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Public Policy and the Reemergence of International Economic Influences on U.S. Agriculture

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Abstract

Recent literature on agricultural policy argues that a new market environment has emerged in the past 15 years characterized by the growing importance of international trade, a U.S. agricultural sector increasingly integrated into the U.S. and world macroeconomy, and an increasing price variability for agricultural commodities. A historical examination of the effects of trade, macroeconomic factors, and price variability on U.S. agriculture, however, shows that these influences are not new. Changes in agricultural and macroeconomic policies in the seventies have caused these characteristics to reemerge, albeit in a somewhat different form and magnitude than in previous decades.

Keywords

Agricultural policy, agricultural trade, macroeconomic influences, price variability

Introduction

Current literature on agricultural trade characterizes the international environment facing U.S. agriculture with three generalizations (1) that trade plays an increasing role in U.S. agriculture, (2) that U.S. agriculture is increasingly integrated into the U.S. and world macroeconomy, and (3) that price variability for agricultural commodities is increasing (see Duncan and Borowski (8) for one example).¹

These generalizations imply that international trade was not, until recently, very important to U.S. farmers and that the agricultural sector was largely isolated from the rest of the economy. Furthermore, the last statement implies that price variability due to the reliance on exports is a new problem for the sector. Economists have used these generalizations to argue in favor of a new U.S. policy to deal with this international environment.

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¹Italicized numbers in parentheses refer to items in the References at the end of this article.

A longer perspective, however, shows that these influences are not new, although the magnitude of these influences and the manner in which they affect agriculture may have changed. Except for two or three decades in the middle of this century, international trade has been critical to the well-being of the agricultural sector, agriculture has been sensitive to developments (shocks) elsewhere in the economy, and prices for farm outputs have been highly variable. The theme of this article is that changes in public agricultural and macroeconomic policy during the seventies allowed these elements to reemerge, albeit in a somewhat different form and magnitude than in previous decades.

Formation of future policies requires an understanding of how U.S. policy and the international environment have interacted in the past. In this article, we will broadly compare and contrast the international environment facing U.S. agriculture. We will separate influences which have reemerged from those we believe have changed. We will then attempt to link the role of trade and the variability in prices to the policy behavior of the U.S. Government.

We will identify four distinct periods of U.S. policy responses to the international environment. The first period, up to 1930, was a period of indirect Government intervention in agricultural commodity

markets and of limited intervention in the macroeconomy. The period was characterized by an important role for trade, variable agricultural prices, and strong agricultural linkages to the macroeconomy.

During the next period, 1930-70, the U.S. Government assumed a major direct role in agricultural commodity markets and the macroeconomy. Trade's importance to U.S. agriculture was relatively small compared with domestic demand, price variability was reduced, and macroeconomic policy concentrated on aggregate demand management.

In the third period, 1970-80, changes in U.S. Government agricultural and macroeconomic policy allowed the international environment which faced U.S. agriculture in the past to reemerge. Agricultural commodity programs changed from price support using nonrecourse loans to income support via deficiency payments. Macroeconomic policy during this period became more chaotic and less able to manage aggregate demand.

In the last period, 1980 to the present, agricultural policy has shifted as policymakers attempt to operate

in this reemerged environment. A critical policy issue is the type of public intervention strategy the United States should elect.

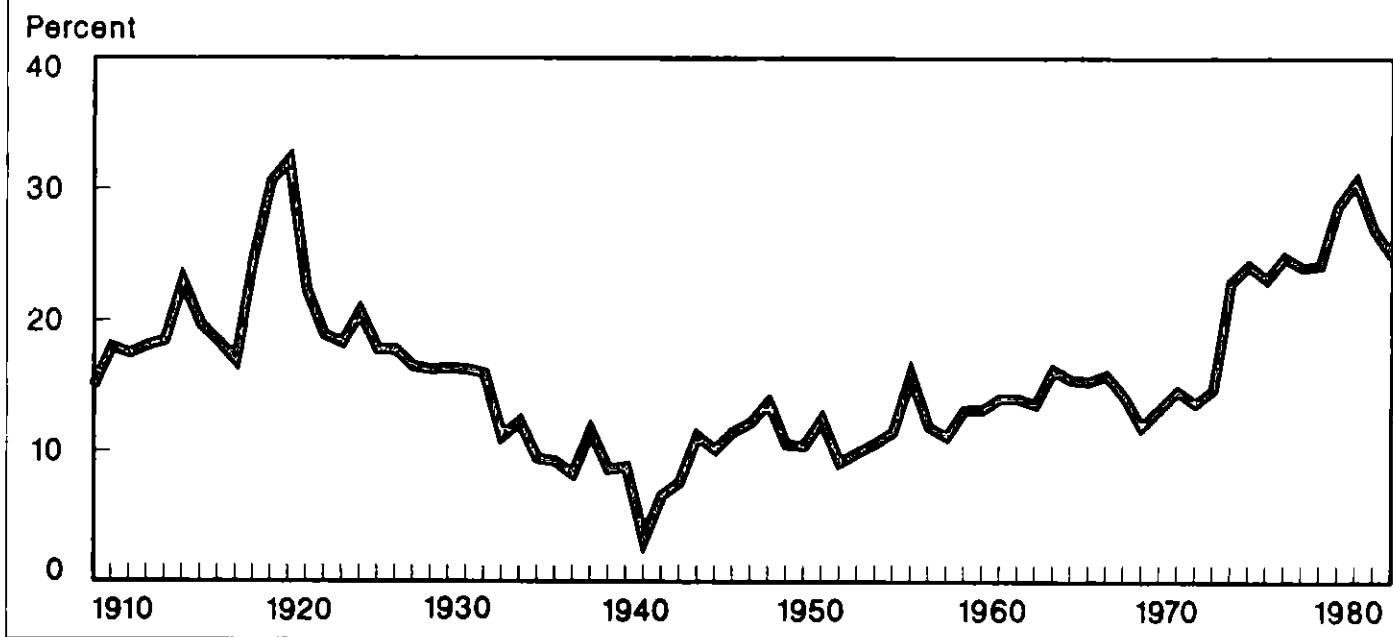
The longer run perspective discussed in this article shows that the United States had confronted these issues before and adopted two contrasting means of reacting to this international environment. One policy allows the domestic market to adjust to changing world market conditions, whereas the other prevents such adjustment through public intervention. Consideration of the historical experience of each policy strategy should provide insights into the direction of future policies.

