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## Impediments to U.S. Wheat Exports and Reasons for Decline in World Market Share

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### Introduction

Exports are vital to the economic health of the wheat industry. The U.S. wheat sector has exported approximately 50 percent of its production in recent years. However, the U.S. share of the world wheat market has been declining. The U.S. has seen its world wheat market share decline from 48 percent in 1981-82 to 29 percent in 1985-86, even though the volume of world wheat trade has remained relatively stable (USDA). World and U.S. wheat exports, as well as U.S. market share for 1970 through 1985 are shown in Table 1. Global recessions, a strong U.S. dollar, the Soviet grain embargo, restrictive practices by the U.S. and trading partners, and inflexible farm policies are suggested as possible reasons for a decline in U.S. wheat exports.

These reasons for export declines may be viewed as export impediments. However, the magnitude of each impediment's contribution to the decline of wheat exports varies tremendously. Some impediments have been overemphasized, others underemphasized. The "real" impediments to U.S. wheat exports should be separated from the "myths" surrounding the export problems of the U.S. wheat industry. The real impediments that have and continue to inhibit U.S. exports of wheat need to be examined.

### Exchange Rates and the Value of the Dollar

The U.S. wheat export industry benefited from the dollar devaluations of 1971 and 1973. These devaluations effectively reduced the prices of U.S. agricultural commodities to foreign buyers. These devaluations along with relatively easy export credit allowed the U.S. to gain substantial export market shares worldwide. The appreciation of the dollar

Table 1: Wheat Exports, World and U.S. 1970-85.

Year	World Million Bushels	U.S. Million Bushels	U.S. Share Percent
1970	2,021	738	37
1971	1,911	632	33
1972	2,462	1,186	48
1973	2,315	1,217	53
1974	2,363	1,018	43
1975	2,451	1,173	48
1976	2,326	950	41
1977	2,675	1,124	42
1978	2,646	1,194	45
1979	3,160	1,375	44
1980	3,458	1,514	44
1981	3,722	1,771	48
1982	3,623	1,509	42
1983	3,781	1,429	38
1984	3,939	1,424	36
1985	3,303	950	29

Source: USDA, ERS, Wheat; Situation and Outlook, February, 1986.

against major currencies in the 1980's has seen a general decline in U.S. exports of all agricultural commodities including wheat. These countervailing events have led many agricultural economists to the conclusion that

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a strong inverse relationship exists between U.S. exchange rates and exports.

However, the relationship between the exchange rate and trade has been overemphasized (4). It is useful to distinguish between nominal and real exchange rates to understand why exchange rates have been overemphasized as an impediment to wheat exports. The nominal exchange rate represents changes caused by fundamental economic forces plus the effects of inflation on both the U.S. and foreign countries. The real exchange rate represents only the changes caused by fundamental economic forces. In other words, the real exchange rate is the nominal exchange rate adjusted for inflation.

Another useful tool for explaining the exchange rate's affect on trade is the purchasing power parity index (PPP). The PPP is the relationship between nominal changes in the foreign exchange rate and the relative rates of domestic inflation in two trading countries. The rate of change in the nominal foreign currency price of the U.S. dollar is equal to the difference in the rates of inflation between the U.S. and a specific country. Thus, if exchange rates adjust by reflecting the relative inflation rates in the U.S. and a trading country, the purchasing power parity of the dollar is maintained. Whenever the PPP is maintained, nominal exchange rates have no impact on wheat exports.

Theoretically, it is real exchange rates that impact international trade. The rising foreign exchange value of the dollar of the early 1980's has been due to both nominal and real factors. Only to the extent that real fundamental economic forces caused the appreciation of the dollar is the exchange rate responsible for the decline in U.S. wheat exports. Many trading partners of the U.S. experienced higher rates of inflation in the early 1980's than did the U.S. To the extent that exchange rate changes were induced by inflation in foreign countries, the exchange rate cannot be held accountable as an export impediment.

