options will be evaluated. Evaluations will include food supply and utilization data, prices, farm income, food consumption and price, and government costs.

The fourth activity will involve special analyses relative to major policy issues. These studies will be done as determined by Center or Institute leadership or on a contractual arrangement with sponsoring organizations.

Operational Chart for FAPRI



-Issues and prospects  
(public)  
-Policy analysis  
(public)  
-Special working  
group

-Special working  
group

-Special working  
group

-Internal  
decision  
-Contract  
arrangement

Farm Program Evaluation for the 1984/85 Program

The type of analysis that will be conducted by the Institute is reflected in the table below, applied to the 1984/85 wheat program. Although the program has been announced, several possible changes are under consideration.

The Administration's program, denoted USDA, previously announced, provides for a 30 percent mandatory acreage reduction with an optional 10-20 percent PIK at a 75 percent payback level. Target and loan prices are \$4.45 per bushel and \$3.30 per bushel, respectively.

Marlenee's program modification includes a 25 percent mandatory acreage reduction and an optional PIK of 10-25 percent at an 85 percent payback rate, with target and loan prices at \$4.30 per bushel and \$3.30 per bushel. In addition to these features, the plan is also aimed at strengthening exports with a certificate program.

Dole and Foley program options contain a 30 percent reduction in acreage made up of a 20 percent mandatory reduction and a 10 percent paid diversion. A 10-20 percent PIK program is included at a payback rate of 85 percent. Both the Dole and Foley programs have a \$3.30 per bushel loan rate. The Dole target price is \$4.35 per bushel, and the Foley, \$4.38 per bushel.

Daschle's program options contain the strongest set of incentives for participation with 15 percent ARP, a 15 percent paid diversion, and a 10-20 percent PIK option with an 85 percent payback. The Daschle program calls for targets and loan prices at \$4.45 per bushel and \$3.30 per bushel.

## Estimated Results

The table presents estimates of impacts, as estimated via the use of an annual econometric model of the U. S. agricultural industry developed at the University of Missouri.

The following observations or conclusions can be drawn from the results.

### Supply and Utilization

Program participation moves up gradually as the ARP is relaxed, PIK payback percentages are increased, and diversion payments are added. Participation in the announced program is not likely to exceed 40 percent because of the very strong ARP component. If the estimate is accurate, ending stocks will likely increase, with farm prices dropping to or very near the loan rate.

The Marlenee program contains a modification on the ARP side that may result in a slight increase in participation, but use of export certificates could increase total utilization, resulting in a reduction in ending stocks to around 1350 million bushels, that is, to 1983/84 levels.

The Dole and Foley option also reduces total carryover, primarily through stronger program incentives for participation. Farmer Held Reserves (FMHR) and CCC stocks will remain high, sustaining wheat prices about 9-10 cents per bushel over the loan rate.

The Daschle proposal contains the strongest program incentives, resulting in the highest participation with corresponding price strength and the lowest stock levels.

### Government Costs

Total program costs for all options are high, indicating the very strong supply potential relative to expected domestic and foreign demand. The difference in cost between the Administration's option and the Dole/Foley option is about \$400 million. The difference in net returns to the producer is about \$740 million. Obviously, farmers would be better off under these options. However, short-run budget cost is greater. It should be noted, though, that the Dole/Foley option may contain less cost to government in the longer run, because government controlled stocks will be smaller. Under the USDA plan FMHR and CCC stocks would be 100 million bushels higher than under the Dole/Foley plan (50 million more in FMHR category, 50 million more under CCC control). In the announced USDA program, if the FMHR stocks are maintained and start to build, storage costs will accrue and interest will be waived on the second and third year of loans. If it becomes necessary to PIK the wheat out, loan rates averaging \$3.50 per bushel will not be recovered. A similar case prevails if the grain is defaulted to the CCC and is PIK'ed out after three years. So there is additional budget exposure or risk in the announced program compared with Dole/Foley.

Summary of Program Options for Wheat, 1984-85

Program	Price terms		Parti- cipa- tion	Acres (mil.)		Farm price	Program outcome			Revenue/Cost (mil.)		
	Loan rate	Target price		Planted	Harv- ested		Free	CCC	Farmer Held	Gross rev.	Prod. cost <sup>1</sup>	Net rev.
USDA	\$3.30	\$4.45	40%	81.7	71.9	\$3.34	288	375	775	\$10238	\$7199	\$3039
Marlenee	3.30	4.30	45	80.7	71.0	3.35	286	340	725	10194	7163	3031
Dole/Foley	3.30	4.35/ 4.38	60	78.0	68.6	3.39	286	325	725	10782/ 10820	7016	3766/ 3804
Daschle	3.30	4.45	75	76.0	66.9	3.42	286	275	725	11702	6925	4777

Program	Cost to government (mil.)								Total
	Deficiency payments	Diversion payments	Grain cost	Storage cost	Grain released	Export subsidy	Other <sup>2</sup>	PIK	
USDA	\$1202	--	\$166	\$ 7	\$ 47	--	\$1475	\$2850	
Marlenee	912	--	493	22	141	\$614	1116	3157	
Dole/Foley	1324/ 1362	\$389	429	19	123	--	1065	3226/ 3264	
Daschle	1830	793	536	23	153	--	879	4061	

<sup>1</sup>Variable production costs: assumed at \$85/acre for harvested acres, and \$20 for conserving use acres.

<sup>2</sup>Includes storage payments, foregone interest, and expenditures by CCC for loan defaults.

USDA program as announced: 30% ARP, 10-20% PIK with 75% payback.

Marlenee: 25% ARP, 10-20% PIK with 85% payback.

Dole/Foley: 20% ARP, 10-20% PIK with 85% payback, 10% paid diversion. A paid diversion payment rate of \$2.70/bu. is assumed.

Daschle: 15% ARP, 10-20% PIK with 85% payback, 15% paid diversion. A paid diversion payment rate of \$2.70/bu. is assumed.

Summary and Conclusion

The objective of the Institute is to provide, as a public service, support to policy decision makers relative to the design and operation of farm programs. The Institute will encourage interaction with other researchers, academic institutions, government agencies, and agricultural leaders. A net incidental outcome will be to aid the education and training of current and future leaders in agricultural policy.



# HOW AN INTERNATIONALLY ORIENTED FARMER COOPERATIVE VIEWS THE FUTURE

Michael L. Cook  
President, Farmland World Trade and  
Executive Director, Market Research, Far-Mar-Co

My remarks will address two related questions. The first is the assigned topic. The second is almost an inversion. It is whether and how the agricultural and trade policy of our nation can assist the single-origin exporter to improve its scale-economics dilemma--that is, to be active in export trade even though not of giant size.

An international orientation for an exporting corporation is a matter of corporate strategy, of the same genre as mergers, acquisitions, and diversification. Like them, the long-run bottom line--profitability--is ordinarily the principal criterion to which it is subject.

Any corporate decision of strategic nature is based on the following considerations:

- \* The firm's goals, capabilities, and strategies already in place.
- \* A set of assumptions about (1) future agribusiness environment and (2) expected export magnitudes.

I will review assumptions first, then continue with the factors necessary for an internationally oriented firm to be successful in the trading arena. Finally, I will go into the matter of how agricultural and trade policy affects the success outcome for a trading firm.

## Assumptions

### Future Agribusiness Management

The Council for Agricultural Science and Technology (CAST) recently issued a report on the "emerging economics of agriculture" during the 1980s. It noted three features of agricultural demand and supply that bear on prospects for agribusiness participants. These included:

- \* Demand for farm output is becoming more responsive to price.
- \* Supply of farm output in the aggregate is becoming more responsive to the prices farmers receive for their products and pay for their inputs.
- \* Productivity advances have enhanced the capability of U.S. agriculture to compete in world markets.

The CAST study also identified the following as among the most dynamic problems that agriculture will face during the coming decade:

- \* Greater instability of farm income.
- \* Greater instability in the economic environment surrounding agriculture.
- \* Cash flow problems for commercial farmers.

Had the CAST study explored the "emerging economics of agribusiness" it would likely have reached the same conclusions regarding the expected outlook for agribusiness as it did for the production sector. That is to say, agribusiness would be challenged by the same changing conditions, namely, increasing demand and supply elasticities and productivity advances that help to maintain comparative advantage for the United States.

Also, the same problems would have been identified. Agribusiness too is subject to greater income instability. The business environment is less certain than previously. And agribusiness has cash flow problems. Whether each of these is of the same magnitude in agribusiness as in farm production is a question to be saved for another conference.

The key point here is that no "emerging economics of agribusiness" study has been commissioned. Therefore we can only hypothesize that the results would be similar to the CAST conclusions about agriculture. Our research suggests that the correlation is close, at least currently and for the near future.

### Export Projections

We at Far-Mar-Co have made estimates of what may lie ahead in world utilization and trade in major crops such as wheat and coarse (feed) grains. Our data are presented in the table below. It will be noted that our 4-year projections (average for years 1983-84 to 1987-88) are made on three different assumptions as to world economic growth. Our use of average data for several years avoids the problem of year-to-year fluctuations attributed to weather. But world economic trends are more lasting, and the level of confidence presupposed as to the world economy has a bearing on prospects for commodities.

For the world as a whole we foresee faster growth rates, in both utilization and trade, for wheat than for coarse grains.

Our estimates for the United States give a somewhat different picture. The state of the world economy would have much to do with likely trends. We think good world economic growth would stimulate U.S. exports of both wheat and coarse grains, so much so in fact as to reduce domestic utilization. Coarse grain exports particularly would surge if the world were to enter a period of strong growth.

### Projected World and U.S. Utilization and Trade in Wheat and Coarse Grains

Commodity and item	Utilization						Export Trade					
	World			United States			World			United States		
	quantity		ann.	quantity		ann.	quantity		ann.	quantity		ann.
	mmt	bu.	incr.	mmt	bu.	incr.	mmt	bu.	incr.	mmt	bu.	incr.
Wheat												
1980/81- 1982/83 av.	447.7	16.4		22.6	0.8		98.0	3.6		43.9	1.6	
Projection: 1983/84- 1987/88 av. at economic growth rate --												
Poor	476.5	17.5	1.6	23.4	0.9	0.9	108.7	4.0	2.6	48.0	1.8	2.6
Average	483.5	17.8	1.9	23.1	0.8	0.5	113.4	4.2	3.7	49.4	1.8	3.0
Good	489.2	18.0	2.2	22.9	0.8	0.3	118.4	4.4	4.8	51.5	1.9	4.1
Coarse grains												
1980/81- 1982/83 av.	738.9	29.6		152.2	6.1		99.7	4.0		62.9	2.5	
Projection 1983/84- 1987/88 av. at economic growth rate --												
Poor	768.1	30.7	1.0	158.7	6.4	1.0	108.9	4.4	2.2	66.7	2.7	1.5
Average	774.9	31.0	1.2	158.2	6.3	1.0	113.8	4.6	3.4	72.8	2.9	3.7
Good	779.5	31.2	1.3	157.7	6.3	0.9	117.1	4.7	4.1	76.0	3.0	4.8

## Economic Factors for Success in Trading

The two factors that have most to do with the success of an international trading company are its ability to attain scale economies in --

- \* international market intelligence.
- \* risk spreading

Whether or not these scale economies can be achieved depends to large degree on whether an exporting firm is single-origin or multiple-origin. A single-origin exporter is an exporting entity that obtains its export commodity from a single country. There are varying degrees or levels of single-origin exporters such as single or multiple port, regional or national source of origination, and single or multiple commodity.

Multiple-origin exporters get their commodities from more than one country.

International market information management involves the following:

- \* Information acquisition
- \* Information processing
- \* Validation
- \* Analysis
- \* Dispersion or utilization of the knowledge developed

In the processing and analysis of information, single-origin and multiple-origin exporters are alike constrained only by volume. But in acquisition and validation, and in capacity to act on information developed, the multiple-origin firm has an advantage. Not only can it get more and better information but it has a better opportunity to use the knowledge that is generated.

Considerations in spreading the risk in international trading divide into:

- \* credit
- \* currency
- \* price
- \* logistics
- \* execution

The ability to achieve scale economies in each of these is complex and far from uniform among firms. Almost always, though, the multiple-origin firm is in a position to achieve scale economies in risk-bearing faster and better than a single-origin exporter.

### Can Agricultural and Trade Policies Help?

To a farmer marketing cooperative, an important question is whether national agricultural and trade policies can assist the single-origin exporter -- in this case, a farmer cooperative -- in improving its scale-economy dilemma.

As a general principle, both multiple- and single-origin exporters would benefit from a more market-oriented agricultural policy.