Role of Trade

Except for a few decades of this century, trade has been critical to U.S. agriculture. It has been an important outlet for production and has been a source of instability for agricultural prices. Figure 1 shows that it was not until the seventies that agricultural exports as a percentage of farm cash receipts regained the levels obtained during the 1910-29 period (6). Tobacco was a major export since the early

Figure 1

Agricultural Exports as a Percentage of Cash Receipts



settlers arrived. With the invention of the cotton gin in 1793, cotton became a major export, in 1860, cotton constituted almost two-thirds of the total export trade of the United States (18). Historians argue that one of the major causes of the Civil War was the conflict between the agricultural export-oriented South and the manufacturing protectionist North. One author describes the situation in agriculture as "During and after the Civil War the fluctuations of the currency and the high tariff worked especial hardship on the farmers as producers of staples which must be sold abroad" (3, p. 20). Although this situation applied primarily to southern cotton and tobacco farmers, it was of growing importance to northern wheat producers as well. This quotation illustrates three concerns which sound familiar today: (1) currency fluctuations (inflation and exchange rates) (2) high U.S. tariffs (on nonagricultural goods) and (3) importance of export markets. The period following the Civil War was one of agricultural expansion, increased communication, and improved transportation, all of which encouraged international trade (7). The arrival of North American grain on European markets in the late 1870's was partially responsible for reconciling industrialists and agricultural interests in Germany, leading to Germany's tariff of July 1879 (9, p. 297). The recession which hit agriculture in 1921 was both the result of a decline in exports following World War I as European nations recovered from the war as well as the result of over-

expansion in U.S. agricultural production to wartime needs.

Table 1 shows the average share of production exported for current major U.S. agricultural exports by decade since 1870 on a volume basis. The pattern is generally U-shaped. Prior to the thirties, trade was important for wheat, cotton, tobacco, and rice (7). The trough in the thirties reflects the tariff wars during the Depression, whereas the low values for the forties reflect the interruption of commerce during World War II. During the postwar period, the role of trade began to rise.

Wheat exports in the 1870-1929 period averaged 26 percent of production. During the thirties that share fell dramatically to 8.4 percent. Only after the passage of export subsidies and export promotion programs during the fifties did the export share of wheat production recover. The export share of wheat production rose to a peak of 58.1 percent in the seventies, but it fell slightly in the early eighties. Similar patterns over time are evident for corn and cotton, despite the fact that most of the corn was used onfarm whereas the cotton was marketed. Corn exports in the fifties were about the same share of production as during the 1870's. Corn exports in recent years have risen to 24 percent of production, about the same share wheat exports had in the 1870's. Although cotton exports as a share of production have risen, exports are still well below

Table 1—Average share of U.S. production exported for selected crops, by decade, since 1870

Decade	Wheat	Cotton	Tobacco	Corn	Soybeans	Rice
<i>Percent</i>						
1870-79	25.4	64.7	59.1	4.4	1	-
1880-89	26.9	65.6	45.3	3.1	1	2
1890-99	30.1	68.6	37.3	5.3	1	2
1900-09	22.0	67.1	35.4	2.8	1	2
1910-19	23.5	57.6	37.0	1.8	1	16.5
1920-29	26.0	57.5	38.8	1.3	1	26.0
1930-39	8.4	50.9	31.4	1.6	6.7 ¹	16.6
1940-49	18.7	23.1	22.4	2.0	2.8	42.7
1950-59	35.9	35.7	23.6	4.5	16.3	49.6
1960-69	53.6	35.0	26.1	12.4	28.1	61.2
1970-79	58.1	41.2	36.7	24.4	38.3	58.9

¹Soybean production and trade data not reported prior to 1931

²Rice production and trade data not reported prior to 1910

³Nine-year average used

Source (18)

the contribution made in earlier periods. Tobacco exports were well below historical levels. Trade has become increasingly important to soybeans and rice.

