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THE COMPETITIVENESS OF U.S. AGRICULTURE

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THE COMPETITIVENESS OF U.S. AGRICULTURE

EXECUTIVE SUMMARY

During the 1970s, world trade in grains and oilseeds expanded rapidly. The United States was advantageously positioned and captured a large share of that market growth. During the early 1980s, these gains were mostly lost. World trade declined, and the United States bore most of the brunt of the decline. U.S. exports fell almost 39 million tons while competitors' exports grew 16 million tons.

This decline has been reversed since passage of the 1985 Food Security Act, and U.S. grain exports again are growing significantly. Still, the U.S. agricultural trade performance of the early 1980s causes the question of competitiveness to loom large; that is, can the United States compete effectively in world agricultural product markets? This question is of particular significance because of the growing momentum for global trade liberalization, the focus of the current GATT talks in Geneva. Many in the agriculture sector are uncertain how U.S. farmers and agribusiness might actually fare under freer world trade.

The concept of international competitiveness is highly complex and has been the subject of economic and legal discussions for many years. Typically, competitiveness refers to the ability of a producer to profitably capture and maintain markets. It is determined by both economic and policy factors.

Economic Factors

The economic basis of competitiveness in international trade arises from comparative advantage, which refers to the relative advantage a nation has in producing and exporting certain products. The United States enjoys a comparative advantage in agricultural production because of its abundant natural resource base, highly skilled human resources, favorable climate, rapidly advancing technological capability, and extensive production and marketing infrastructure resulting from substantial previous investment both by farmers and agribusiness. These factors are reflected in the rapid growth in agricultural productivity over the past several decades, low variable costs of production for most U.S. export crops, and efficiency in storing, processing and moving products from the farm to the export location.

Despite these considerable advantages, there are recent concerns that the United States has lost its competitive edge due to lower production costs and trade practices of other countries. Available cost information, however, reveals that U.S. producers still are very competitive with producers anywhere in the world. Average cost comparisons conceal the fact that much of U.S. production occurs at costs well below the national average cost which also includes uneconomic production fostered by government farm policies. The vast bulk of U.S. wheat, corn, and soybeans is produced at variable costs below those of Argentina, often cited as the world's lowest cost producer.

Current production costs are only part of the competitiveness issue. More important in competing for new market opportunities is the capacity to produce and market additional output at low cost and when it is needed. The United States has a clear advantage over its competitors in this regard. About 25 percent of U.S. agricultural production capacity is currently idle, but could be quickly returned to production. This means the United States could increase its wheat and corn output 80 million tons in one year, an amount more than six times Argentina's total annual production and twelve times its total exports.

In addition to U.S. production capabilities, our marketing system is widely recognized as the most efficient in the world. The cost of moving a bushel of grain from the farm into export position is significantly lower for the United States than for Argentina or most other competitor countries. Ocean shipping costs from the United States to many major markets also are very competitive. And, the U.S. marketing system can handle additional volume at very low cost, unlike most of our competitors. Currently, as much as 50 percent of the capacity of our grain export system is unused, most of which would be quickly available as well. In contrast, many competitors are operating near capacity and have only limited ability to expand either production or marketing facilities without substantial capital investment over several years.

Clearly, the economic basis for U.S. comparative advantage and competitiveness remains strong. The explanation for the poor trade performance of the 1980s lies elsewhere, largely with various policies that affect competitiveness.

Major Policy Factors

Many recent government policies combined to erode U.S. competitiveness and to limit export potential. Macroeconomic policies contributed to worldwide economic recession, large third-world debts, high real interest rates, and a high-valued dollar, all of which operated to agriculture's disadvantage in the first half of the 1980s. However, many of these problems are beginning to recede and could set the stage for improved market growth over the next several years.

Agricultural production and trade policies of the United States and other countries also have inhibited exports by seriously distorting production incentives, prices, and trade flows. Virtually every nation intervenes in agricultural markets to some extent. These actions usually have negative impacts on world trade in general and frequently are harmful to U.S. competitiveness in particular.

The United States is no exception. Our price support, target price, and supply control programs not only over-stimulated U.S. agricultural production, but have had the effect of propping up world prices and encouraging others to expand output in a relatively risk-free environment, thus subsidizing competing farmers at U.S. taxpayers' expense, inflating our own farmers' costs, and discouraging consumption everywhere. The result of these policies has been the stockpiling of vast quantities of surplus grains and other

commodities at enormous cost to taxpayers and consumers, while helping our competitors expand their production and exports.