With regard to trade and export market development, it is possible to classify various U.S. government policies or actions as "pro" or "con" the efforts of a single-origin exporter to attain scale economies. Five specific policies will be reviewed.

## Export controls

Exercise of export controls and their detrimental impact on the reputation of an exporting nation as a "reliable supplier" can impinge even more heavily, in both the short and long run, on the single-origin exporter than the multiple-origin one. Among other reasons, in a multiple-origin company the firm's own capital and human resources can prove mobile in the event of damage to national export prospects. They can flow to other exporting nations. A single-origin firm does not have that option.

## Bilateral Agreements

A bilateral agreement that involves the country of its origination is more valuable to a single-origin exporter than a multiple-origin one.

Not only do bilateral agreements assure a minimum level of trade flows. They also contribute to a sense of stability that encourages capital investment, including long run investment in market development.

When a single-origin exporter can take advantage of a bilateral agreement it is spared the need for an arbitrage specialist and function, a mark of the multiple-origin exporting firm.

## Export Credits

In the setting of the present world environment and U.S. agricultural policy, direct and guaranteed credit programs are particularly important to single-origin exporters.

If domestic agricultural programs act as a hindrance to exports, and if a substantial number of importers have liquidity or solvency problems that give an advantage to an exporter who can offer credit, the conclusion follows that the single-origin exporter will particularly be helped by a well designed, internationally competitive, government credit program.

Market development credits such as P.L. 480 also assist the single-origin exporter. They not only add to total export demand, but enable the less-internationally-experienced, risk-averse exporter to place its name in front of importers.

## International Market Information

I mentioned above the major place of international intelligence as an influence on the success of a firm engaged in international trading. I noted also that in some respects the multiple-origin firm has an advantage in getting and acting on information.

It follows that a public input to generating and disseminating international market information has a special meaning to the single-origin firm. Information services now carried on are helpful. But in any listing of U.S. governmental policies, the intelligence vector must be included; and it is definitely "pro" to the single-origin firm.

## National Agricultural Trade Policy

Development of a well planned, consistent, long term national agricultural trade policy would be even more beneficial to the single- ~~than~~ the multiple-origin exporter. Well chosen national policy can facilitate immeasurably the capital investment and market development planning of an export firm.

## CONCLUSIONS

Farmer cooperatives can become successful in international trade if--

- \* They recognize and understand the factors that lead to achieving scale economies in risk spreading and international market information.
- \* They develop corporate strategies to attain the scale economies

Cooperatives most likely to succeed internationally are those that are--

- \* multiple commodity--multiple product
- \* currently well financed
- \* well positioned from an asset base
- \* prepared to invest in a good international staff
- \* most comfortable with risk management

Agricultural policies have an impact on whether or not cooperatives can become successful exporters and trade policies will have a special impact on the future success of single-origin cooperative exporters.

### MINIMIZING THE MANAGEMENT OF TRADE

John K. Hosemann<sup>\*</sup>  
Senior Economist  
American Farm Bureau Federation

My assigned topic is timely. The proliferation of agricultural trade agreements and calls for more trade protection are a source of concern to economists and policymakers who know that freer trade improves living standards and welfare generally. Why then the topic? Why is defense of an old economic truth necessary? Are we asking the right questions? I have a suspicion that we are not. "Where from here?" dominates most farm program discussions today. This question implies that we know where we are. Do we? It seems fundamental to find agreement among economists first as to where we are. The following is my view.

The U.S. economy, including the farm economy, is in the midst of profound adjustments. The alternatives of actual deflation or hyperinflation are not politically palatable. The most likely path is one where inflation will be beaten back over and over through monetary policy regardless of the economic adjustment inflicted on the farm sector and other sectors dependent on credit. How long this policy approach can be effective is open to debate.

Federal fiscal restraint has not yet become a popular national goal but businesses and households are adjusting from the world of speculative economic activity to real economic activity. Likewise, the shift from speculative demand to real demand -- at home and abroad -- for farm and food products is imposing substantial adjustments on U.S. agriculture. Similar adjustments were made following the inflations of World Wars I and II.

As cruel as it may seem, there are some advantages to "high" interest rates. One is to discourage speculative economic behavior. For those concerned about farm size and structure, higher interest rates are an important deterrent to further farm consolidations through equity borrowing based on ever-inflating land values.

---

<sup>\*</sup>These views are those of the author, not the American Farm Bureau Federation.

Adjustments are underway in housing where homeowners, chasing ever higher inflated home prices and tax advantages, became accustomed to moving to bigger homes every few years regardless of the need for "real" shelter. Around Chicago, I am told, land speculators are trying to peddle land back to the farmers they bought it from. Leapfrogging is over for a while. To bring the point still closer to home, one farmer told me to be careful how fast we brought interest rates down because the only money he made last year was on his CDs! We can't have it both ways.

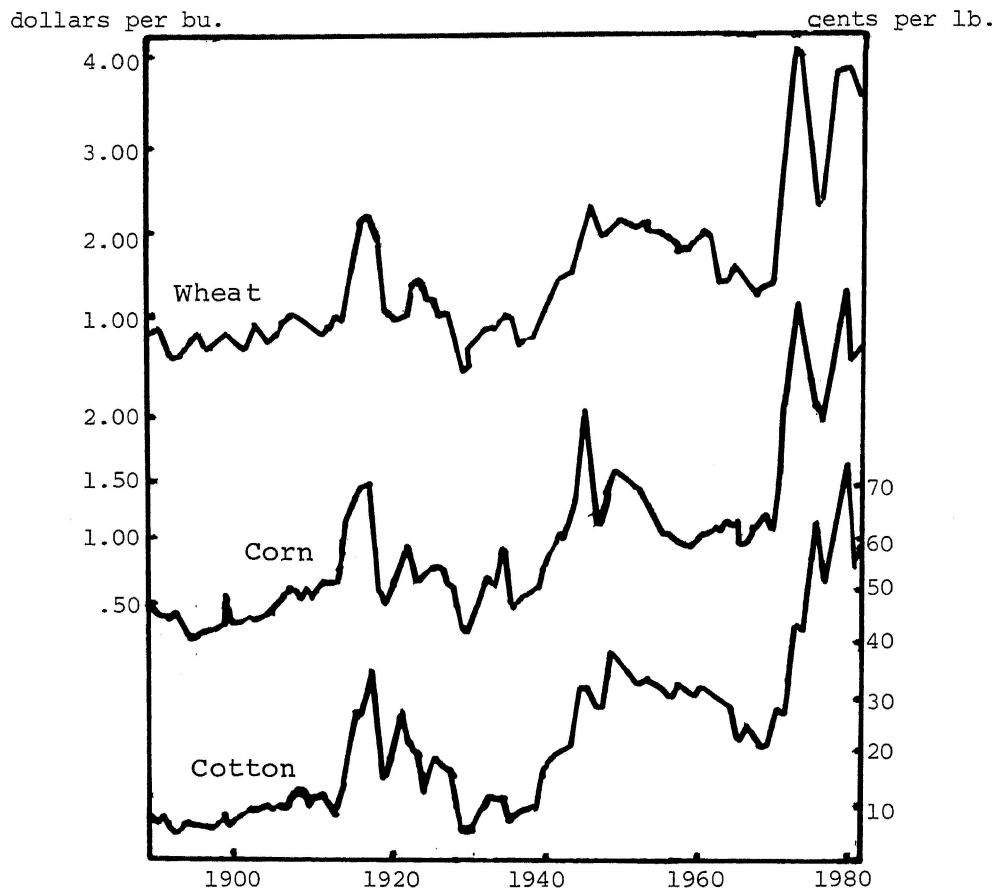
Further interference with farm and nonfarm trade through inappropriate policies will send the wrong adjustment signal and prolong the adjustment process. Resources will be further misallocated, incomes will decline, and living standards will continue to erode.

We cannot have relief from inflation and adopt policies for agriculture and other special interest groups that exempt them from the pain of adjustment to long-term economic recovery. Put another way, if farm program expenditures were the only federal entitlement program, taxes would have to be raised to pay for them. Higher taxes mean reduced savings and investment and slower economic growth. As Harold Breimyer said at Purdue back in early August, "We cannot have relief and recovery at the same time."

Past inflationary fiscal and monetary policies literally destroyed the saving and investment functions in favor of current consumption. Long-term savings and finance for real production took a back seat to "live for today... tomorrow will never come..." As a result, U.S. productivity declined. We were literally eating our seed corn. Reckless fiscal and monetary policies brought on the problems. Trade problems were a natural result. There is no easy way out but policymakers will be tempted to pursue the painless remedies.

Figure 1 illustrates the impact of past inflationary periods (1890-1980) on prices of wheat, corn, and cotton, commodities that have been widely traded throughout the world since 1890. Their price movements are associated with the overall price level.

Figure 1. Season Average U.S. Price of Wheat, Corn, and Cotton



After each inflationary period, agricultural commodity prices collapsed. Those prices are extremely supply-and-demand-sensitive and each of the inflationary periods was associated with food shortage, real or imagined, and an almost unlimited supply of money and credit.

As World War II began to wind down, some economists began looking ahead to the postwar period. One economist to do so was Professor Theodore W. Schultz, who wrote a book released in 1945 called Agriculture In An Unstable Economy. In this work, Professor Schultz studied what needed to be done after the war to avoid a repetition of the farm programs of the 1930s. While many of his findings related to wheat, the major export crop, they apply in many ways to most major crops today.

Schultz wrote, in part:

The nub of the wheat problem does not lie in the volume produced, it lies in the price. The advances made in wheat-growing technology have cut costs. The answer to the post war wheat situation will be found chiefly in the decisions on these questions:

1. Are we willing A) to enlarge the market for wheat by using it both for feed and food, and not for food so exclusively as we were prone to do prior to the war, and B) to accomplish this by pricing wheat so that it may flow into both feed and food channels?
2. Are we prepared to re-enter foreign markets actively on the supposition that we have a comparative advantage in this product in world commerce because of the advance that has been made in our wheat-producing technology and, if we are, will international trade arrangements permit us to do so?
3. Or will we try once more to solve the wheat problem by programs designed to curtail acreage and by price measures wedded to a 1910-1914 parity formula?

Schultz saw that the supply/demand situation had to be solved from the price side. Cutting production in this country to force up world prices would do little good. World consumers would cut back their use in response to the higher prices, or other countries would take advantage of the higher prices by increasing production. Schultz argued that U.S. policymakers must deal with the market realities of the day and forget any price expectations that were not consistent with market price realities in the face of lower inflation and reduced demand. Government management of trade could not be a replacement for sound economic policies.

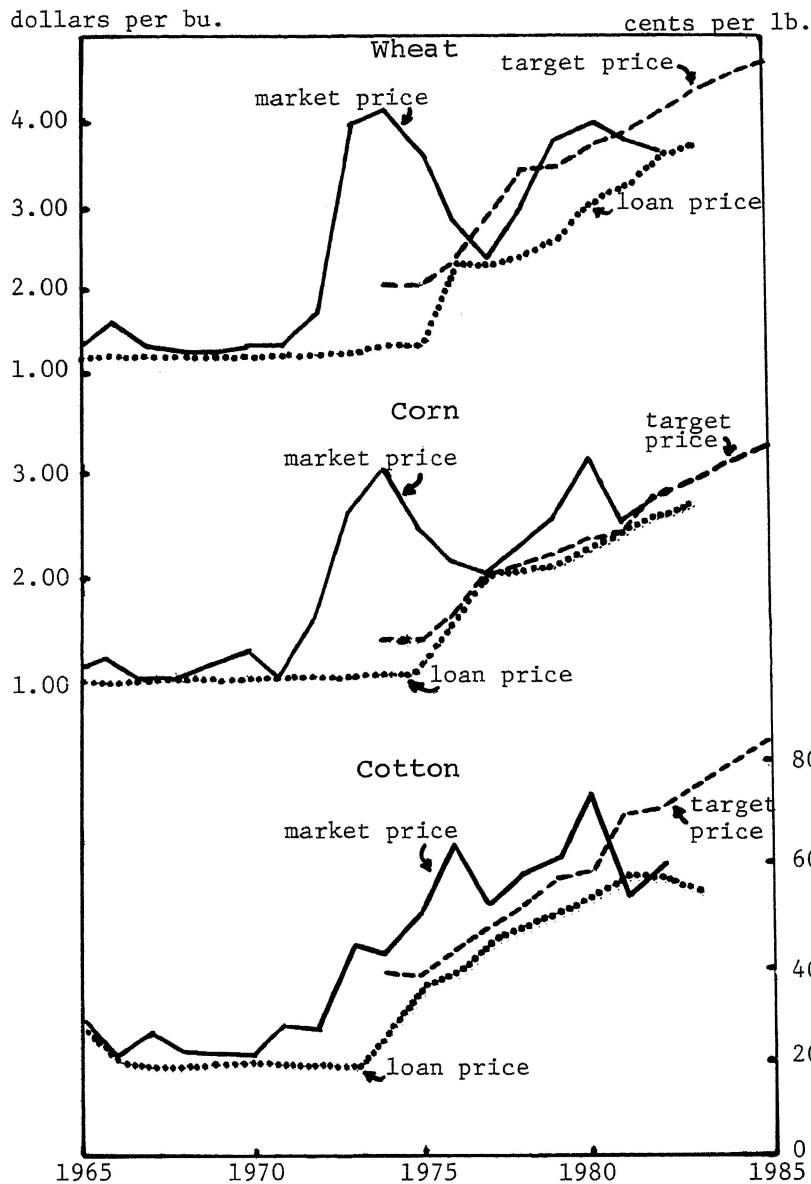
To be successful after the war, U.S. agriculture had to enter the world market with the belief that the new wheat-growing technology had given it a comparative advantage. Schultz saw that the parity formula was as inappropriate for agricultural policy in 1945 as talk of loan rates at "cost of production" is in 1983.