Depending on when the comparison is made and what crop is considered, one can view the current large share of production exported as either a fundamental change or a reemergence of what existed before the thirties. For wheat, export trade was always important, but its contribution has risen. Trade is clearly more important for corn, soybeans, and rice. Exports for cotton and tobacco are less important than they were 50 or 100 years ago.

The figures do suggest some major changes during the intervening years. Foremost, the mixture of crops exported has changed. Wheat, cotton, and tobacco have given way to corn and soybeans. Unlike the pre-Depression years, the emphasis of U.S. export trade is more toward ingredients for livestock feed. Because meat demand tends to be more sensitive to income changes than is the demand for the wheat, rice, cotton, and tobacco, U.S. trade may be more sensitive to changes in income growth than in the past. Another fundamental change suggested by table 1 and figure 1 is that the role of exports in the aggregate has strengthened.² The domestic share has declined because over time the income elasticity for these crops in the United States has fallen because of high per capita incomes. Thus, current growth in U.S. domestic demand for most crops is largely due to population increases rather than to income changes.⁽⁴⁾

The data presented in table 1 do disguise one change which is truly fundamental to understanding the present international environment facing U.S. agriculture. During the 1909-12 period, the export market for U.S. agricultural commodities was in Western Europe. When that market collapsed after World War I, U.S. agriculture collapsed as well. In 1909-12, 83 percent of U.S. exports went to Europe (excluding Russia), of which most was for the United Kingdom.⁽²⁰⁾ Seventy years later, only 28 percent went to Western Europe, whereas 13

percent went to centrally planned nations and 36 percent went to developing nations.⁽¹⁹⁾ The shift in world trade patterns from Europe and toward centrally planned and developing nations represents a fundamental change. These nations' demand for food tends to be more income elastic than does Western Europe's, hence, developing nations' imports are more sensitive to changes in consumer expenditures. Most of these nations have borrowed heavily in international financial markets to finance imports. Their ability to sustain large food imports is now suspect as debt-servicing problems mount. These nations tend to rely on state trading institutions or more rigid import restrictions rather than on private markets. Thus, the institutional structure of the market has changed as trade patterns have shifted.

Variability in U.S. agricultural prices due to the integration in world markets is a problem currently facing U.S. agriculture. Except for the middle of this century, variability has always been an issue.⁽³⁾ In the early 19th century, increases in export demand for cotton raised prices and stimulated a western migration of the U.S. cotton industry.⁽¹²⁾ When supply increases outstripped demand, prices fell, land sales slowed, and producers switched to other crops. Such cycles have been frequent for cotton and other crops throughout the 19th and 20th centuries. A similar cycle began in 1972. High commodity prices and an expansionary monetary policy stimulated production and raised land values. Supply has recently outstripped demand, and commodity and land prices have fallen dramatically.

Table 2 shows the average percentage of year-to-year variations in U.S. season-average prices by decade since 1870, revealing a U-shaped pattern as with table 1. Prior to the thirties, prices were unstable. For wheat, the average percentage change in prices varied from a high of 26 percent in 1920-29 to a low of 13 percent in 1900-19. Corn prices also varied greatly, but did not have the range of variability which wheat prices had, from a low of 15.6 percent to a high of 22.6 percent. The average percentage changes in prices of cotton and tobacco were quite erratic prior to 1930, with lows of 5 percent and 6 percent and highs of 24.9 percent and 20.6 percent, respectively.

²Weighting the proportion of each crop exported by its contribution to total production shows that corn dominates. Because exports are increasingly important to corn producers, the aggregate role of trade for U.S. crop producers has become increasingly more important.

Table 2—Average year-to-year changes in season-average prices received by U.S. farmers for selected crops, by decade, 1870-1979¹

Decade	Wheat	Corn	Cotton	Tobacco	Rice
<i>Percent</i>					
1870-79	13.64	20.20	13.34 ²	22.43	—
1880-89	20.60	22.56	5.14	15.70	—
1890-99	15.51	18.30	19.86	13.64	—
1900-09	13.06	19.29	19.26	6.13	—
1910-19	13.07	15.60	24.86	20.65	19.69
1920-29	26.05	17.63	18.01	10.34	13.20
1930-39	24.45	36.94	20.95	23.15	19.60
1940-49	14.90	23.16	12.81	10.73	16.84
1950-59	3.60	6.32	6.20	3.27	8.25
1960-69	11.76	6.17	9.99	4.01	2.00
1970-79	23.84	19.50	16.99	8.56	27.92

— = Not available

¹Calculated by averaging the absolute year-to-year price changes and dividing by the mean price for the decade

²Data for 1876-79 only

Source (18)

During the thirties, year-to-year price changes were large—for corn the largest of the entire series and for wheat the second largest—because of large declines in crop prices during the Depression. In the fifties and sixties, the variation in prices for all commodities declined sharply. In the seventies, price variability resembled that of the twenties and thirties. The year-to-year price variability for wheat rose to 23.8 percent, just slightly above the "normal" level prior to 1930, but well within the overall historical range. The year-to-year changes for corn and cotton prices are consistent with the pre-1930 level, although the price of tobacco varied less. Only rice prices varied considerably above the pre-1930 level.