The 1985 Food Security Act changed direction and corrected some of the most negative aspects of U.S. policy by allowing some products to sell at more competitive prices. But the target price system continues to foster uneconomic production and encourages continued reliance on price supports and supply controls to reduce farm program costs, which approached \$26 billion last year but are beginning to decline. In essence, our programs encourage production on some marginally productive land while at the same time require the idling of some highly productive land.

The European Economic Community (EEC) pursues more protective policies than the United States. Its Common Agricultural Policy (CAP) protects internal markets that provide grain producers prices that are more than double those in the world market. The result has been rapidly increasing grain output, even as internal consumption was slowing because of the high consumer prices. EEC grain output in the past ten years has increased 41 percent while consumption remained stagnant. The EEC thus has become a major net grain exporter since 1981, but much of the exports have required large direct subsidies. CAP policies also have reduced U.S. soybean exports by protecting less efficient EEC oilseed producers.

The United States and EEC are not alone in maintaining policies that distort prices and inhibit trade. Many other competitors (Argentina, Australia, Brazil, Canada, and others) also have fostered production and exports of some products through direct payments, export credit programs, differential export taxes, and other policies, although to a lesser extent than the United States and EEC. The amount and budget cost of interventions of other countries would have been greater had they not been made unnecessary by the indirect benefit of U.S. efforts to control output and prop up prices.

Restrictions on domestic markets by many countries have been a major factor behind the stagnant growth of world markets. Japan undoubtedly is the most protective, holding its rice and wheat prices as much as six times higher than world prices. Many other major markets, including Taiwan, South Korea, Brazil, and India also have substantial import barriers.

Impacts of Trade Distortions

The effect of all these policies has been to reduce the volume of world trade. The World Bank estimates that complete liberalization of agricultural trade by itself would increase world wheat trade six percent, coarse grains 30 percent, and rice 100 percent. World prices would increase for most commodities and become substantially less volatile because market adjustments would be shared by all countries rather than being forced on a few market-oriented countries. Producers and consumers in developing and industrial market economies would gain from more efficient use of agricultural resources, increased availability and consumption of food and agricultural products, and greater market opportunities for producers. The United States, with its comparative advantage in production and ability to expand exports rapidly and at low cost,

clearly would be in an advantageous position to compete for the market growth that would occur.

Trade liberalization would impose costs on some sectors of agriculture, although these costs would be at least partially ameliorated because adjustments would be occurring in the context of an expanding market. In addition, structural adjustment assistance, unconnected to farmers' production decisions, could reduce those impacts and likely at costs lower than for current commodity programs.

THE COMPETITIVENESS OF U.S. AGRICULTURE

INTRODUCTION

During the 1970s, world trade in grains and oilseeds expanded rapidly, almost doubling to 233 million tons. The United States was well positioned to capture a large share of that trade growth. U.S. exports increased 85 million tons, compared to only 20 million tons for our competitors. Since 1980, many of these gains were lost. World grain and oilseed trade stagnated, and then declined by some 23 million tons between 1980 and 1986. The United States bore the brunt of the decline. Competitors' exports grew 16 million tons, while U.S. sales fell almost 39 million tons.

Although U.S. exports have improved recently, the trade performance during the contracting market of the 1980s causes the question of competitiveness to loom large: that is, can the United States still compete effectively in world agricultural product markets? Some observers have suggested that it cannot, and have even proposed stringent domestic supply management programs. The recent performance also has caused some apprehension about the growing momentum for global trade liberalization, the focus of the current GATT talks in Geneva. Many in the agricultural sector are uncertain how U.S. farmers and agribusiness might actually fare under freer world trade.

This paper examines the broad issue of competitiveness for grains and oilseeds. It addresses the central question, "Can the United State compete?" It also examines the closely related question of, "How would U.S. agriculture fare in a world trading system characterized by much freer trade?"

The remainder of the paper is organized into three sections. The following section discusses what is meant by competitiveness in world trade. The third section addresses the question of whether the United State can compete by first examining the determining economic factors and then the important policy factors that influence competitiveness. The final section summarizes the analysis and presents the conclusions.

WHAT IS COMPETITIVENESS?

The concept of competition and competitiveness is highly complex and has been the subject of economic and legal discussions for many years. In the broadest sense, it includes nearly all activities even remotely related to sales: efforts to improve quality, service, or images of quality and service are included. However, the unit price of the delivered commodity and supply assurance are most critical. In market economies, sales competition for agricultural markets is conducted primarily on the basis of product prices. Competitiveness typically refers to whether a firm or industry can offer

prices lower than its competitors, and thus achieve and hold a share of the total market.