The purpose of this digression is to make the point that if the United States wants to pursue economic policies to control inflation, i.e., to walk the tightrope between actual deflation and hyperinflation, and at the same time pursue policies that encourage savings and investment, higher productivity and greater economic growth, then policies that minimize government management of trade are essential. As such, federal farm programs that minimize the interference with trade are an economic imperative. Current farm programs are out of harmony with these overall economic policy objectives. Rather than face economic realities, management of trade has become a convenient hiding place for a growing number of politicians.

In each of the major periods of declining inflation, policies were pursued to prevent the adjustment to market price reality. The same has been true for major farm commodities since the 1976 presidential campaign when the wheat loan rate was raised without economic justification.

Figure 2 illustrates the target, loan, and market price relationships for wheat, corn, and cotton. These policy responses were based on the idea that inflation would continue and world demand would keep expanding so as to take "all the United States could produce." The widening gaps between non-U.S. production and consumption reinforced the perpetual shortage outlook and the justification to raise support prices regardless of the impact on supply and demand.

Figure 2. Target, Loan, and Market Price, Wheat, Corn, Cotton



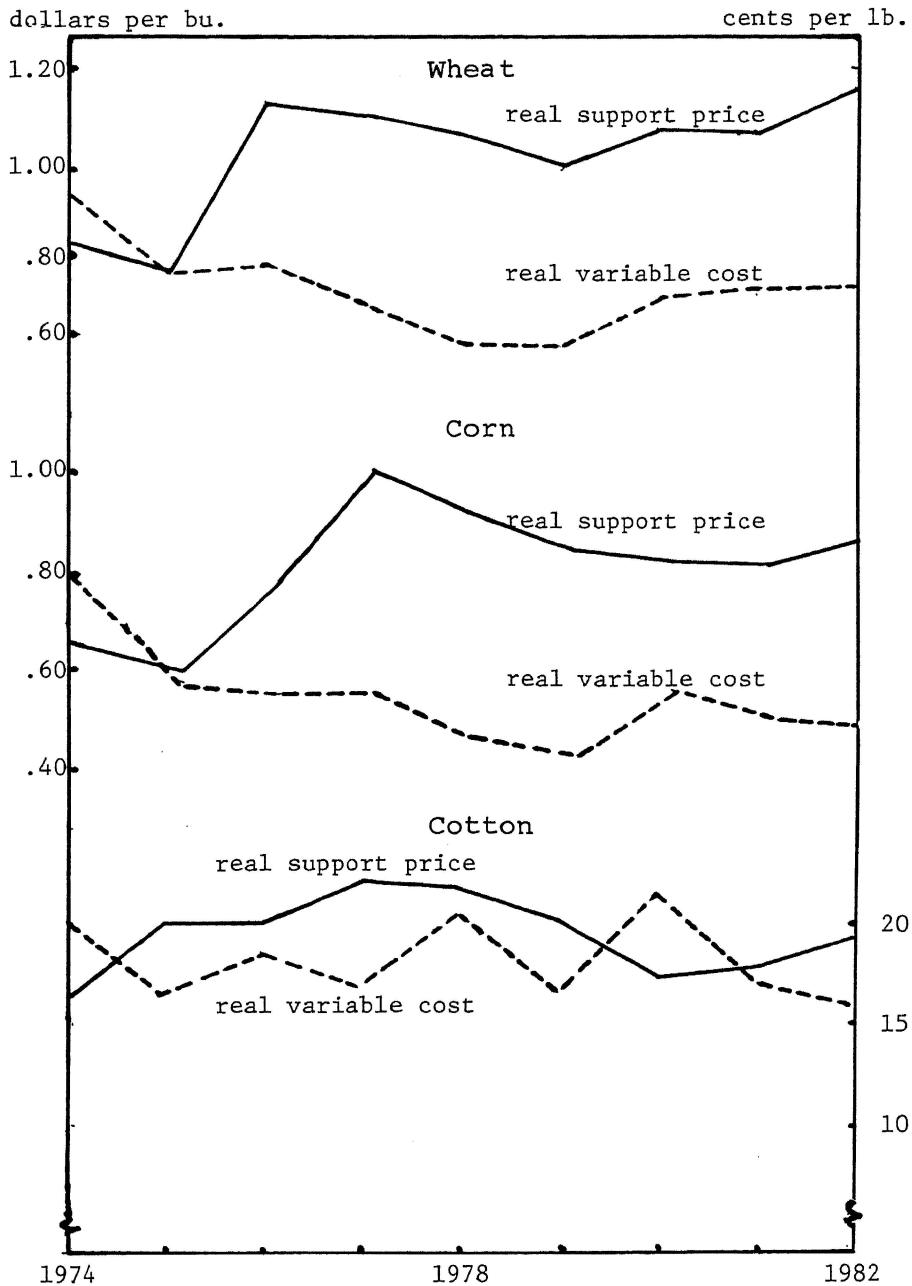
The higher target prices and loan rates were the political responses to inflated production costs based on the popular appeal that "...farmers are entitled to at least cover production costs..." This thrust to farm programs totally disregards the fact that market prices bear little relation to production costs in the short run. Cost-of-production based prices go the wrong way if minimizing the management of trade is the goal. Under free competition, the world market price would be established at a level that would just cover the cost of production of the highest cost producer whose output was still needed to meet the demands.

Thus, years of short run policies that guaranteed all variable costs and some portion of fixed costs to producers were certain to produce stock problems as production increased, utilization decreased, and substitute products developed. Figure 3 illustrates the relationship between real variable costs and real support prices for wheat, corn, and cotton. Variable production costs used are those determined by USDA and reported each year to the House and Senate Agriculture Committees. The variable production costs and loan rates have been deflated by prices paid by farmers for production items. The trends are significant.

From an economic standpoint, if the policy objective was to help producers through short-term difficulties by covering "out of pocket" costs, the reality was something very different.



Figure 3. Real Support Price and Real Variable Cost, Wheat, Corn, Cotton



The real wheat loan rate was increased sharply in 1976 and has remained well above real variable costs. The real corn loan followed wheat. The gap between the real loan rates and real variable costs are widening. Cotton more nearly reflects the relationship that is needed from an economic standpoint. The cotton loan rate is, by law, tied to estimated world cotton market prices and cotton does not have a farmer-held reserve to distort market signals.

While the market was signaling adjustment, little regard was given by policymakers to the signal that would be sent to efficient producers to produce more and for consumers to use less at home and abroad. The adjustment problem was further aggravated by the administration of the federal farmer-held reserve. In an effort to minimize federal outlays for income transfers, the reserve was operated to buoy market prices close to target prices. As a result, major shocks were

sent through the livestock and export markets. After fouling up the supply side and the demand side by inappropriate farm policy, the next likely place for politicians to "help" is to foul up trade policy by more government intervention.

Up to this point I have tried to give my perception of "where we are" from the standpoint of adjustments in the overall economy and what the response has been in the farm sector. In my view, it is important to have done so. Trade policy cannot be viewed in a vacuum. Trade policy, if it does not recognize the major external forces impacting on agriculture, and the instability caused by these forces, will fail in its long-term objectives. To borrow again from Professor Schultz's 1945 work:

...the instability of farm income appears to have its origin primarily in the fluctuations of modern business.

Agriculture and industry are of different temperaments; one is slow and sluggish in its movements and the other sensitive and erratic. The quick rises and falls in industrial output are well known, but a factor in our economy that is little recognized is that the production effort in farming and the resulting output of food, feed, and fiber seldom change substantially from one year to another (when we take agricultural production as a whole). Even during the unprecedented droughts of 1934 and 1936 agricultural production did not fall off 10 percent. Nor do bumper crops bring large bulges in total output. In considering the future of American agriculture, awareness of this behavior is essential.

Let me now turn to some observations about the importance of the export market to farmers. The numbers and general relationships are well known. I can add little with regard to the economic significance of U.S. farm exports. Farm prices, and thus farm economic well-being, follow export demand. Exports are basic to the economic future of U.S. agriculture.

Over the last 10 years, total agricultural production in the United States increased about 30 percent. Domestic demand for agricultural products was, at best, growing very slowly or, at worst, basically flat. Virtually all of the additional production had to move to international markets, or U.S. farm resources would have had to be reduced substantially--as was done with PIK.

Over the next 10 years, domestic demand for agricultural products will, at best, grow very slowly or, at worst, remain basically flat. Any increase in yield per acre or per animal unit, or any increase in total acres or total animals produced, must be accompanied by increased exports or consequences will follow of declining agricultural prices or mounting government stocks and supply restrictions will be necessary.

In any case, one must be careful about generalizations regarding U.S. farm exports. In certain locations and circumstances, 100 percent of the farm production of a commodity may be exported. In fact, in 1981, 102 percent of the 1981 sunflower crop of 1.727 mmt was exported.

U.S. agriculture has been changed fundamentally by technology and fiscal and monetary policy. For good or ill, U.S. agriculture, in the main, has shifted from a predominantly domestic supplier to a sector that depends heavily on the world market. At the same time, the world market has changed. The United States remains the principal, but not the only, player.

Price competitiveness must now enter the first phase, not the last, of national farm program discussions. Price will become more important in signaling production and consumption adjustments worldwide. In accordance with Professor Schultz's 1945 advice on wheat, a lower loan rate would be in order. In terms of world trade, lower U.S. loan rates would be the most constructive action the United States could take against the EC and other wheat-producing nations that are tempted to subsidize exports. Such an action would leave the EC little recourse.

If I can add anything further to the discussion in this regard, it would be that policymakers should awaken from the dream that our major challenge will be to keep pace with booming world food demand and that we can export food to our friends and embargo it to our enemies.

United States exports are facing increased competition. If we have learned anything about farm economic policy, it is that farmers (worldwide) respond to incentives. Consider this headline and excerpt from THE ECONOMIST, October 29, 1983:

Sow Petrodollars, Reap Wheat... Saudi Arabia is poised to join the ranks of wheat exporters. Its farmers hope to harvest 850,000 tonnes in 1984 - 30 times the 1975 wheat crop and enough to feed the country with some to spare... The Saudi wheatfields are man-made oases dotted along a strip of sandy soil running down the middle of the peninsula. Wheat grows because 600 metres underground there is enough water to irrigate all the fields the country needs to feed itself for a hundred years... The fields look like 150-acre sewage treatment plants... The crop costs about \$600 a tonne to produce. The state marketing board ... pays farmers \$1,000 for each tonne of wheat they grow, compared with a world market price of around \$150 a tonne. Why are the Saudis paying seven times more to grow wheat than it would cost to import it? They say they have good reasons: to guarantee stability of supplies, both for themselves and their friends in the Gulf, and to reverse the flight of smallholders to the cities...

Foreign food production will continue on an upward trend in the future. Technology is pushing farmers, with more on the way. Commercialization of hybrid wheat is a good example. Dairy production fueled by embryo transplants, computer feeding, and biotechnical developments ensure rapid changes on the output side, while marketing developments mean more changes in dairy product utilization. In order to remain competitive internationally, the United States must continue to improve farm productivity in order to lower per unit production costs. There is still room for adjustment in land rents, equipment utilization, and tillage practices, for example.

While the United States cannot do much about world instability, world weather, EC and Japan, Soviet behavior and the like, we can do something about pricing, quality, and reliability of U.S. farm products. If our economic policy is sound, trade policy will be self-guided by competitive advantage.

Put it another way. The cumulative impact of federal farm programs over the years has created a substantial expectation for ever-higher incomes needed to sustain inflated farm asset values that will be difficult to sustain longer even if export earnings are maximized. Middle-class taxpayers are apparently at the limit at which politicians are willing to tax directly and there are not enough rich "left to soak" to honor the economic promises made to farmers and other groups.