Although price variability itself is not new, the data in table 2 show that it has increased for all crops since the fifties and sixties. A major factor has been increased world agricultural trade barriers as well as changed policy instruments used for protection purposes. The growing importance of developing and centrally planned nations as markets for agricultural products has increased price variability. Most of these countries are state traders or they use other policies which sever the link between domestic and world prices (1, 22). An abrupt change in policy, such as the Soviet decision to import grain

rather than slaughter livestock in 1972, can cause tremendous price changes in a world market where trade barriers allow relatively little adjustment to world price movements.

Although West European nations account for a declining share of world agricultural trade, particularly for wheat, they are still important factors in the market. At the outset of this century, the European nations primarily used tariffs to protect their agricultural producers (11). Tariffs permit price variations to move across borders (1). These nations have adopted policies in recent years which insulate their domestic markets from world price changes, thereby magnifying the instability in world prices.

Britain is a particularly useful example of such policy changes. In the early 20th century, Britain was a large wheat importer and followed a free trade policy. During the thirties, Britain adopted import tariffs as did all other countries (11). In 1973, Britain joined the EC and accepted the EC policy of variable levies which add to world price instability. Other European nations followed a similar path, although at different speeds. Current policies in Western Europe magnify the instability in world prices.

Institutional developments in other exporting countries may have also increased world price variability. The Canadian Wheat Board is a product of the Depression and acts to stabilize producer returns. The Australian Wheat Board is an outgrowth of World War II (2). Stochastic simulation analysis of board marketing suggests that these types of institutions can also increase world price variability (14).

Macroeconomics and U.S. Agriculture

Another recurring theme in the current literature is that U.S. agriculture is increasingly integrated into the U.S. and global macroeconomy. Except for the middle of this century, U.S. agriculture has been integrated into the rest of the economy. In the late 19th century, farmers' concerns focused on railroad shipping charges, credit, tariffs, and the U.S. currency. The populist platform of July 1892 advocated the free coinage of silver and a graduated income tax (7, p. 525). Other political demands by

farmers included reduced tariffs on industrial goods and reduced interest rates, from 10 percent to 8 percent (3, pp. 120-22). The "boom and bust" cycles of the 19th and 20th centuries were heavily influenced by changes in the money supply. A policy to inflate the economy to benefit agriculture even helped launch William Jennings Bryan's 1896 presidential campaign. Agriculture versus protection debates are not a recent phenomenon. Conflicts between farmers seeking export markets and manufacturers seeking import relief were a major theme of U.S. history in the 19th century.

These same problems are faced today. The 1984 *Economic Report of the President*, for example, discusses the sensitivity of agriculture to changes in interest rates and monetary policy (6). According to *The Washington Post*, farmer representatives and labor leaders have exchanged sharp debate in hearings over auto-content legislation and restrictions on steel imports (21). U.S.-Chinese agricultural trade has been disrupted by disputes over protection of U.S. textile manufacturers.

If macroeconomic factors are not new to U.S. agriculture, why is it popular to write that they are? The statement that U.S. agriculture is increasingly integrated into the rest of the economy partly reflects an exceptional period for U.S. agriculture and partly reflects changes in the magnitude of interaction.

Although 19th century growth in U.S. agriculture and railroads was heavily financed by eastern U.S. and British banks and although farmers then purchased their inputs from the nonfarm sector and relied on credit, agriculture now depends even more on the rest of the economy than in the past. Table 3 shows the share of production costs and the share of interest on farm mortgage debt in U.S. gross farm income by decade since 1910. Both have the familiar U shape. In the 1910-19 period, 3.1 percent of farm income went to interest on farm mortgage debt. Declines in farm income during the twenties and thirties increased the share to almost 5 percent. By the forties, the interest share had fallen to 1 percent, perhaps a reaction to the use of debt financing by those farmers who survived the Depression. Interest as a share of gross receipts began to rise in the sixties and was only slightly greater in the seventies than in the 1910-19 period.

Table 3—Shares of interest on farm mortgage debt and production expenses in U.S. gross farm income, by decade, 1910-79

Decade	Share of farm income	
	Interest ¹	Production expenses ²
<i>Percent</i>		
1910-19	3.1	48.9
1920-29	4.8	57.7
1930-39	4.6	58.6
1940-49	1.0	50.8
1950-59	1.1	64.3
1960-69	2.3	69.4
1970-79	3.5	69.0

¹Interest on farm mortgage debt divided by gross farm income

²Total production expenses divided by gross farm income, including feed purchased, livestock purchased, seed purchased, fertilizer and lime, repairs, depreciation, hired labor, taxes on farm property, interest on farm mortgage debt, and rent to landlord

Source (18)

The share of farm income going to all production expenses tells a slightly different story. Prior to the Depression, inputs purchased accounted for between 48.9 and 58.6 percent of gross farm income. During the fifties, sixties, and seventies, the inputs' share of farm income rose to 64.3 percent, 69.4 percent, and 69 percent, respectively (table 3). One major development was that after World War II, U.S. agriculture increased its reliance on purchased fertilizer, seed, and fuel.