Competitiveness has both short and long-run dimensions. It usually means the ability to capture and maintain a share of a market over a long period of time. However, for many reasons, such as oversupply and inadequate storage, some firms often may match competitors' prices in the short run but have a cost structure that precludes offering a competitive price over time. Such firms are not really competitive, although they sometimes make sales.

The meaning of competitiveness in international trade is even more complex. Being competitive usually is viewed as being a low-cost producer which implies the ability to offer low prices to customers. From this viewpoint, determining whether a particular supplying country is competitive relative to others involves comparisons of production costs. Empirical data on production costs are sketchy and unreliable. They frequently are based on different concepts, and distributional detail often are inadequate. Beyond that, the complexities are increased because of different currencies and shifts in exchange rates.¹

In addition to practical problems of cost definition and measurements, comparisons of countries' production costs, even if they could be done satisfactorily, relate only to absolute advantage, simply whether one country is a lower cost producer than another. They do not reflect the undeniable benefits from international trade, benefits that accrue to all countries from specialization in production and trading, i.e., comparative advantage.

The economic concept of comparative advantage is longstanding and well known. It refers to the gains that can result when countries specialize in what they produce best and then trade with other countries. Nations can benefit from specializing in producing and trading products, even if one country is better (absolute advantage) than others at producing all products. Thus, a country need not be the absolute lowest cost producer to still be competitive and benefit from specializing in the production and export of certain commodities.

In addition to the difficulties with cost computations and comparisons, production costs are but one of the several factors determining competitiveness. There are many others, such as marketing and distribution costs, ability to service markets, and critical government policies. All are important in determining overall competitiveness.

The United States enjoys a comparative advantage in the production of many agricultural commodities, especially the grains and oilseeds that make up the bulk of world agricultural markets. Its advantage derives in large part from the abundant natural resource base, skilled human resources, a highly favorable climate for crop and livestock production, extensive infrastructure, and a highly developed marketing system. Productivity growth is a major

¹ For a detailed discussion of the difficulties in cost of production comparisons across countries, see (10).

factor. The relative rates of productivity growth in agriculture versus non-agricultural sectors in the United States and the rest of the world generally have favored U.S. agriculture. Between 1970 and 1982, agricultural productivity grew faster in the United States than in the rest of the world as a whole, and labor productivity in U.S. agriculture grew more rapidly than the rest of the economy (10). Such factors suggest that any U.S. agricultural comparative advantage likely was strengthened over this period.

Comparative advantage alone, however, fails to explain all changes in U.S. competitiveness. There are other determining factors. Quite apart from economics, the policies of the United States and other countries substantially influence agricultural production and exports. Such policy-determined factors as the value of the dollar and, more directly, domestic agricultural policy and subsidized foreign competition, tend to erode the economic advantages. Any changes that reduce negative influences of these policies on agricultural trade will allow the underlying U.S. comparative advantage to be reflected in our agricultural competitiveness. In other words, whether the United States now is competitive in world agricultural markets and whether it can compete in the future depend on the economic efficiency of the U.S. production and marketing system and on whether policies enhance or erode that competitiveness. Both economic and policy factors are examined in the subsequent section.

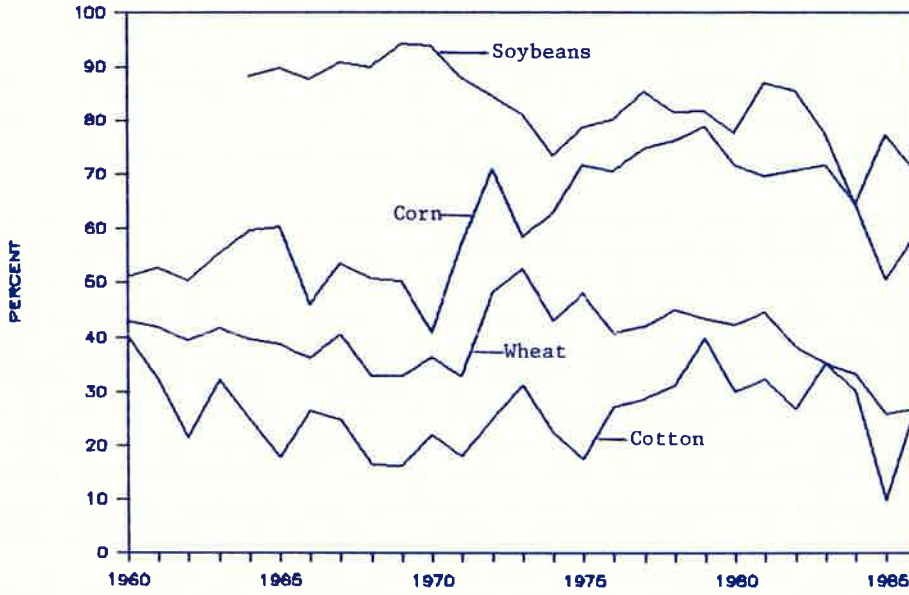
CAN THE UNITED STATES COMPETE?