Given that U.S. farmers must export, and do so at a high level, it then follows that the U.S. economy as a whole must import farm and nonfarm products at high levels. Policies that cause friction for imports and exports will lead to less economic efficiency, higher costs, lower incomes, and lower living standards generally. As Tweeten and Scarce point out, "To visualize the benefits from trade, consider the low standard of living each of us would have if we traded with no one. If each person supplied his or her own food, clothing, shelter, transportation, entertainment, and so forth, lifestyles would be primitive indeed!"

Before the temptation to cartelize U.S. exports is considered seriously, one must remember that the fundamental purpose of cartels is to ensure members higher profits than would be possible without agreement. The means used, by one device or another, is to limit competition. One only needs to reflect on what has happened to OPEC -- the cartel of a nonrenewable resource -- to see what is in the cards for those who propose cartels for renewable resources. When subjected to the rigors of market competition, these arrangements will consistently fail. Hindsight analysis suggests that the success of OPEC was linked closely with U.S. policies to cheapen the dollar and redistribute the wealth. Failed domestic economic policies will always result in trade difficulties and call for more trade management and protection.

Minimizing the management of trade will require that we answer a few critical questions:

1. Where is the source of instability in agriculture? Is it within agriculture or does it come from outside the farm sector? Can economists reach agreement on this basic point?

2. Are farm policies in harmony or at odds with general economic policy objectives, including the objectives of freer world trade, increased economic growth, and higher living standards?
3. Have farm program policies precipitated instability in the U.S. and world livestock economies?
4. What has been the net economic impact over time of various federal farm programs on U.S. farm exports? Are domestic price and income supports at cross purposes with federal policies to expand farm export sales? Where has the government failed? What might the U.S. share of the world food and feed market be had the government not failed?
5. What has been the impact on demand of various policy initiatives? Minimizing the management of trade means a closer examination of the demand effects of various policy initiatives.
6. Will the impact of any proposed policy become capitalized into farm asset values and cost of production, thus contributing to a further erosion of the competitive position of efficient U.S. farmers in the world food and feed markets and leading to calls for more government intervention in trade?
7. How can farm price and income supports be administered under budget constraints to minimize trade interference?

All countries, including the United States, impose policies that distort trade. Domestic policy objectives tend to dominate, as the trade component in most economies is significantly smaller than the domestic component. Domestic agricultural policies that support farm prices above world market clearing prices require restrictions on imports and export subsidies.

No doubt the United States is caught in the cycle where more and more of the world's grain and livestock is consumed in countries that have programs to "stabilize" internal prices and consumption; adjustment to changing supply/demand conditions is shifted to the open market economies; exaggerated price movements produce more domestic policies to stabilize... and so on. Arguing about which countries are the worst is not productive.

Two basic choices confront the United States. They are to move toward more trade protection, or to continue to advocate liberalization of trade in farm and nonfarm products and a higher standard of living for those who wish to accept the benefits of international trade. From an economic standpoint, there is really only one choice if the goal is more economic freedom and higher living standards worldwide.

References continued from page 61.

Schuh, G. Edward. "Agriculture and Foreign Policy: The Economic Framework." Paper presented at the Conference on Agricultural and Foreign Policy, the Spring Hill Center, Wayzata, Minnesota, April 19-May 1, 1982.

\_\_\_\_\_, "The Exchange Rate and U.S. Agriculture." Amer. Jour. of Agricultural Economics, Feb. 1974, pp. 1-12.

\_\_\_\_\_, "The Foreign Trade Linkages," in Modeling Agriculture for Policy Analysis in the 1980s. Proceedings of a symposium sponsored by the Federal Reserve Bank of Kansas City, Sept. 24-25, 1981.

Tweeten, Luther, "Excess Farm Supply: Permanent or Transitory?" in Proceedings of the National Agricultural Policy Symposium, March 28, 1983, Kansas City, Mo., pp. 9-13.

AGRICULTURAL TRADE AND U.S. POLICY RESPONSE

Andrew Schmitz  
 Professor of Agricultural and Resource Economics  
 University of California, Berkeley

Only recently has trade been of prime importance to U.S. agriculture; hence the debate over how to deal with the export sector from a policy perspective. It is difficult, if not impossible, to separate domestic policy instruments (e.g., price supports) from trade policy tools (e.g., export subsidies) since, in essence, both impact on the trade sector. In addition, the question as to the impact of various policies on the "gains from trade" has to be addressed explicitly. For example, policies that maximize total export revenue do not necessarily increase the gains to the United States from its agricultural trade.

Growth in U.S. Agricultural Trade

Table 1 shows the growth in U.S. agricultural exports and those of Canada since the early 1950s. Over the 30-year period (1950-80), U.S. exports grew from roughly 12 percent of total world agricultural exports to 18 percent. On the other hand, Canada's share declined from 3.7 percent to below 3 percent. In terms of imports, the percentage share of the United States declined from 16 percent of the world total to 8 percent, while Canada's percentage has remained virtually unchanged.

Table 1. World, United States, and Canadian Trade in Agricultural Products, 1951-80

Period	Exports					Imports				
	Export value			Percent of world total		Import value		Percent of world total		
	World	United States	Canada	U.S.	Canada	United States	Canada	U.S.	Canada	
	-----bil.	\$Canadian-----				-bil.	\$Canadian--			
1951-55 av.	26.7	3.3	1.0	12.4	3.7	4.4	0.5	16.4	1.9	
1956-60 av.	30.6	4.3	1.0	14.1	3.3	4.5	0.7	14.7	2.3	
1961-65 av.	41.1	6.2	1.4	15.1	3.4	5.1	1.0	12.4	2.4	
1966-70 av.	51.0	7.2	1.5	14.1	2.9	7.2	1.1	14.1	2.2	
1971-75 av.	96.1	16.1	3.0	16.8	3.1	8.7	2.1	9.1	2.2	
1976	129.7	23.4	4.0	18.0	3.1	11.6	3.1	8.9	2.4	
1977	161.4	26.4	4.3	16.4	2.7	15.1	3.6	9.4	2.2	
1978	194.7	34.9	4.9	17.9	2.5	18.0	4.0	9.2	2.1	
1979	233.5	42.4	6.1	18.2	2.6	20.9	4.7	9.0	2.0	
1980	266.2	49.7	7.8	18.7	2.9	21.6	5.1	8.1	1.9	

Taken from F.A.O. Trade Yearbook; U.N. Yearbook of International Trade Statistics; U.N. Quantitative Dimensions of Agricultural Trade; Agriculture Canada, Canada's Trade in Agricultural Products.

Trade in agricultural products often focuses on wheat, coarse grains, and oil crops. U.S. wheat exports in 1981-82 were 50 percent above those in 1972-73, while Canada experienced a growth

of less than 25 percent (Table 2). Total world exports rose by half. In coarse grains, for the same period, U.S. exports rose roughly 75 percent. (They doubled if the crop year 1980-81 were used rather than 1981-82.) For Canada the percentage increase was similar. World trade increased much faster for feed grains than for wheat--roughly 70 percent. For soybeans and meal, U.S. exports more than doubled. However Brazil's exports more than tripled. Exports, world wide, rose by more than 150 percent. Total world trade in wheat, coarse grains and soybeans rose from 145.5 tons to 253.0 million tons (a 75 percent rise), as U.S. exports of these crops increased from 83.1 million tons to 143.7 million tons (also roughly 75 percent). In summary the U.S. exports of grains have expanded as fast as world trade. However, the largest percentage increase in U.S. exports has been in soybeans and meal; coarse grains and wheat follow in that order.

Table 2. Export Volume, Selected Products and Countries, 1972-83

	'72-73	'73-74	'74-75	'75-76	'76-77	'77-78	'78-79	'79-80	'80-81	'81-82	'82-83 <sup>1</sup>
	-----mil.					-----metric tons-----					
<b>Wheat</b>											
United States	31.8	31.1	28.0	31.5	26.1	31.5	32.3	37.2	41.9	49.1	45.0
Canada	15.6	11.5	11.2	12.1	12.9	15.9	13.5	15.0	17.0	17.8	19.5
Australia	5.6	5.4	8.2	7.9	8.5	11.1	6.7	14.9	10.6	11.0	7.5
Argentina	3.4	1.1	2.2	3.2	5.6	2.6	3.3	4.8	3.9	4.3	5.5
EC	6.8	5.8	8.2	9.5	5.1	5.0	8.8	10.4	14.7	15.5	16.5
World	67.4	62.6	63.8	66.3	63.3	72.8	72.0	86.0	94.3	101.9	100.0
<b>Coarse Grains</b>											
United States	35.6	44.5	34.3	46.5	50.6	52.1	56.9	71.6	72.4	61.4	61.5
Canada	4.2	2.9	2.8	4.9	4.6	3.7	3.9	4.8	4.6	7.6	7.0
Australia	1.6	1.9	2.9	3.2	3.3	2.0	2.6	4.1	2.2	3.1	1.8
Argentina	4.2	8.4	8.5	5.3	9.5	11.0	11.5	6.6	9.9	13.6	12.0
South Africa	3.3	0.5	3.5	3.4	1.4	2.9	2.9	2.9	3.6	5.0	4.1
World	59.4	70.8	63.7	76.5	82.7	84.0	90.2	100.9	105.5	103.7	98.8
<b>Soybean and Meal (Bean Equivalent)</b>											
United States	15.7	18.4	21.0	16.3	20.9	20.5	27.6	32.8	27.4	33.2	35.0
Brazil	3.0	4.4	7.1	8.9	9.6	11.1	7.4	8.1	12.5	10.7	10.8
Argentina	-	0.1	0.1	0.2	0.3	1.0	3.3	2.8	3.3	3.0	3.9
Paraguay	-	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.5	0.6	0.6
World	18.7	22.9	28.2	25.6	31.1	32.8	38.7	44.1	43.7	47.4	50.2
<b>Total of above products</b>											
United States	83.1	94.0	83.3	94.3	97.6	104.1	116.8	141.6	141.7	143.7	141.5
World	145.5	156.3	155.7	168.4	177.1	189.6	200.9	231.0	243.5	253.0	249.0

<sup>1</sup>Projected.

Data from USDA. Data may not add due to rounding.

The growth in U.S. exports was also accompanied by a vast expansion in acreage (Table 3). In 1972/73, U.S. wheat acreage was 47.6 million but by 1981/82 the acreage had expanded to 80.9 million. On the other hand, Canada's growth was less significant (21.3 million acres to 30.2 million). For both countries the increase in coarse grain acreage was smaller. Accompanying this acreage increase was a large expansion in output. In wheat, between 1968/69 and 1981/82 output increased by 38.5 percent in Canada and 77.2 percent in the United States. For the same period Canada's output of feedgrains increased 71.3 percent, that of the United States 60.3 percent.

Appendix Figures 1 and 2 show the widening gap between U.S. domestic consumption of grains and production. Domestic consumption of U.S. grains grew until 1970/71, then fell sharply in 1973/74 but increased again in 1975/76 - 1982/83. However, domestic consumption in the early 1980s was no greater than in the peak period of the 1970s (1971/72). However grain production increased from roughly 180 million metric tons in 1970/71 to 330 million metric tons in 1982/83. In essence, domestic consumption did not increase significantly during the 1970s and early 1980s, while production almost doubled. This increase in production found its way to the export market

Table 3. Acreage of Wheat and Coarse Grains, Canada and United States, 1968-81

Year	Wheat			Coarse grains				Wheat and coarse grains	
	Canada		United States	Canada		United States		Canada	United States
	Western Provinces	Total		Barley	All coarse grains	Corn	All coarse grains		
-----million acres-----									
1968-69	29.0	29.4	54.8	8.9	17.9	56.0	98.3	47.3	153.1
1969-70	24.5	25.0	47.1	9.4	18.5	54.6	96.8	43.5	143.9
1970-71	12.1	12.6	43.6	9.9	20.8	57.4	98.1	33.4	141.7
1971-72	19.0	19.5	47.6	14.0	25.2	64.1	107.0	44.7	154.6
1972-73	20.9	21.3	47.3	12.5	22.6	57.5	94.1	43.9	141.4
1973-74	23.2	23.7	54.1	11.9	22.6	62.1	102.5	46.3	156.6
1974-75	21.6	22.0	65.4	11.8	22.1	65.4	100.8	44.1	166.2
1975-76	22.9	23.5	69.5	11.0	21.2	67.6	105.3	44.7	174.8
1976-77	27.2	27.9	70.9	10.8	20.7	71.5	107.0	48.6	177.9
1977-78	24.3	25.0	66.7	11.7	21.0	70.6	109.2	46.0	175.9
1978-79	25.7	26.2	56.6	10.5	19.3	71.9	106.7	45.5	163.3
1979-80	25.3	25.9	62.5	9.2	17.5	72.4	103.3	43.4	165.8
1980-81	26.8	27.4	71.0	11.5	19.8	73.0	102.1	47.2	173.1
1981-82	<u>29.6</u>	<u>30.2</u>	<u>80.9</u>	<u>13.7</u>	<u>24.1</u>	<u>74.6</u>	<u>107.5</u>	<u>54.3</u>	<u>188.4</u>
13-year increase									
total	0.6	0.8	26.1	4.8	6.2	18.6	9.2	7.0	35.3
per year	0.05	0.06	2.0	0.4	0.5	1.4	0.7	0.5	2.7

Taken from USDA, various Foreign Agriculture Circulars on Grains; Statistics Canada, Field Crop Reporting Series; and Canada Grains Council, Canadian Grains Industry Statistical Handbooks.

and into a buildup of domestic stocks. Had there been a rapid expansion in the U.S. livestock sector, this would not have been the case. As the gap between production and domestic consumption widened, the U.S. agricultural economy became more and more an "open economy."