Empirically, real exchange rates are not always inversely related to U.S. agricultural exports (4). In 1982, for example, the real exchange rate of the dollar versus the Mexican Peso rose 44.1 percent and Mexico decreased imports of U.S. agricultural commodities by 33.6 percent. However, in 1983, the dollar rose 40.2 percent versus the Peso and Mexico increased imports of U.S. agricultural commodities by 21 percent. Similarly, U.S. agricultural exports to Japan rose 5.1 percent in 1983 while the dollar appreciated 3 percent in real terms against the Yen. Many bilateral comparisons exhibit similar contradictory patterns. Obviously, factors other than exchange rates account for changes in countries import patterns.

## Global Recession and Debt Problems

Since the mid to late 1970's many nations have been part of a global recession. However, the effect of the recession has varied among countries. Since demand for food is inelastic in the short run, the net effect was not to decrease consumption or imports of agricultural products. The world demand for wheat has been relatively stable throughout the past ten years. However, the worldwide recession has shifted the volume of purchases by individual countries. Different importing countries are expected to purchase wheat from different exporting countries. Therefore, there has been a market share adjustment in the world market.

Fifty-four percent of U.S. wheat exports were sent to less developed counties (LDC's) in 1981-82. Even though the worldwide recession has subsided, it has left the LDC's with massive debt repayment problems. In 1983, the outstanding foreign debt of non-OPEC LDC's was \$669 billion, more than double the level of 5 years previous (3).

U.S. commercial banks hold a considerable portion of the LDC's foreign debt. The LDC's goal has been to decrease imports and increase exports in an attempt to earn foreign exchange to meet repayment obligations. Since U.S. banks are major creditors the LDC's have a vested interest in acquiring dollars through expanding exports. LDC's also have a large incentive to avoid an outflow of dollars that would be required to purchase U.S. goods including wheat.

High real exchange rates further aggravate the debt dilemma. As the value of the U.S. dollar rises, the amount of foreign exchange needed to service debt rises. This rise puts further pressure on LDC's to increase exports and limit imports.

The LDC's do not necessarily benefit from a decline in the U.S. dollar. A strong dollar should open U.S. markets to LDC exports. However, many LDC's specialize in the export of primary commodities. Primary Commodities are less sensitive to the income increases of U.S. consumers, via the strength of the dollar, than the durable goods imported from the developed countries. Therefore, the LDC's may not have increased their exports to the U.S. as many developed countries obviously have. Another point is the declining dollar exchange value could cause U.S. interest rates to rise, raising LDC interest payments and making LDC's worse off.

An effect of the global recession and subsequent global debt dilemma has been to shift market share away from the U.S. The developed countries have weathered the recent recession much better than the LDC's. Unfortunately, the increase in the potential buying power of the developed market economies as importers of U.S. wheat has not offset the loss of the LDC market in recent years.

## Grain Embargos

The 1980 U.S. grain export embargo to the Soviet Union seems to have been detrimental to U.S. wheat producers. Producers appear to feel the impact in two ways. First, as a result of the embargo, the reputation of the U.S. as a reliable supplier was damaged. Second, such actions provided a market signal for other nations to expand production and capture U.S. markets. Both of these detrimental effects may have provided incentives for importers to opt for other grain suppliers.

In the short run, the U.S.'s reputation as a reliable supplier was damaged. However, with the passage of time and no further embargoes, the reliable suppliers' argument has lost ground. For the most part, according to grain exporting firms, the reputation of the U.S. as a reliable supplier is indeed intact. The argument has remained in Soviet rhetoric as a political instrument.

The long run effects of the embargo appear to linger on. Competing countries that have expanded their production base to accommodate a perceived shift in their ability to market grain exports are hesitant to leave the export arena, even when faced with lower world prices. These countries have not only made substantial resource investments in agriculture but also in the infrastructure to accommodate their increased production. They have spent millions on improved methods of grain handling, storage and shipping facilities. These resources are fixed in agriculture for the immediate future.