The United States captured very large shares of the global trade expansion of the 1970s, and increased its market share for several major commodities including wheat, corn, and cotton (Chart 1). Several factors explain that success. The devaluation of the dollar in the early 1970s made U.S. products much less expensive to importers; gradual reductions in commodity price supports over the preceding years also made U.S. products more price attractive; and substantial idle production capacity and marketing infrastructure enabled a quick response when overseas demand expanded.

Before the boom began, large areas of cropland had been idled by government programs. When foreign demand surged, U.S. output could be expanded quickly. Between 1972 and 1981, U.S. plantings rose nearly 70 million acres, including return of previously idled land and newly cultivated cropland (Chart 2). Grain output increased 45 percent, soybeans 56 percent, and cotton 14 percent. Grain exports rose 57 percent, soybeans 94 percent, and cotton 24 percent.

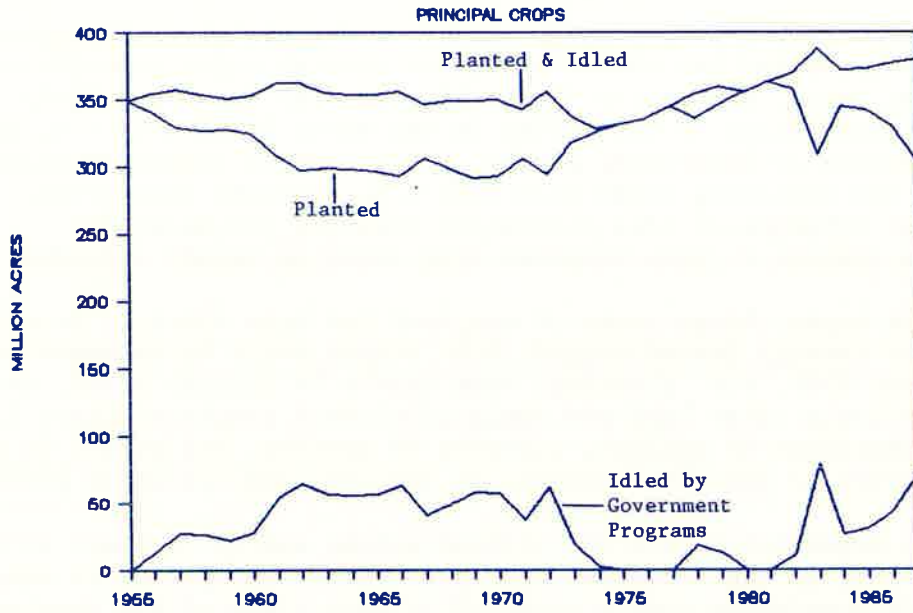
The tremendous expansion (grain and soybean volume nearly doubled) of world agricultural trade in the 1970s was the result of a combination of many factors. Rapid population growth occurred in many areas of the developing world, and growing incomes led to rapidly expanding markets. Newly available capital at low (and sometimes negative) real interest rates sharply stimulated growth and consumption. Production shortfalls in several regions, especially the Soviet Union, increased both demand and prices.

Chart 1. U.S. Share of World Trade



Source: USDA.

Chart 2. Cropland Area: Planted and Idled



Source: USDA.

The world trade expansion and the U.S. export boom were quickly spent by the early 1980s as the very factors that had stimulated the earlier growth began to restrict it. Restrictive macroeconomic policies intended to curb inflation soon halted growth in much of the world and economic stagnation and recession followed. The purchasing ability of many significant importers was reduced dramatically. Moreover, the dollar appreciated sharply, increasing the cost of our products to importers, while our increasing commodity price supports again were allowed to hold prices above competitive levels.