Flexible exchange rates and international asset markets represent other factors which may have reemerged in a different form. With the currency-flow system, international currency transfers, in principle, served to expand or to contract the monetary base, thereby causing internal price adjustments to external disequilibrium. With the end of the Bretton Woods Agreement in the early seventies, exchange rate movements caused internal prices to adjust to external disequilibrium unless other policies were used to prevent this adjustment. Schuh argues that the emergence of world financial asset markets in the context of flexible exchange rates is a fundamental change (17). Whether this situation represents a change can be debated. European and U.S. asset markets were well integrated in the 19th century as extensive foreign (mostly European) financing of U.S. agricultural development showed. Given the importance of Europe to

U S exports in the early 20th century, the export market and financial asset market may have been as completely integrated then as it is now

World trade patterns have fundamentally changed as developing and centrally planned countries have increased their importance to world agricultural trade. World financial asset markets have expanded to meet this change. The ability of these nations to finance imports of agricultural products, or to increase expenditures in relation to income, is a critical development. The pool of loanable funds worldwide expanded rapidly after the oil price rises in 1973 and 1979. The use of monetary policies to accommodate these price shocks, especially after 1973, allowed financial assets to flow from developed countries to oil exporters, who then (through commercial banks) provided credit to developing and centrally planned nations. The rapid growth in demand for U S agricultural exports in the late seventies was partly due to growth in exports to developing and centrally planned countries resulting from these financial transfers. U S agricultural exports slowed in the early eighties because these nations were unable to service their debts which had accrued as a result of these transfers. A major difference with the past is that the loans of the late seventies were made to national governments rather than to individuals. As a result, bank solvency and in some cases the solvency of the world financial system depend on a single debtor's ability and willingness to repay obligations.

Reemergence of the International Environment

The changes in the international trade environment facing U S agriculture represent a reemergence of the old environment with a somewhat greater influence on U S agriculture. Why did the old environment reappear? Changes in U S commodity policies and in U S macroeconomic policy appear to be strongly linked with this reemergence.

The U-shaped patterns observed earlier reflect changes in these factors. The data can be divided into four phases based on U S Government policy. The first phase was one of limited direct U S Government involvement in both agricultural commodity markets and the macroeconomy, that phase

ended about 1930. Prior to that time, the direct involvement of the Federal Government in agricultural commodity markets was limited. The Homestead Act, the Morrill Land Grant Act, and the establishment of the U S Department of Agriculture and the Extension Service were aimed primarily at improved production and land availability rather than at price support. The Federal Land Bank system, established in 1916, provided long-term credit, while Federal Intermediate Credit Banks were established in 1923 (4). These policies were forms of production subsidies. The Agricultural Marketing Act of 1929 created the short-lived Federal Farm Board, but not until 1933 did the U S Government become directly involved on a large scale in agricultural commodity markets.

The story of U S Government involvement in the macroeconomy prior to the thirties was similar to that for agriculture. The years after the Civil War saw improvements in banking, promotion of the development of commercial infrastructure, regulation of industry, and enactment of various tariff policies. But, policies designed to stimulate aggregate demand were years away. Even Franklin D Roosevelt promised to balance the Federal Budget in 1932. The U S Government nominally had limited control of monetary policy. However, J P Morgan controlled gold reserves rivaling the U S Treasury and allegedly averted a monetary collapse in 1907 (5). The Federal Reserve System, created in 1913, was inexperienced, as subsequent events during the Depression would show.

The 1930-70 period sharply contrasts with the experience of agriculture throughout most of the rest of U S history. The Federal Government's response to the Depression and its aftermath has been well documented—both for agriculture and the general economy (4, 13, 16). The Federal Government set price supports for agricultural commodities above market-clearing levels, established marketing orders, took land out of production after World War II, and accumulated stocks throughout the fifties and sixties. Exports were subsidized or sold to needy countries on concessional terms to offset the loss of competitiveness due to the price supports. Fiscal policy evolved in an era of aggregate demand management, while monetary policy targeted interest rates—all under a system of fixed exchange rates.

One of the consequences of this policy environment was that price variability in agriculture in the fifties and sixties was low in relation to previous decades because prices were supported at U.S. Government-determined levels (table 2). A Government market replaced the export market. Support prices above world market levels reduced foreign import demand and encouraged export supply by our major competitors, thereby reducing the role of U.S. exports (table 1). Public stocks and Federal expenditures for agriculture mounted. Export subsidies and credit programs in the fifties and sixties offset the effects of price supports on world markets and reduced Federal expenditures by reducing public stocks (10). Interest rate targeting and mildly expansionary fiscal policy created inflationary pressures in the early fifties, late sixties, and early seventies, and produced low and stable interest rates which lessened the debt load of U.S. farmers (table 3). These circumstances worked in conjunction with agricultural policy to stimulate farm output. An increasingly overvalued fixed exchange rate added an implicit tax on exports.