In a trade setting such as the world wheat market, the possibilities of a successful grain embargo are limited. Grain production and trade are so decentralized that no one country can effectively embargo another country. If world supplies are adequate, as they are at present, other exporters will supply the embargoed country. Markets lost to embargoed countries and countries who perceive potential embargoes are not easily regained. Even though the Soviet Union has purchased substantial quantities of grain from the U.S. in recent years, it is unlikely that they will return to the level of purchases of U.S. wheat made in the early 1970's. Therefore, in the case of the Soviet Union, the U.S. was the loser (8).

### Price of U.S. Wheat in the World Market

In recent years, the U.S. price of wheat has been substantially above world market prices. This has been the direct result of wheat loan rates supporting the domestic price of wheat above the world market price. A result of high loan rates and hence high U.S. prices has been to decrease the U.S. export market share of wheat. As foreign buyers face a higher U.S. wheat price relative to other wheat exporting countries, foreign importers of wheat shift their purchases away from the U.S. and toward our competitors. Figure 1 shows the

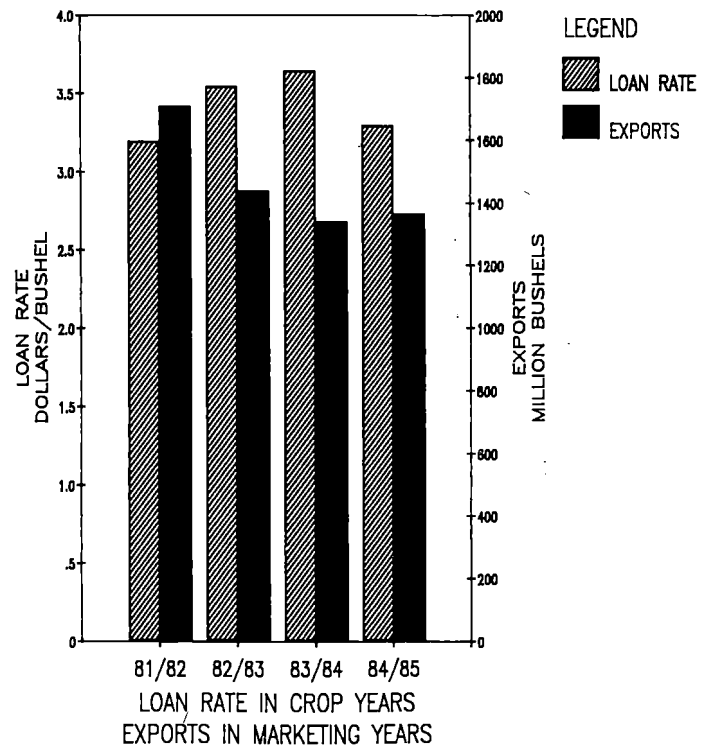


Figure 1: U.S. Loan Rate and Exports 1981-82 thru 1984-85.

U.S. loan rate and exports for 1981-82 through 1984-85.

The concept of the price elasticity of demand is useful in explaining the occurrence of price effects in the world wheat market. The price elasticity of demand measures the responsiveness of quantity demanded to a change in price. It is a ratio of the percentage change in quantity demanded to the percentage change in price. The demand curve is elastic where this ratio (absolute value) is greater than 1. Conversely, the demand curve is said to be inelastic where this ratio (absolute value) is less than 1. A unitary elasticity demand curve implies an elasticity of 1.0 in absolute value.

If the demand curve is elastic, quantity is highly responsive to price changes. Any percentage fall (rise) in price leads to a larger percentage rise (fall) in quantity demanded and therefore, an increase (decrease) in total revenue. If the demand curve is inelastic, any percentage fall (rise) in price leads to a smaller percentage rise (fall) in the quantity demanded and therefore, a fall (rise) in total revenue.