#### United States Market Shares and Grain Stocks

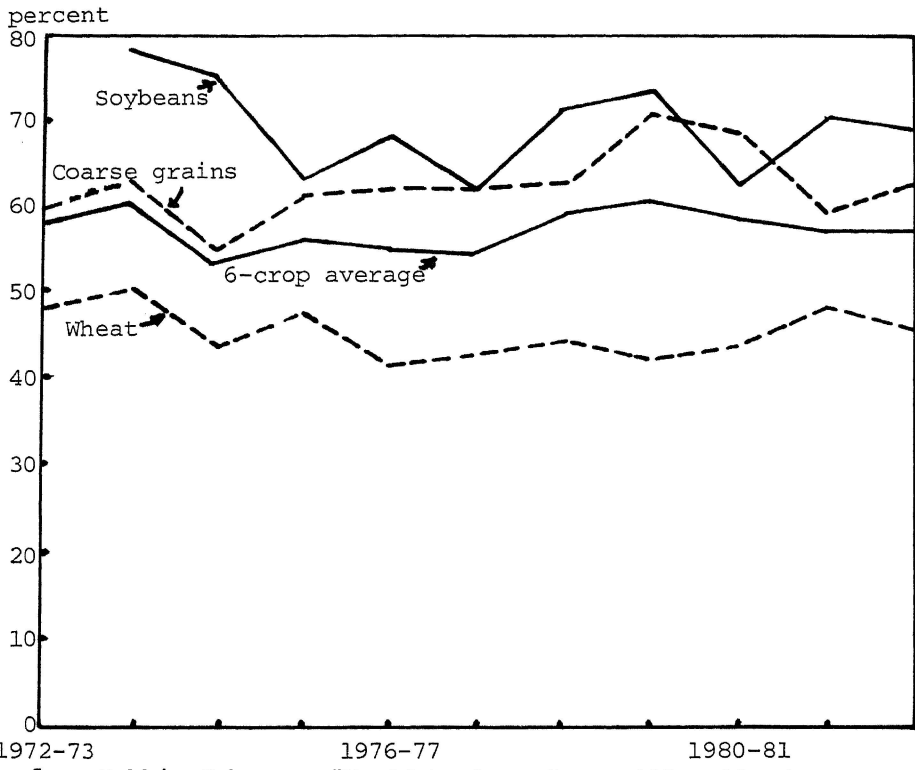
The U.S. market share of world exports of selected crops is shown in Figure 1. As a total for soybeans, coarse grains, and wheat, the United States has well over 50 percent of the world export share. The U.S. market share peaked in the 1979/80 crop year.

For individual crops, market share patterns differ. The market share for soybeans declined dramatically from 1972/73 to 1975/76, rose in 1978/79 and then declined. The 1972/73 share was never regained. The market share in coarse grains peaked in 1979/80 at roughly 70 percent of the world export market. The wheat market share reached highs in 1973/74 and 1981/82. As Figure 1 shows, the U.S. market share of grain exports is declining relative to the growth it experienced at times in the 1970s.

Declines in market shares can be due to many factors including production shortfalls. However, for the United States production held up or increased. For example, U.S. production of wheat rose 16.6 percent from 1980/81 to 1981/82, the highest production increase of any major exporter (e.g., Canada had a 5.4 percent increase in production and Australia a 3.6 percent gain).

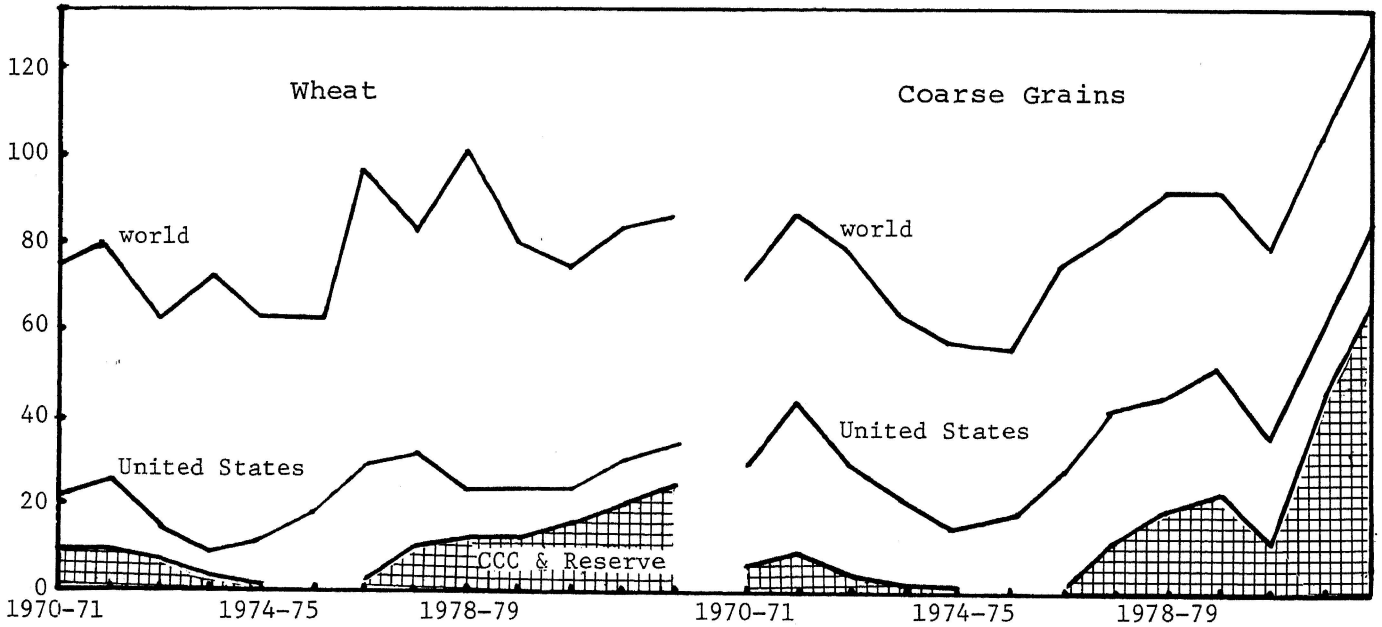
As the market share for the United States declined, stocks built up relative to other trading nations. As Figure 2 shows, the build up of world stocks the last couple of years is attributable mainly to a build up in the United States, particularly for coarse grains.

Figure 1. U. S. Share of World Exports, 6 Crops



from Robbin Johnson, "World Markets," Cargill Bulletin, January 1983, p. 8.

Figure 2. Ending Stocks of Wheat and Coarse Grains, United States and World mil. metric tons





It has been argued that the decline in market share for the United States has been due in part to U.S. grain embargoes. In talking about U.S. trade in the 1970s Robbin Johnson of Cargill, Inc., notes: "World demand for soybean products--meal and oil--continued to expand at a healthy rate throughout the decade. Unfortunately, the ill-conceived 1973 soybean embargo damaged America's reputation as a reliable supplier and provided an opportunity for Brazilian--and later Argentine--soybean production and exports to grow." Also, "the 1980 Soviet grain embargo has an effect on U.S. feed grain exports similar to the 1973 embargo's effect on soybean shipments. The U.S. share of world coarse grain trade fell back to about 60 percent as other exporters--especially Argentina and Canada--seized this opportunity" (p.9).

In terms of the wheat trade, EC (European Community) subsidies also have played a role. As Johnson notes:

Beginning in 1979-80, world wheat trade began an unprecedented expansion. In just three years it grew 30 million tons, or more than 40 percent. U.S. wheat exports in the same period jumped 17 million tons. By capturing nearly 60 percent of this increase in total world wheat imports, the United States built its share of the wheat market to nearly 50 percent.

World wheat imports in total will slip back modestly in the current (1982-83) marketing year. U.S. exports will fall more sharply, dropping the U.S. share of the market back to its pre-1979 level of about 45 percent. One other interesting feature of the wheat marketing pattern has been the rapid growth in EC exports, aided by substantial subsidies. EC wheat exports have tripled since 1977-78, and its share of world wheat trade has risen from 7-8 percent in the early 1970s to 15-16 percent today." (p.8)

#### The Movement from a Closed to An Open Economy

As U.S. production expanded and a larger percentage was exported, forces external to the United States became important. The larger the percentage of production exported the greater is the impact of the international trading community on the domestic economy. Many external factors shape the structural dimensions of U.S. agriculture. Immediately apparent are protectionist and explicit buying policies by importers and movements in exchange rates.

#### Importers' Protectionist and Buying Policies

Major importers such as Japan and the EC protect their producers by means of quotas and tariffs, which are adjusted to maintain stability internally. Thus in periods of abundant world supplies the tariff levels are high relative to a time of tight supplies. Buyers' protectionism forces exporters to make all the adjustment to world conditions. Importers experience price stability and exporters, price instability. Carter and Schmitz have shown that importers achieve economic gains from their tariff policies. They tested the "optimum tariff" hypothesis and found that importers gain since the tariff revenue they collect plus the producer gain from protection is greater than the loss to consumers from higher prices.

Most trading nations other than the United States state-trade in grain. Schmitz et al argue that for this reason and because buyers have multiple sources of supply, countries such as the USSR and Peoples Republic of China can "manufacture" price instability. That is, they can create false price signals for producers by driving the price up, turning on the production tap in the United States and other exporting countries. Then when production is high they curtail purchases.<sup>1</sup> This type of buying behavior essentially creates a misallocation of resources for exporters as their producers respond to false price signals. Only two years ago we were told to pursue all-out production as markets were unlimited. What happened to these markets?

#### Movements in Exchange Rates

Once a nation's agriculture is highly dependent on exports, movements in exchange rates

---

<sup>1</sup>Importers can also quickly shift their buying patterns, creating uncertainty for exporters. In recent years the Peoples Republic and USSR have shifted more to Canada and Australia for supplies than previously. This shift has been discussed by Bain.