World grain trade declined 16 percent between 1980/81 and 1985/86 while soybean and cotton trade grew only two percent and three percent, respectively. Despite surpluses and declining prices, production of many commodities continued to expand throughout the world, the result of government policies and prior investments. World grain production by 1985/86 was 15 percent higher than in 1980/81, while soybean production was up 20 percent and cotton production was up 21 percent. With this overall contraction in trade, the United States lost much more than a proportionate market share for most major commodities (Table 1). Since 1985, world trade has begun to expand and the United States has regained some of the markets lost since 1980 as the new policy direction established under the 1985 Food Security Act and the declining value of the dollar removed major impediments to competitiveness.

Table 1. U.S. Share of World Trade for Selected Commodities

| Year ^{1/} | Wheat | Coarse Grains ^{2/} | Soybeans | Rice | Cotton |
|-----------------------|---------------|-----------------------------|----------|------|--------|
| | -- percent -- | | | | |
| 1980/81 | 42.5 | 64.5 | 77.7 | 22.9 | 30.1 |
| 1981/82 | 44.7 | 60.5 | 87.1 | 22.0 | 32.5 |
| 1982/83 | 38.4 | 60.1 | 85.6 | 19.2 | 26.8 |
| 1983/84 | 35.4 | 59.8 | 77.4 | 17.3 | 35.3 |
| 1984/85 | 33.4 | 55.0 | 64.5 | 17.5 | 30.4 |
| 1985/86 | 25.9 | 38.3 | 77.3 | 15.1 | 9.6 |
| 1986/87 | 26.8 | 46.8 | 72.2 | 21.1 | 26.3 |
| 1987/88 ^{3/} | 31.6 | 49.0 | 68.7 | 24.8 | 29.1 |

^{1/} Based on aggregate of different marketing years in exporting countries.

^{2/} Coarse grains include corn, sorghum, barley, oats, rye, and mixed grains.

^{3/} Forecast.

Source: World Agricultural Supply and Demand Estimates, USDA, September 1987 and earlier issues.

It was in the context of stagnant world trade and reduced market share that the concerns about U.S. agricultural competitiveness emerged. The ability of the United States again to expand its exports depends on many factors. These include the basic economic considerations such as the cost of producing and marketing products in world markets, as well as the policies of the U.S. and

other governments that distort the world trading environment and affect our ability to compete.

ECONOMIC FACTORS AFFECTING COMPETITIVENESS

Incremental Production Costs and Capacity

The cost at which a country can produce a product obviously is a major determinant of competitiveness, and the composition and level of those costs are influenced both by purely economic factors and by internal and external policies. The purely economic portion of costs largely are determined by availability and quality of natural resources, the technology base, quality of labor and management, required industrial inputs, and other factors.

The inherent difficulties in estimating costs and making comparisons across countries have discouraged empirical studies. Few empirical estimates are available, and a serious limitation of those that do exist is that only average cost estimates are available for comparison. In this case, the averages likely conceal much more than they reveal. They do not reflect the relative efficiency of different types of producers, production regions, or incremental costs of expanding production. National average data may appear to imply that a country's production is inefficient when in actuality only some producers are relatively inefficient and most of the production is low cost. For example, U.S. national average variable cost of soybean production in 1985 was \$1.62 per bushel, while regional costs ranged from \$1.35 in the Corn Belt and Lake States to \$2.79 per bushel in the Southeast (11). However, omitting the production accounted for by the two highest cost regions reveals that 79 percent of the U.S. crop, an amount more than two and one-half times Brazil's annual output, is produced at a much lower average variable cost of \$1.35 per bushel.

Another frequently overlooked factor in intercountry cost comparisons is perspective on the relative sizes of the countries' output. For example, it appears that about six billion bushels (three-fourths) of the 1986 U.S. corn crop was produced at a variable cost below \$1.20 per bushel.² This reportedly is a level equivalent to average variable costs in Argentina, whose annual production is about 450 million bushels (9). In other words, while Argentina is often cited as a lower cost producer than the United States, the United States produces over 13 times as much corn at the same cost as Argentina.