During this period the problems of price variability, a large reliance on trade, and the linkages between U.S. agriculture and the world macroeconomy were masked by a Government-regulated agriculture and by policies designed to manage aggregate demand. As the agricultural imbalances created by this policy mix became apparent, real support prices for wheat, corn, and rice began to drop about 1950 (figs. 2, 3, 4). For cotton, the process of lowering real support prices started later and proceeded more slowly than for grains. U.S. agricultural policy entered a phase of a reduced Government role in supporting commodity prices through the sixties and into the seventies. Target prices and deficiency payments designed to protect farm income without circumventing market price signals became the mainstay of U.S. commodity programs in the seventies. For wheat and feed-grains, the process of Government transition from farm price support to income support proceeded quickly, and the relationship of trade to these commodities and the problem of price variability reemerged (tables 1 and 2). For cotton and tobacco, the transitional role of the U.S.

Figure 2

Real Support Prices for Corn and Wheat

Dollars per bushel

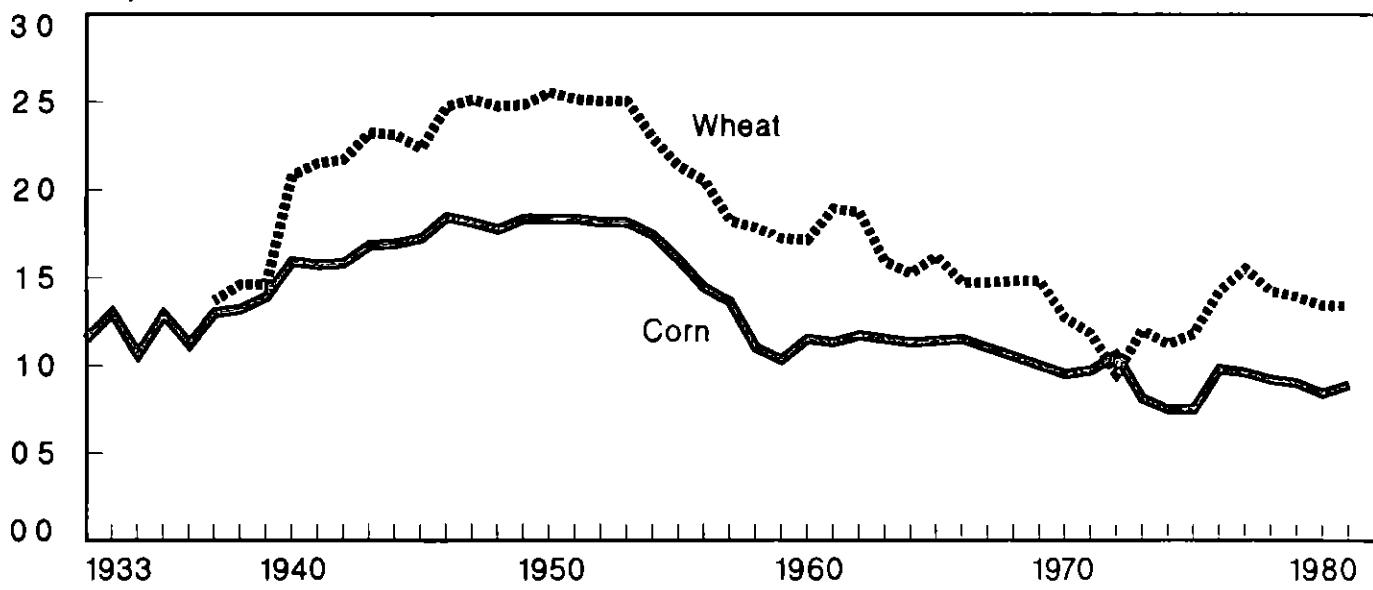


Figure 3

Real Support Prices for Rice