Table 4. Parity Price Ratio and Selected Farm Program Data, 1952-1978

Year	Parity ratio	Farm program operations		
		Acres diverted	Direct government payments	Value of CCC stocks
-----millions-----				
1952	100		275	946
1953	92		213	2,415
1954	89		257	3,951
1955	84		229	5,604
1956	83	13.6	554	5,323
1957	82	27.8	1,016	4,791
1958	85	27.1	1,089	4,692
1959	81	22.5	682	6,408
1960	80	28.7	702	6,079
1961	79	53.7	1,493	5,248
1962	80	64.7	1,747	5,271
1963	78	56.1	1,696	5,023
1964	76	55.5	2,181	4,611
1965	77	57.4	2,463	4,110
1966	80	63.3	3,277	2,340
1967	74	40.8	3,079	1,005
1968	73	49.3	3,462	1,064
1969	74	58.0	3,794	1,784
1970	72	57.1	3,717	1,594
1971	70	37.6	3,145	1,118
1972	74	62.0	3,961	830
1973	91	19.6	2,607	394
1974	85	2.7	531	188
1975	76	2.4	809	402
1976	72	2.1	734	634
1977	66	1.0	1,819	1,104
1978	70	18.2	3,030	1,186

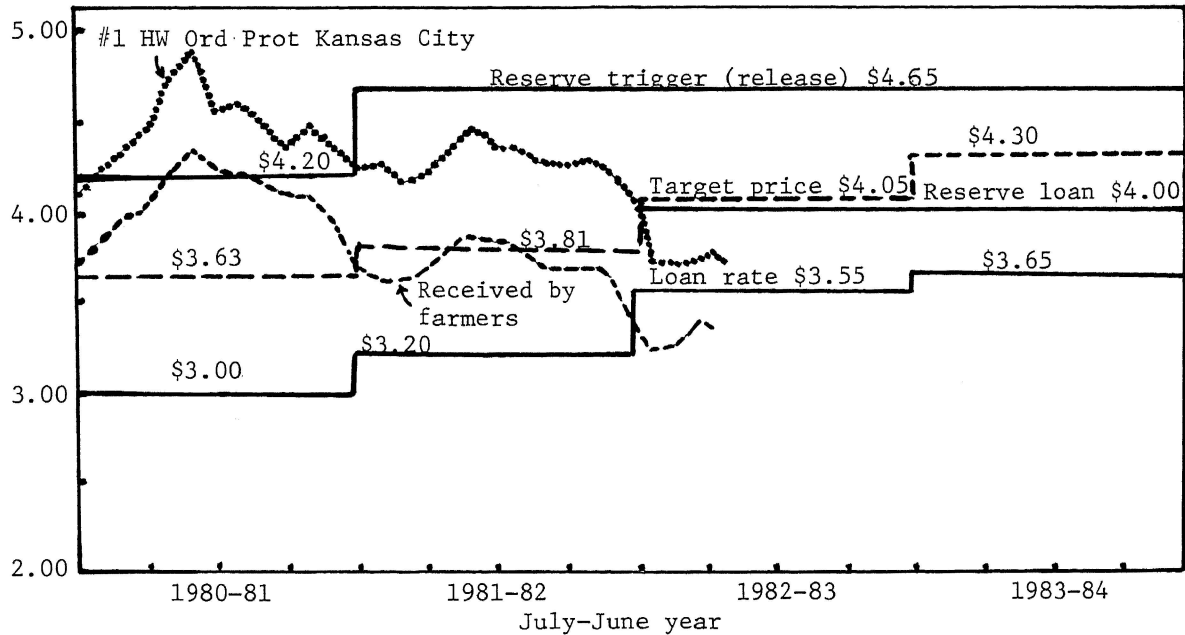
Taken from USDA, Agricultural Statistics (various issues); and Schuh, G.E., "The Exchange Rate and U.S. Agriculture," Amer. Jour. of Agricultural Economics, Feb. 1974.

become important. Schuh has contended that those movements have had a significant impact on U.S. exports. Table 4 presents data on Schuh's argument that the farm problem in the 1950s and 1960s was partly due to an overvalued dollar. From 1952 to 1973 the parity ratio generally declined, indicating a loss of purchasing power by farmers. The value of CCC (Commodity Credit Corporation) stocks increased during the 1960s, as did acreage diversion. Also, government support payments increased rapidly during the 1960s. Schuh contends that price supports, etc., responded to an overvalued dollar. Many persons called the U.S. dollar overvalued in the fall of 1983 and said it had been responsible in part for lower U.S. prices and a build up of stocks.

#### The Cost of Production Question

With the rapid expansion of U.S. agricultural export trade, a question arises as to the cost of export expansion. For example, if it costs the United States more to produce the product than what it can be sold for in the export market, why should the United States be proud of its trade expansion? Prices for wheat are shown in Figure 3. The price received by farmers during the period shown was below \$4.00 per bushel. What do production costs look like? Study by Doering et al calculated the "full cost" of U.S. farm exports. The private cost for corn was roughly \$2.40 per bushel and for wheat, \$3.95 per bushel (Table 5). However, once social costs were added (e.g., research, soil erosion, etc.) the cost of producing corn ranged from \$3.65 to \$4.05 per

Figure 3. Loan, Target, and Market Prices for Wheat, 1980-81 to date dollars per bu.



bushel and for wheat from \$5.17 to \$5.96. However, land was valued at acquisition cost (i.e., cash rental rates) which is far below the actual purchase price. If the actual purchase price were used, production costs would be much higher than the above. In view of these numbers, it is clear is that the "full cost" of farm exports is well above the value of export sales.

One often reads that centrally planned economies such as the Soviet Union have relatively low yields because of lack of incentives on their state owned farms. I do not quarrel with this proposition except to note that perhaps there is more to this debate than the social control issue. For example, if costs of production in the Soviet Union are similar to those in North America, why shouldn't they import part of their needs since they can't produce it as cheaply as what they can import it for? As stated earlier, because of their shrewd buying practices they can often buy grain from abroad at a price far below their costs of production. In addition, to argue, as is often done, that the Soviet Union needs credit to buy grain when it has the financing to explore outer space is like trying to defend a statement that the United States has never been at war.

#### Trade Expansion and Land Values

Accompanying the trade expansion of the 1970s was a substantial rise in the real value of farmland. Shalit and Schmitz state that U.S. farmland was valued in 1979 at over one-half of a trillion dollars, at least 50 percent more than in 1969. No one would argue that all of this rise was due to trade; general inflation also caused land values to increase, as land is viewed as a hedge against inflation. However, trade contributed. Note Figure 4. Suppose ATC and MC are the industry's average total cost curve and marginal cost curve respectively.<sup>2</sup> If total demand is  $D_1$ , and domestic demand is  $D$ , then price will be  $P_1$ ,  $Q_2$  will be produced, and  $Q_1Q_2$  will be exported. Now suppose that the demand for U.S. exports grows such that the new total demand curve is  $D_2$ . Price increases to  $P^1$ , domestic consumption contracts from  $Q_1$  to  $Q_3$ , and exports expand from  $Q_1Q_2$  to  $Q_3Q^1$ . However, an additional effect from trade expansion is the rise in economic rent. The increase in rent is the cross-hatched area. It is the return to the fixed production factors, one of which is farmland.

<sup>2</sup>In a dynamic context clearly ATC and MC would be shifting due to technological change. In this case they would be hybrid functions. However, rents still have a meaning in this case (See Just, Hueth, and Schmitz).

Table 5: Estimated Total Costs of Production and Farm Level  
Prices of Corn and Wheat, Average 1978-80

<u>Item</u>	<u>Corn</u> dollars per bushel	<u>Wheat</u>
Private costs (land at acquisition)	2.39	3.94
Input subsidies: transportation	.03	.03
research	.002	.03
Social costs of erosion	.10	.14
Tax advantage: profitable period	.60-.90	.30-.50
unprofitable period	.15-.25	.07-.12
Program costs: surplus purchases	.26-.52	.61-1.35
managing reserves	.04	.06
Total costs		
Assuming profitable period and managing reserves	3.16-3.46	4.48-4.68
Assuming unprofitable period and surplus purchases	2.93-3.29	4.80-5.59
Assuming high costs region <sup>1</sup> producing unprofitably with surplus purchases	3.68-4.04	5.17-5.96
Farm level prices	2.68	3.57

<sup>1</sup>Three year (1978-1980) price for region(s) producing 9 percent of U.S. corn and 14 percent of U.S. wheat.

Taken from Otto Doering, Andrew Schmitz, and John Miranowski, "The Full Costs of Farm Exports," University of California, Department of Agricultural and Resource Economics, Giannini Foundation Working Paper No. 206, Berkeley, 1982.

Several points in Figure 4 can be stressed:

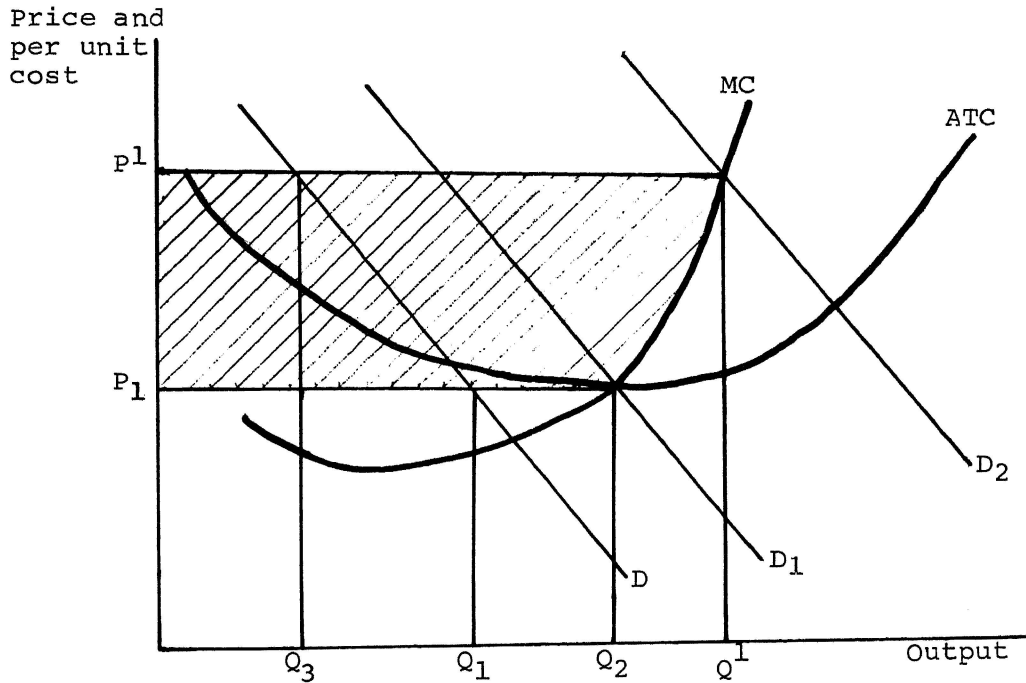
(1) The steeper the MC curve the greater will be the effect of trade expansion on the factors of production in inelastic supply. Given the excess capacity in agriculture in the 1960s (e.g., acreage set-asides), U.S. agriculture likely operated on the declining or flat part of the industry cost curve. The expansion of trade after this period brought a full utilization of resources; hence, U.S. agriculture in the 1970s operated in the rising portion of the marginal cost curve.

(2) Should land values be incorporated as a production cost? Note that in the previous table, land use was valued at a rental rate, not at full cost. The magnitude of price supports based on a cost of production formula critically depends on how land is incorporated as a production factor.

(3) Because of the export instability, should price supports be set at  $P_1$  (the high export demand price) so that the economic rent represented by the cross-hatched area can be maintained if demand drops from  $D_2$  to  $D_1$ , as it has done in recent years?

(4) The effect of trade on land values critically depends on how steep the cost curve is in the range where export demand expansion takes place. If trade expands rapidly in a very steep portion of the cost curve, land rents will soar. This wealth phenomenon has tremendous

Figure 4. Trade Expansion and Land Rents



multiplier effects. Likewise, when export demand drops off, unless government intervenes the negative multiplier effects also become apparent. Thus, given that the foreign demand for U.S. exports is highly unstable, how this instability affects the U.S. economy depends in part on how land values are affected. It should be noted that U.S. land values from World War II to the 1970s remained relatively stable in real terms. It is more than a coincidence that U.S. land values rose dramatically in the 1970s in conjunction with U.S. trade expansion.

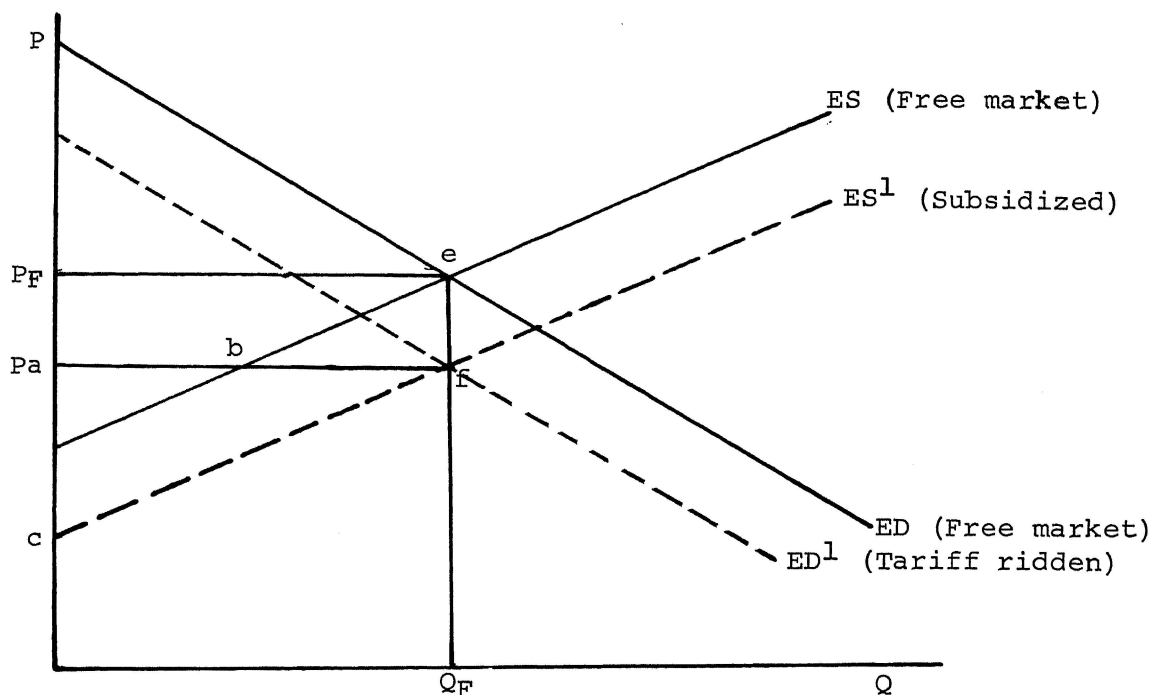
(5) It is clear why farm foreclosures are common. Young farmers who bought farmland at a price corresponding to the demand for their crops  $D_2$  cannot remain financially solvent with a reduced demand of  $D_1$ . The U.S. price support needed to justify land values that existed in the late 1970s would have to be at least twice the current market price for wheat and corn. As Figure 4 shows, a small change in export demand can have a major impact on land values.