Moreover, U.S. corn production costs have declined significantly in recent years as yields have increased, efficiency of input use improved, and prices of some inputs (particularly fertilizers) declined. With falling land prices, fixed production costs have declined as well. This has greatly expanded the

² It is not possible to say with precision how much U.S. production occurs at specific costs because actual data on distribution of costs by crop and producers are not available. The above estimate is based on average variable costs in 27 producing regions.

amount of corn produced at competitive costs. Consider that in 1986, 37 percent of the U.S. corn harvest was produced at a variable cost of \$1.10 per bushel or less. By 1988, that share is projected to be 80 percent, given reduced input costs. This means that the United States can expand its supply of corn produced at \$1.10 or less by over three billion bushels in two years, an amount more than six times the size of Argentina's total corn crop.

Wheat provides another example. Argentina has low variable production costs on its 350 million bushel crop, averaging about \$1.15 per bushel (1986 dollars) according to one recent study (9). The United States, in contrast, produced more than two billion bushels, or six times as much at variable costs averaging \$1.50 per bushel in 1985. However, the average figures mask the fact that the U.S. produces five different kinds of wheat, each for a somewhat different market, and in key production areas, U.S. costs compare very favorably with those in Argentina (Table 2).

Table 2. U.S. Wheat Prices and Cost Differences, by Type

| Item | 1986 Production (bil bu) | U.S. Farm Price ^{1/} March 1987 -- dollars per bushel -- | Variable Cost of Production in Specific States ^{2/} in 1985 |
|-----------------|-----------------------------|--|---|
| Hard Red Winter | 1.0 | 2.49 | 0.87 |
| Hard Red Spring | 0.5 | 3.05 | 1.00 |
| Durum | 0.1 | 3.05 | 1.01 |
| Soft Red Winter | 0.3 | 2.85 | 1.67 |
| White | 0.3 | 2.28 | 1.30 |
| | 2.2 | | |

^{1/} Selected producing region for each crop.

^{2/} Selected producing regions (Kansas, HRW; North Dakota, HRS; North Dakota, Durum; Illinois, SRW; Washington, White). Costs are for cropland planted after fallow in Kansas, North Dakota, and Washington.

Source: USDA.

Like Argentina, Kansas produces hard wheat of bread quality. Average variable production costs in Kansas for 1985 were significantly lower than reported costs in Argentina. Variable production costs were also lower than \$1.15 per bushel in North Dakota, South Dakota, Nebraska, Oklahoma, Idaho, Colorado, and Minnesota, states which accounted for three-fifths of U.S. wheat production in 1985.

The production of many classes of wheat is a major advantage for the United States. Wheat buyers often have highly specific needs for wheat of different classes. For example, the soft wheats, such as soft red winter and white, are used in specialty flours for cookies, crackers, cakes, and other bakery products. Durum is preferred for pasta, among other uses, while hard red wheats are used to bake bread. Even the hard reds have a range of protein

content that permits grain purchasers to specify in detail the wheat characteristics they require. Other exporters provide many fewer choices because their production is smaller and more limited.

Perhaps the most important consideration in evaluating competitiveness, and certainly more important than average costs, is the incremental cost of expanding production. The United States clearly is in a position to expand production and to do so at lower unit costs than other exporters or most importers. Some 75 million acres of cropland formerly devoted to grains, oilseeds, and cotton now are idled by government programs. This land is not abandoned, but is in soil conserving uses that prevent erosion and maintain soil quality. U.S. agriculture is producing grains only at about three quarters of its capacity and much of the idle capacity could be returned to production quickly to supply an expanding market. In the span of just one season, the United States could expand corn output as much as 2.5 billion bushels (35 percent) and wheat output 650 million bushels (31 percent) by returning the idled land to production. This incremental amount of corn is more than five times the size of Argentina's entire output, and the wheat is 70 percent of the annual Canadian output.

This situation is in sharp contrast to that for most of our competitors who, until just the current season, were largely producing and exporting near their peak capacities. Expanding output and exports for most of them would entail significant capital investment to develop additional production capacity. For wheat, production and export of our major competitors, Canada and the Economic European Community (EEC), are very near an all-time high. The situation is similar for production and export of corn by major competitors. While expansion by some competitors would be possible in the short run, considerable investment in land and water development and other supporting production infrastructure would be required to add significant additional capacity, not to mention the necessary marketing infrastructure (discussed below). Such expansion would require several years to complete, precluding short-term response to changing markets.