Dollars per cwt

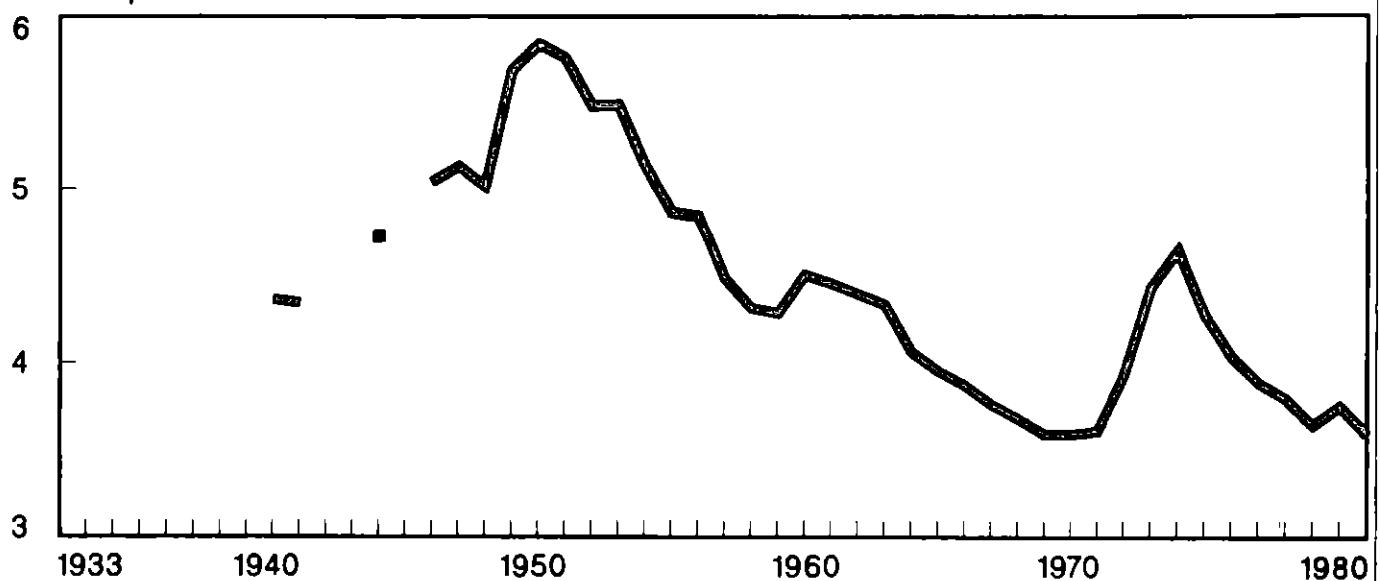
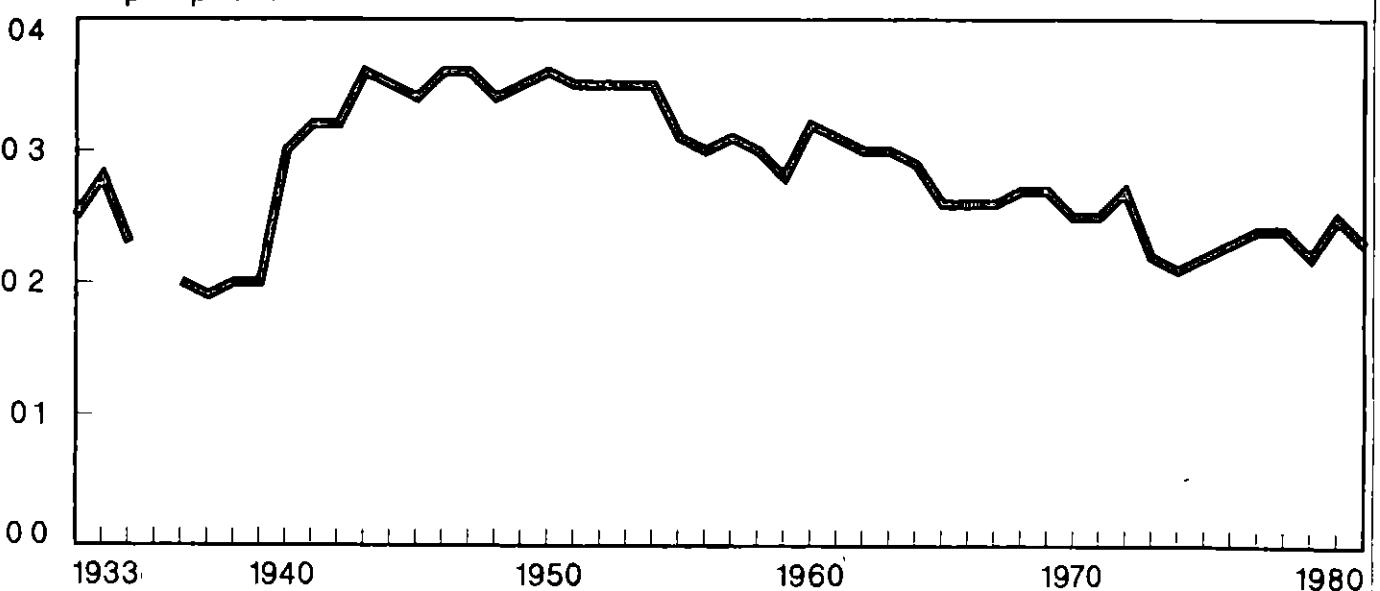


Figure 4

Real Support Prices for Cotton

Dollars per pound



Government was slower and less complete. Thus, trade has not recovered its traditional importance for these crops, and price variability is less of a problem (tables 1 and 2).

By the early seventies, the imbalances from US macroeconomic policy also became evident. Rapid expansion of the money supply and world liquidity following the oil price increases reduced real interest rates and caused developing nations to borrow funds on international financial markets to finance imports and economic growth. Monetary policy became more erratic as well, first being tightened and then loosened in succession throughout the decade (6, p 291). These changes in money supply growth, in conjunction with the target price policy, increased the variability in commodity prices. Fixed exchange rates were replaced by flexible rates which were sensitive to macroeconomic shocks, adding another dimension of variability to commodity prices. Fiscal policy seemed less effective and more in conflict with monetary policy as Federal expenditures grew in relation to tax receipts. Both unemployment and price levels rose simultaneously.