#### The Gains from Trade

The earlier tables related to export expansion and the U.S. share. But in economic terms one cannot look at quantity of exports alone as a good indicator of the economic benefit from trade. At the moment, exports are being sold below the cost of production (see Table 5), reducing the benefits from our trade.

We have stressed in our export cartel book that substantial barriers to trade exist and if these were removed, U.S. grain prices would easily rise by 40 percent. The United States is currently not deriving the "free trade" gains from trade because of trade barriers. To make matters worse, we respond to these barriers by using export subsidies, price supports, input subsidies, and the like. It can be shown easily that because of the existing trade barriers and the method by which the United States responds to them, the economic gains even from a high volume of trade can be small or zero. Because of the importance of this issue a single model is given in Figure 5. The excess demand is ED and the excess supply is ES. The free trade price is  $P_F$  and  $Q_F$  is exported. Given the trade barriers, the excess demand curve shifts to ED. The United States responds by methods such as subsidy of inputs (see Table 5), shifting the excess supply curve to

Figure 5. Gains from Trade under Tariff and Price Distortions



$ES^1$ . At price  $P_a$  exports are still the same as in the free trade case. However, the country is no better off with trade than if it did not trade at all. Under free trade the gain was  $P_F ec$ . However, with  $ES^1$  and  $ED^1$  the gains from trade are zero since  $P_a bc = bef$ . What is interesting about Figure 5 is that it doesn't take a very large leftward shift in the excess demand curve (caused by tariff and nontariff barriers) and a rightward shift of the excess supply curve (caused by subsidies, etc.) before the gains from trade are zero. The type of U.S. policies pursued explains, in part, why the gains from trade are eroded. Subsidies and the like are "passive" policies. Also, these policies adversely affect the U.S. livestock sector because of the uncertainty they create in the feedgrain markets. They also cause the U.S. excess supply function to shift rightward.

#### Exporters as Price Takers

In their cartel book Schmitz et al contend that grain exporters, of which the United States is the largest, are price takers and that major importers set prices and dictate the terms of trade. Several related comments follow. (1) The situation is facilitated by importers' state trading. The EC and Japan, as already mentioned, generate instability for exporters and achieve an economic gain by tariff policies designed for the purpose. (2) Most of the world stocks are held by the United States. In a world of uncertainty importers would hold part of these stocks if the United States were a price setter rather than a price taker. (3) Passive policies of price supports, input subsidies, and the like give importers buying power. (4) Importers create false price signals for exporters.

Other reasons and observations support the hypothesis that exporters are price takers. If this is the case, what can we do about it? It seems somewhat paradoxical to be selling goods abroad below the cost of production when the United States possesses such large market shares (see Figure 3). Our current policies are passive in that they do not get at the basic problem which is that the United States cannot achieve large gains from trade unless importers give up some of their price setting power. In the concluding section below I give the essence of our cartel proposal, which, unlike the present passive policies, is a retaliatory or "active" policy. It is only through such a policy that the United States can hope to achieve its true gains from trade -- not producer gains that are heavily subsidized by the U.S. government.

## Conclusions

My premise is that the United States is currently pursuing a passive economic policy for agriculture which, coupled with the high tariff and nontariff barriers, yields little economic gains from trade. This paper has focused on the relationship between policy and its effect on the "gains from trade" -- the latter is the key yardstick of success. Why not try an active policy which falls within the realm of a cartel (i.e., export cooperation strategy)? Because of the large market share the United States has in coarse grains, and the large combined share that the United States, Canada, and Australia have in wheat, why not raise price instead of lowering it? This is especially an interesting question for feed grains since the growth in export demand is by high-income countries.

For wheat, where the greatest growth is by the less-developed countries, we propose a two-price system. The idea of charging a lower price to poor countries is not new--witness P.L. 480 shipments. One doesn't need a U.S. marketing board, but only an implicit export tax which, in essence, would price grain to the EC somewhat close to its threshold level. Such a price would essentially eliminate the tariff revenue the EC now collects. It would create problems for the EC as that revenue is needed to run the EC agricultural policy.

In addition, it is known that import demand by the Japanese is price inelastic. Also, there is no a priori reason why countries such as the Soviet Union and China would drastically increase production, in view of production costs. It is my feeling that by setting a price below which importers cannot buy, the major grain exporters could increase both price and quantity. This is because at the moment the grain economy is well below the free trade level. By imposing the price floor, importers would have to remove some of their trade barriers. This removal of barriers would result in both a price rise and an increase in output by exporters. Part of the instability would be borne by importers also and not only by exporters as currently. Internal stability of grain prices would also contribute to a much-needed expansion in the livestock industry in North America. Currently, the sector is contracting, forcing the United States and Canada to rely more on the export market for their grain sales. The situation adds to instability and uncertainty.

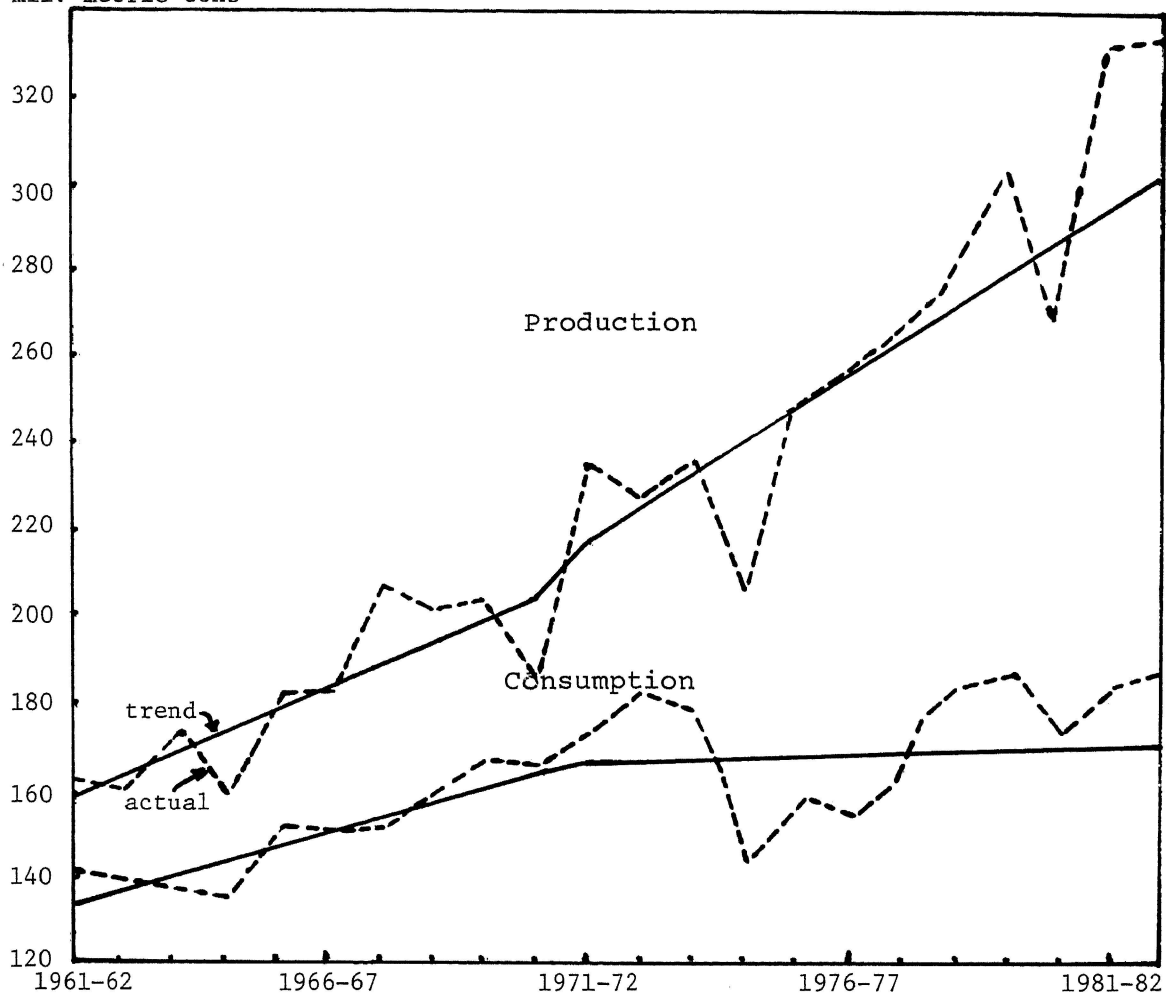
The above suggestion is clearly not in the current administration's thinking on trade matters. As already mentioned, the United States is pursuing passive and not active policies. As one farmer stated at a recent meeting in Houston, Texas (National Association of Wheat Growers), why not try the cartel proposal -- surely things can't get any worse than they already are!

## REFERENCES

- Bain, Robert, Changes in the International Grain Trade in the 1980's. USDA, ERS, Washington, D.C. July 1981.
- Carter, C. and A. Schmitz, "Import Tariffs and Price Formation in the World Wheat Market". Amer. Jour. of Agricultural Economics, Aug. 1979, pp. 517-522.
- Doering, O., A. Schmitz, and J. Miranowski, "The Full Costs of Farm Exports." University of California, Berkeley, Giannini Foundation. Working Paper No. 206, 1982.
- Johnson, Robbin, in Cargill Bulletin, Cargill Inc., Jan. 1983.
- Just, R., D. Hueth, and A. Schmitz, Applied Welfare Economics and Public Policy. Prentice Hall, Englewood Cliffs N.J., 1982.
- Sampson, G.P., and R.H. Snape, "Effects of EEC's Variable Import Levies", Jour. Pol. Economy, Oct. 1980, pp. 1026-1040.
- Schmitz, A., A. McCalla, D. Mitchell, and C. Carter, Grain Export Cartels, Ballinger Publishing Co., Cambridge, Mass., December 1981.
- Schuh, Edward, "The Exchange Rate and U.S. Agriculture," Amer. Jour. of Agricultural Economics, Feb. 1974, pp. 1-13.
- Schalit, H. and A. Schmitz, "Farmland Accumulation and Prices," Amer. Jour. of Agricultural Economics, Nov. 1982, pp. 710-719.

Appendix. U. S. Total Grain Production and Consumption

mil. metric tons





## SIGNIFICANCE OF TRADE POLICY TO U.S. FARM POLICY

V. James Rhodes  
Professor of Agricultural Economics, UMC

In reaction to the spiraling budgetary costs of PIK and declining U.S. farm exports, the Reagan Administration is reportedly pressing to reduce the level of support prices for farm products.

The economics of support prices gets more attention in an era of large exports. Any policy of relatively high supports comes under more criticism. Our international competitors reap the same benefits from them as we do, while leaving us with the fiscal cost of the program. So long as our price supports are effective, we remain the residual supplier. While there is merit in having some inventory if one is to be a reliable supplier, U.S. stocks have frequently become burdensome surpluses. Program burdens have not been shared--borne--in any significant way by either the rich importers or our international competitors.

Table 1 represents an attempt to summarize the effects of alternative farm programs. The comparisons are short-term--usually for a crop year. Admittedly, long term effects are often different. However, politicians making decisions on farm programs typically have a short term perspective. It should come as no surprise that each program has both benefits and costs. Each effective program eventually carries a cost to the U.S. taxpayer. For our purposes, it is important that deficiency payments (alone) and export subsidies (alone) do not benefit our competitors and do not insure that the United States hold world surpluses.