Several studies have estimated the export elasticity for U.S. wheat. In the short to intermediate time range, the export elasticity of wheat was estimated to be  $-0.837$  (2). The same study estimated the long run export demand elasticity of wheat to be  $-2.641$ . Another study has estimated the long run export

elasticity to be -6.4 for all agricultural products (9). A related study estimated the long run export elasticity for wheat to be -6.72 (7). Thus, quantitative evidence suggests that the short run export demand for U.S. wheat is inelastic, but elastic in the long run.

In the past, the assumption of a short-run inelastic demand curve for wheat has trapped policy makers into short term policy responses. Such policy actions (i.e., acreage reductions) decreased the quantity supplied by the U.S. in an attempt to raise prices and revenues. When the U.S. export market share was a large percentage of world trade in wheat, these policies were valid means to increase prices and revenues in the short run. However, with declining world market share these policies become less effective. Also policies to provide higher prices by restricting output have the effect of decreasing revenues as the time horizon moves to the long run. As economic theory would mandate, products become more elastic as the time horizon increases. Demand for U.S. wheat for export is no exception. Thus, by following such policies over time, the U.S. has lost in two ways. First, by losing market share and second, losing credibility as an export supplier. If an elastic demand for wheat exports were assumed, total revenue from wheat export sales could be expanded by letting the world market function to keep U.S. prices competitive with world prices.

As long as U.S. loan rates are above the world market price of wheat, the U.S. will continue to lose market share. In essence the U.S. is pricing itself out of the world wheat market. Market share that is easily lost may be difficult to regain. Other wheat exporting countries will not likely make the same mistakes and will probably take steps to hold market share.

#### Cargo Preference and BICEP

U.S. law requires that 50 percent of all U.S. concessional exports of agricultural commodities be shipped on U.S. flag ships. Because the cost of shipping on U.S. flag ships is significantly higher than on other vessels, U.S. agricultural exports have suffered (5). Cargo preference legislation was originally enacted to help insure that the U.S. could maintain a viable maritime industry for use in times of national emergency. Freight rates have been 40 to 80 cents per bushel higher on U.S. flag ships than foreign vessels in recent years (2). The added expense of cargo preference offsets the use of credit assistance programs (GSM-5, GSM-102, and PL-480) and renders these programs ineffective.

In 1985, the U.S. initiated the BICEP program to bolster export sales. The BICEP program was designed to offer credit assistance

to nations on friendly political terms with the U.S. However, the restrictive nature of the BICEP program restricted some nations, such as the USSR from purchasing grain at effectively lower U.S. prices. As a result, the USSR has gone elsewhere for wheat imports. The loss of the large Soviet import market has not been offset by increased imports by countries covered under the BICEP program. Obviously, the restrictive use of the BICEP program is an impediment to U.S. wheat exports and possible reason for recent loss of world market share.

#### Trade Restrictions

Nations institute trade restrictions to protect domestic industries from foreign competition, especially if such competition is considered unfair. Many barriers can be used to restrict trade. These trade restrictions may originate in either importing or exporting countries. No matter where these restrictions originate, they can make selling grain in the world market very difficult and are an impediment to wheat trade.

Trade restrictions are not a new problem, neither are efforts to reduce them. In 1946, leaders of 22 countries met in Geneva, Switzerland to discuss ways to reduce trade barriers and expand international trade. The General Agreement on Tariffs and Trade (GATT) was the product of this meeting. The GATT is still in effect and guides international trade today. The stated purpose of GATT is to reduce trade barriers, expand trade, and establish a set of principles and guidelines for international trade. An additional role of the GATT is to settle disputes and infractions of member countries (1).