It also is important to note that the overall production cost structure of U.S. agriculture has undergone substantial adjustment in recent years in response to reduced exports and farm returns. Although difficult for many individual farmers, that adjustment has improved overall efficiency of the sector, resulting in lower unit costs. The extent of the adjustment is reflected in the 33 percent decline in average farmland prices since 1982 (as much as 50 percent in the Corn Belt and the Northern Plains), and the decline in farm debt of nearly \$40 billion (20 percent) in the past two years. Total farm production expenses declined 14 percent between 1984 and 1986, and are expected to decline further in 1987. Major reductions in expenses for inputs (fertilizers, fuels, and pesticides), interest expenses, capital replacement, land rents, and machinery have contributed to the decline. Thus, the recent adjustment in the overall cost structure, and the continued productivity gains both have served to improve the profitability and overall competitiveness of U.S. agriculture.

While there is a tendency to look only at competing exporters in assessing competitiveness, that is too narrow a focus. Roughly 11 percent of world grain consumption is met by imports. Consumption is rising an average of 30 million tons per year. The question is, who will produce the incremental bushels most cheaply? Even if the United States does not have cheaper costs than everyone else, it has costs significantly lower than most farmers in importing countries. So, America's competitive advantage asserts itself by taking a larger share of total world grain consumption. That is precisely what happened in the 1970s when imports rose from 10 percent to 15 percent of use (before falling back in the first half of the 1980s to 12 percent). Grain exports doubled in that period, with the U.S. capturing three-fourths of the growth. A key dimension of competitiveness, thus, is the capacity to serve the projected 30 million metric tons of new world grain demand each year.

Incremental Marketing Costs and Capacity

While farm costs of producing a commodity are of major importance, they are only one aspect of the competitive ability of a country to place commodities in an export position. Marketing and distribution costs also are important--the costs of storing commodities and transporting them to port, refining and processing, and ocean freight all affect an exporter's ability to deliver products to import markets at competitive prices. Similarly, the capacity of infrastructure to handle added volume--or the cost of building additional infrastructure--affects each nation's ability to compete for new business.

U.S. costs for marketing grains and oilseeds are widely acknowledged as the lowest in the world. For example, the spread between farmgate prices and Gulf port export prices for corn typically is less than 50 cents per bushel, while in Argentina, South Africa, and Thailand, the average cost of moving corn from farm to port generally is higher than 80 cents per bushel (9). The situation is similar for other grains and soybeans.

The elevators, rail and truck systems that move grain and oilseeds to collection and storage points, the terminal elevators and the barge system that moves commodities to export elevators, and the system of services that undergirds the handling and transportation system all play important roles in efficient marketing. During the export expansion of the 1970s, substantial investment was made in marketing capacity to handle the growing volumes. For example, there were still less than 50 unit-train loading facilities as late as 1972, but about 500 such country loading stations were in place by 1976. Barge capacity for river transport also was greatly expanded as were numbers of unit trains, both enabling much greater volumes to be moved to port and in greatly reduced time. Also, port facilities for storage and handling were expanded to accommodate the growing volumes. As a result of these investments, the cost and turnaround time for moving grain to export locations was reduced by one-half while U.S. grain exports doubled. Other exporting countries had the same opportunities, but could not respond and their exports grew only modestly.

The U.S. grain export system now is operating at about one-half of available capacity. Most of that idle capacity remains in place, and can be utilized

quickly. It is estimated that the United States today has the capacity to elevate for export nine billion bushels of grain and interior transportation capacity to support six billion bushels of exports. With exports of grain and soybeans for the current year forecast at 4.0 billion bushels, the United States obviously has considerable ability to respond to market growth conditions. With no additional capital costs, the United States likely could put an additional 1.8 billion bushels—or 50 million tons—of grains and oilseeds into export position at very low incremental costs. In fact, the U.S. system could handle a very large proportion of all world grain exports—ours and competitors—with the infrastructure already in place.

Presently, many of the other major exporters are operating at or near their marketing/distribution capacity, as they have expanded exports despite the stagnant world market. Expansion is costly, creates delays and logistical problems. This is particularly true for any significant expansion by economically-pressed nations such as Argentina and Brazil. Canada is exporting near-record quantities of wheat and other grains in the current year, stretching its current operating capacity. Australia generally has adequate capacity, but has other logistical problems such as labor strife. The European Community perhaps has fewer logistical constraints than other exporters and could gear-up to some extent in the short run, but its costs of doing so would be incurred in other areas, namely the very large export subsidies under its Common Agricultural Policy.