Table 1. Short Term Effects of Farm Programs Compared to No Programs

<u>Program</u>	<u>Volume of world exports</u>	<u>U.S. farm incomes</u>	<u>Competing exporters' incomes</u>	<u>Cost to U.S. consumers</u>	<u>Cost to U.S. Treasury</u>	<u>Who holds world surpluses</u>
Price supports high enough to be effective	lowers	raises	raises more	expensive	expensive	U.S.
Production controls and price supports	lowers	raises	raises more	expensive	expensive	U.S.
Deficiency payments	raises	raises	lowers	no effect	expensive	everyone
Export subsidies alone with price supports	raises no Δ	raises(?) raises	lowers no Δ	small expense expensive	expensive doubly expensive	everyone U.S.
U.S. bank "loans" of 1970s to LDCs (recycled oil money)	raises	raises	raises	expensive	is expensive later	everyone

U.S. bank loans to the LDCs in the 1970s were not an explicit farm policy, of course. However, their rapid expansion late in the decade was an important base for the expansion of our food sales abroad. The foreign debt of the LDCs rose 54 percent from 1979 to 1982. The abrupt ending of expansionary lending is clearly one of the reasons for the recent decline in our exports. The USDA's current increase in interest subsidies and loan guarantees as aid to trading is a partial replacement for those earlier bank loans.

In preceding papers Mr. Hosemann and Mr. Schmitz discuss two alternative trade policies. As polar opposites, both differ considerably from the present makeshift policies. While we could probably characterize Hosemann's proposal as essentially no governmental involvement, it is more difficult to characterize the Schmitz proposal. Moreover, before seeing his paper I developed a proposal that I called a Marketing Board. My version of a marketing board is much in the spirit of Schmitz's approach but differs in various details.

"Marketing Board" is not a politic term in the United States today, partly because it has been associated with various emotional slogans such as "a bushel of wheat for a barrel of oil."

I am not concerned for the name--our purpose is to develop ideas rather than try to sell a program.

A marketing board is an institution that can serve various purposes. Generally, as used by Canada, Australia, and several other nations, marketing boards have had limited objectives, which do not usually extend to a grandiose attempt to exercise market power. The general objective given the board I will discuss is to develop a fairly sophisticated and coordinated pricing and marketing strategy abroad as contrasted with our present muddle of policies. Its purpose is to make us again a Yankee trader--a world-class competitor.

Given the above general objective, the marketing board would have the following general characteristics. It would be the sole exporter of U.S. grains and soybeans. However, the actual mechanics of overseas movement would be handled by the usual private firms. The board would not make any domestic sales. The board would generally seek to clear the market each marketing year. It would not accumulate and hold "surpluses" from one year to another. It would be desirable for the government to hold separately some reserves for international emergencies, but that would not be a marketing board responsibility. The marketing board would be free to vary price in order to compete effectively. Price discrimination would be an important tool. The marketing board would seek to capture for U.S. farmers much of the revenue the EC now captures for itself in variable levies. At the same time, it would price more cheaply to price-elastic markets in the LDCs.

Most importing countries and some exporters in various ways have partially isolated themselves from the market. Their policies have worked because of the giant, partially free market in the United States. Their policies will not work as well for them given our Marketing Board. In fact, the Board might give us considerable economic leverage to make the protectionist policies of the EC and Japan more rational.

In short, a marketing board would change our presence in the game of trade. It could coordinate policies with other exporting countries in ways that private traders cannot. The marketing board might find it advantageous to form a grains and oilseeds cartel. Grain and oilseeds are not oil, and the cartel's power to affect prices would be far less than that of OPEC. However, as Schmitz remarks, a cartel has some economic muscle to achieve benefits so long as it is run intelligently. A lot of rhetoric has been heard about getting the world to share the burden of managing stocks, but a marketing board has the best chance of actually accomplishing that.

Certainly the Board should develop long-term market development policies. It should be a reliable supplier. It should be market oriented and not dabble in East-West politics. If the U.S. government wants to support an LDC economy for political reasons, the government should provide the necessary subsidies.

Two policy approaches to trade are presented in the two preceding papers. Table 2 may help in comparing them. Depending on one's value system and the relative weights each person gives, either minimal government or a marketing board may be picked as the better policy. There is room for discussion as to some of these effects. Note that many of the effects are the same for both policy alternatives. Some of the Marketing Board effects depend on how the Board is run, and the success of its strategies to counter retaliation by other countries.

It seems highly likely that U.S. farmers would not be satisfied with either minimal trade policies or a marketing board as their sole farm program. Combining either with deficiency payments would provide more of a safety net without interfering with these trade policies. The Marketing Board may reasonably be expected to generate somewhat more total revenue than would the minimal trade policies.

A marketing board likely has little political chance in the near future. Because it is unknown as a U.S. institution, all sorts of dire consequences will be predicted for it by skeptics. Nevertheless, anyone who is dissatisfied with our world market position and our burdensome surpluses needs to examine carefully the policies by which we might move away from those problems. It is clear that some major competitors, such as Canada with its marketing board, have found ways to solve these problems.

Table 2. Two Export Trade Policies Compared

	<u>Minimal governmental role</u>	<u>Marketing Board</u>
Compatibility with other farm programs		
Price supports	no	no
Production controls	no	no
Deficiency payments	yes(?)	yes
Export subsidies	no(?)	yes
Encouragement of maximum value of exports	yes	yes, yes
Promotion of exports of high-value items	no	yes
Easing of day-to-day price fluctuations	no	yes
Help to competing exporters	no	no
Making the U.S. a residual supplier	no	no
Buffer to U.S. livestock industry	no	a little
Protection to U.S. farmers against suffering low prices	no	no
Blocking U.S. farmers from enjoying high prices	no	a little
Compatibility with an export cartel	no	yes
Capacity to price products higher to EC and Japan	no	yes
Market uncertainties as to governmental actions	no	yes
Opportunity for "political" intervention	yes(?)	yes
Costly to U.S. Treasury	no	no
Costly to U.S. consumers	no	no

## SUMMARY AND REVIEW

Jerry G. West  
Professor of Agricultural Economics, UMC

The ideas and concepts discussed in preceding papers are wide ranging and broad, as the title of the seminar implies. They vary from rather specific problems on individual farms to worldwide problems such as inflation, protectionism, recession, and the international monetary system. To provide a focus I summarize the points on which there is considerable agreement, identify some areas in which there is none, and describe briefly some of the policy issues that surfaced during the seminar.

Several of the papers deal with various elements of the present situation. The points of general agreement include:

1. The environment in which U.S. agriculture operates today is quite different from that of the 1960s and early 1970s. Professor Raup illustrates the change by comparing the level of trade (total of exports and imports) involving the United States with the level of GNP. We moved from 7 percent in the 1960s to 17 percent in the early 1980s.
2. A number of factors affect the level of U.S. exports. Their importance varies among countries. In addition to production in other countries, there are factors such as level of economic activity, exchange rates, inflation, interest rates, and agricultural policies (those affecting domestic production and trade).
3. The prospect of any significant improvement in farm prices in the near future is not too bright. Nothing on the horizon suggests that total demand will increase more than productivity. Professor Tweeten estimates that both rates of increase will be in the area of 1.5 percent per year. There is slack in the system in the form of excess resources and the export market is not going to be a panacea. Nearly one-half of the increase in exports from 1976 to 1981 was to developing countries, and those countries also accounted for about the same proportion of the recent decline. Dr. Cook's discussion of the solvency problem among developing countries dramatizes the problem.
4. Variability in domestic production (induced by farm programs and by weather) along with fluctuations in export demand provide a continuing basis for instability. Professor Raup attributes much of the land price increase of the 1970s to an extrapolation of export trends that have since failed to materialize. The instability is an obvious problem for grain producers but is also important for the livestock industry. In fact, some persons argue that livestock producers are on the end of the whip and since they are not protected by government programs they suffer even more severe consequences than grain farmers.
5. Use of voluntary programs to adjust to instability is becoming increasingly costly and ineffective. Breimyer stresses the difficulty associated with the "free rider" who does not participate in efforts to adjust production but who receives benefits from any price enhancement.
6. A dualistic agriculture is developing in the United States in which we have a relatively few farms producing a large percentage of the output and a much larger number which produce relatively small quantities and depend on other sources of income. Professor Tweeten suggests it is the full-time, small-to-moderate size farm that is disappearing. Changes in size distribution also mean that the major benefits from government expenditures to support price go to a relatively small percentage of farms. Several speakers suggest this might affect political support for farm programs.
7. There are no totally "free trade" countries and much of the trade is managed.
8. Domestic macro policies designed to control inflation, stimulate investment, and increase employment have significant direct impacts on U.S. agriculture, and affect agriculture indirectly through their impact on the world economy.
9. High interest rates present problems for a sizeable segment of farmers. Those who entered farming during the 1970s and who purchased land at inflated prices or who

invested heavily in machinery or equipment are experiencing cash flow problems. As Professor Tweeten points out, returns are deferred while costs are current.

10. Future farm programs are likely to emphasize stability and not increased returns. Such programs will not do much for the aforementioned cash flow problem.

Although the areas of disagreement are somewhat fewer, some differences are obvious. Areas in which there is no clear agreement include the following questions or statements.

1. How responsive is the quantity demanded to price in various export markets? For those commodities where export demand is important, this question becomes important. Tweeten, Lee, and Hosemann argue that demand is elastic, at least in the long run, and that programs which raise U.S. farm prices make it more difficult for us to compete in world markets. Womack suggests the responsiveness varies by commodity and by the country involved. Professors Schmitz and Raup question the responsiveness under certain circumstances such as those in Japan and the EC.
2. The reaction of suppliers in other countries to our prices. This issue is in dispute. Some persons argue that our price umbrella leads to increased production. Professor Raup points to a backward bending supply relationship that seems to exist in some countries where exports vary inversely with price as attempts are made to meet foreign exchange needs. If we produce more and allow price to decline on the world market, those countries may be forced to allocate more to the export market.
3. Is a market oriented agriculture appropriate in a "managed trade" world? Lee and Hosemann say, yes, it is, while Kelley and Rhodes say, no, and offer alternatives. Schmitz even questions the existence of gains from trade under such circumstances.
4. There is disagreement on the relative importance of the factors responsible for past variability in exports. For example, Lee suggests that the strong dollar and its effect on the exchange rate cost us \$6 billion worth of exports over the last two years. Batten and Belongia say the high interest rates may have had negative impacts but since the rate of inflation has declined the lower prices make us more competitive. Womack presents data to show how the impacts vary by commodity and by region. Breimyer admits the negative impact of the higher exchange rates and high interest rates, but argues that deteriorating economic conditions in importing countries have been more important.
5. The appropriate school of thought for thinking about trade is discussed by several speakers. Kelley points out that both the market structure school and the exchange rate-monetarist school have their advocates. Both were in evidence during the seminar.

In the opening paper Professor Breimyer uses a chart to portray how the domestic agriculture sector is related to farm programs and to world trade. Farm prices and income are separated from exports by various farm programs, buffer stocks, and other devices. The picture is quite complex and dynamic in the sense that it is continually changing. Many of our disagreements with respect to the situation are due to the difficulty of obtaining reliable empirical measures under these conditions.

To some extent the essence of the seminar was the kinds of programs and institutions we want as shock absorbers between the international markets and our farmers. To what extent are free markets adequate or to what extent are these institutions and programs to be passive or active?

On the domestic scene, the changing structure of agriculture leads to many calls for changes in domestic farm programs. A recent CAST report, quoted several times during the seminar, suggests that the larger farms can compete effectively in world markets without the types of assistance previously provided.<sup>1</sup> The need for assistance to the small and moderate size family farms remains an issue. Both Tweeten and Breimyer argue that agriculture no longer suffers from a large excess labor supply. While we may be closer than before to equilibrium in terms of quantity

---

<sup>1</sup> The Emerging Economics of Agriculture: Review and Policy Options. Council for Agricultural Science and Technology, Report No. 98, Ames, Iowa, pp. 7-8.

of resources, that is not necessarily so with respect to prices of factors. The land price issue cannot be ignored in considering the effects of programs and policies for the future.

The recommended changes in trade policies and institutions necessary to implement those policies vary over a wide spectrum. The proposed options provide the basis for a lively exchange between Hosemann, who argues for minimum government interference, and Schmitz and Rhodes, who suggest that attention be given to export marketing corporations or marketing boards. While some rather radical changes have been suggested, it is not likely that we will see drastic changes in the short run. It has been suggested that changes in our public policy typically come by increments and in fact might well be described as "disjointed incrementalism." Such is likely to be the case in trade policy, given the widely divergent views held as to the appropriate direction.

Professor Breimyer suggested that the objective of the seminar was to provide sharper perceptions of questions. I think this was accomplished. I believe we are indebted to the speakers for their thought-provoking presentations and to Professor Breimyer for putting the seminar together. I look forward to future "Harold Breimyer Agricultural Policy Seminars."