#### Trade Restrictions Imposed by Importing Countries

Trade restrictions imposed by importing countries include tariffs, variable levies, state trading, export subsidies, import licensing, quantitative restrictions and domestic pricing policies. Domestic policies of the importing countries are included because trade barriers often arise to protect domestic prices from import competition. Other policies, such as direct payments to producers for use of certain inputs or subsidies on agricultural output, are impediments to wheat trade in that they make domestic production more profitable and thus, more competitive with imports (6). Major importers which place restrictions on wheat are the European Community (EC), Japan, Brazil, Nigeria, Egypt, the Republic of Korea, and India.

#### Trade Restrictions Imposed by Exporting Countries

Trade restrictions imposed by major exporters of wheat include the use of marketing boards, export taxes, subsidies and quotas, and

exchange rate policies (6). Also, many governments establish guaranteed prices to producers. Foreign governments often provide subsidies on credit and inputs which make production of export crops more competitive in the world market. Major competing exporters of wheat which impose trade restrictions include the EC, Canada, Australia, and Argentina.

#### Inferences of Trade Restrictions

Trade restrictions in both importing and exporting countries are important impediments to international wheat trade. Importing countries practice state trading and use variable levies to protect administered price levels. Importing countries also administer tariffs, taxes, quotas, and other policies which restrict the level of competition in international markets. Exporting countries implement similar policies which restrict trade. In addition, many exporting countries follow policies allowing for the sale of wheat on international markets below world prices when production is high.

The degree of international protection in the wheat market is high relative to corn and soybeans. Much of the protectionism provided in wheat markets results from state trading policies supporting domestic wheat prices at levels different from world prices which lead to imperfect market signals for producers. Imperfect market signals, especially perceived higher producer prices, may result in unusually high levels of wheat production.

#### Other Factors

Foreign trade agreements, the quality of U.S. wheat, port strikes and shipping facilities have all been perceived as impediments to exports in the past. All of these problems, with the exception of foreign trade agreements, are problems associated with beginning exporters. Over time the U.S. has overcome the problems associated with beginning exporters.

Foreign trade agreements are agreements between an exporting country to make a specified quantity of a commodity available for purchase by an importing country over a specified time period. The U.S. is free to enter into such agreements, as are other exporting nations. However, trade agreements have a negligible impact on trade because they are easily broken. In essence, they do not hinder nations from shopping around for the best price for wheat. Since, trade agreements are not binding they cannot be viewed as impediments to wheat exports.

The quality of U.S. wheat is not an impediment to exports. USDA grading standards seek to ensure the quality of wheat exported by the U.S. is what importers specify. If

anything, the quality of U.S. wheat is an export advantage rather than an impediment.

In the past, port strikes have hindered U.S. exports. Port strikes are uncommon at present because of high rates of unemployment and non-union pressure on dock workers in port cities. U.S. shipping facilities are among the best in the world. U.S. harbors will accommodate even the largest of ocean freighters. Shipping facilities are an advantage rather than a disadvantage in respect to U.S. wheat trade.

#### Conclusions

The U.S. wheat industry must overcome impediments to wheat exports if it is to remain a viable wheat exporter. Several of these impediments have been discussed in this paper. "Real" impediments to U.S. exports are the high price of U.S. wheat (via the loan rate), global recession and debt problems, changes in the structure of the international wheat industry, high "real" exchange rates, cargo preference, and trade restrictions. Trade impediment myths surrounding the wheat export sector were also discussed. The "high" U.S. exchange rate (nominally measured) and the reputation of the U.S. as a reliable supplier are the most blatant myths. Other myths include the beliefs that damage is incurred by the U.S. when other countries sign wheat trade agreements and that port strikes and weak shipping facilities hinder our ability to export.

Obviously, the U.S. cannot eliminate all impediments to wheat exports overnight. Some are beyond the scope of U.S. policy. However, a course of sound macroeconomic (monetary and fiscal) policies, a lower U.S. price for wheat offered on the world market, the ending of cargo preference, and steps toward multilateral trade barrier reductions should improve the competitiveness of the U.S. in the international wheat market.

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