The policy environment appears to have changed again in the early eighties. In 1979, the Federal Reserve switched from a policy of targeting interest rates to one of targeting the growth of the money supply. The objective of the change was to reduce inflation by maintaining tighter control of the growth in the money supply. Inflation has declined sharply, but at the expense of an increase in both nominal and real US interest rates. Despite a Federal Reserve policy of steady monetary growth, fiscal policy has been expansionary. In the early eighties, the supply-side economists advocated and obtained tax cuts to restore incentives for investment. These achievements have stimulated output and employment, but they have also led to a burgeoning Federal budget deficit. The Federal Government's demand for loanable funds has been a major factor in sustaining high real US interest rates.

These macroeconomic policies have affected US agriculture in two ways. First, the rise in US interest rates has attracted foreign capital, raising interest rates abroad. One result was a global recession in the early eighties. Second, the influx of foreign capital has caused the dollar to appreciate rapidly. Developing and centrally planned nations,

who had borrowed heavily at low real rates of interest on short-term credit markets in dollar-denominated accounts, have become vulnerable to both increased interest rates and the stronger dollar. Hence, the major growth markets for US agriculture in the seventies faced severe economic difficulties. In addition to a slowdown in the growth rate of the world market, the stronger dollar has reduced the competitiveness of US exports in relation to those of other exporting countries. Agriculture has been especially affected because price-support programs have prevented the downward adjustment of US prices which would allow agricultural commodities to compete.

On the domestic front, agriculture, as a major user of borrowed capital, has been squeezed by high real interest rates and declining world prices for its products. This situation has led to the worst financial crisis since the thirties. At the same time, deepening public concern about the size and growth of the Federal deficit has led to attempts to reduce Federal budget expenditures, including those on programs like agricultural commodity programs.

The current conflict between US monetary and fiscal policies cannot be sustained in the long run. Growing pressure in Congress to reduce the Federal deficit is a recognition of this fact. Yet, the measures required to bring the budget into balance become increasingly more difficult to implement as increases in the debt load takes an ever-growing share of Federal expenditures. The experience is unprecedented in US history.

Macroeconomic policy appears to be on the verge of a major transition. The character of this transition, however, is uncertain because it will be shaped largely by responses to future events. These changes will have significant effects on trade and agriculture.

These macroeconomic factors, increased world production due to good weather, and adoption of new technologies overseas have decreased US exports and farm prices, deteriorating US net farm income. Loan rates, which in the seventies were rarely effective in supporting prices, again supported the market, as in the fifties and sixties, these price supports implicitly taxed US exports, thereby providing incentives to foreign producers (15). The US Govern-

ment responded by returning to previously used policies, such as the Acreage Reduction Program of 1982 and the Payment-in-Kind program of 1983

These programs suggest a greater Federal role in U S agricultural commodity markets. Such a role is tremendously expensive and is not likely to last without a dramatic change in how these programs are structured, funded, and operated. Thus, U S agricultural policy is also in a state of transition as Government officials grope for an effective means to deal with this environment.

Conclusions

The changes in U S agricultural and macroeconomic policy in the past two decades have allowed an international environment which the United States once faced to reemerge. Exports are again critical to the health of the agricultural sector. Variability in commodity prices, farm income, and land prices due to uncertain export demand has returned. Fluctuating exchange rates and interest rates add to the volatility of prices and input costs. Income growth both at home and abroad is again critical to U S agriculture.

Some aspects of the international environment are different after the passage of the intervening decades. The composition of U S agricultural exports has changed in favor of ingredients for livestock feed—namely, corn and soybeans. Some buyers and sellers and the institutions in which they operate are different now. Developing countries and centrally planned nations have replaced Western Europe in importance in trade. Many centrally planned countries are erratic buyers. Imports by developing countries depend on international credit and income growth. Even the institutions used by European nations have changed so that they add to price variability. Most of these differences, however, amplify rather than change the roles of trade and price instability.

The critical question faced by U S agricultural officials is how future U S agricultural and macroeconomic policy will evolve. Will the United States respond to the reemerged international environment by returning to a policy of intervening directly in commodity markets so as to isolate the agricultural

sector from trade and variability and from other sectors? Or, will the United States adopt a policy somewhat like that of the 19th century and the first 30 years of this century, when U S policy attempted to provide farm income support without direct intervention in commodity markets? What alternative policies might be adopted to deal with U S agriculture in an international context? The answers to these questions will depend largely on changes now taking place in the macroeconomic and trade environment facing U S agriculture. When future policy strategies are analyzed, the lessons (both positive and negative) learned by earlier generations of officials and farmers can help us understand in what sense current problems facing agriculture resemble those in the past and in what sense they are unique. This knowledge can provide valuable insights into the formulation of future farm policies.

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