The cost of transporting commodities from exporting to importing countries also affects the relative advantage of exporters. These costs, of course, differ depending on the location of the importer. Nevertheless, the United States has low freight costs to virtually all major markets. This is due to the U.S. access to both the Atlantic and Pacific Oceans, and to the large volume of shipping conducted between the United States and major agricultural markets, enabling efficient use of ship capacity in scheduling backhaul freight. Ocean freight rates for U.S. wheat typically are less than \$10 per ton (\$0.27 per bushel) for shipments to Europe and about \$20 per ton for shipments to Japan, USSR, China, and Egypt (6). Shipping costs from the United States to Europe are comparable to those of Canada and substantially below those of Australia and Argentina, which are estimated to be about \$20 per ton (5). Shipping costs from the United States to Japan are comparable to those of Canada and Australia, but significantly lower than costs from Argentina.

Clearly, the United States enjoys major advantages due to its marketing infrastructure and transportation costs that are as important as our ability to produce and expand production at a low cost.

It seems clear that the United States can put additional bushels of wheat, corn, and soybeans into export position as cheaply as virtually all of our competitors. While the empirical evidence is limited, it suggests that variable costs of U.S. producers are as low as those of most competitors. Moreover, total costs of producing and putting grain in export position appear to be comparable to those of the best of our competitors.

MAJOR POLICIES AFFECTING COMPETITIVENESS

The previous section strongly suggested that, based on economic factors alone, U.S. agriculture is highly competitive in grains and oilseeds in comparison to other leading exporting nations. However, when government policies--and global economic considerations such as exchange rates and rates of economic growth, themselves often determined by government policy--are factored in, U.S. competitiveness may be considerably eroded. This section reviews the impacts of various policy factors and examines that proposition.

Macroeconomic Policies

Macroeconomic policies have played important roles in U.S. competitiveness over the past 20 years and perhaps have come to be more important than any other single factor to the overall economic health of the farm sector. In recent years, macroeconomic policies have greatly impaired U.S. agricultural competitiveness. Imbalances in fiscal-monetary policies resulted in excessive appreciation of the dollar, placing a disproportionate burden of adjustment on trade-related sectors of the economy such as agriculture. Accompanying high real interest rates have made that adjustment process particularly costly and painful for capital intensive sectors of the economy, including agriculture.

Exchange Rates and Inflation

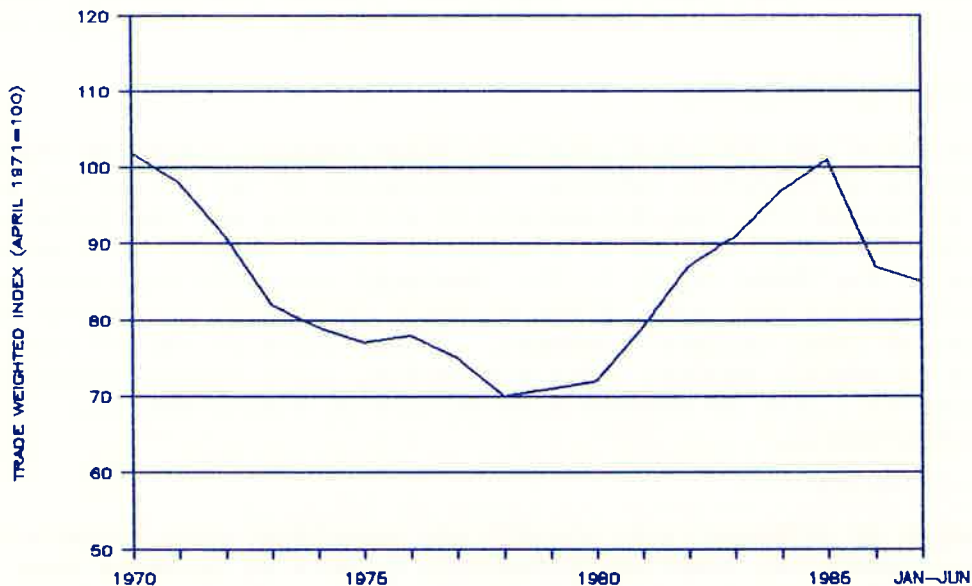
Relative exchange and inflation rates are major factors affecting the trade competitiveness of different nations. Devaluation of the dollar was a major factor in increased U.S. competitiveness in the 1970s, and the dollar's rapid appreciation is widely regarded as a major cause of the poor U.S. export performance in the 1980s (2, 3, 4, 7). Exchange rates are important because they directly affect the price of our products in foreign currencies relative to the price of other nations' products. If the value of the dollar appreciates 50 percent against other currencies, other factors being equal, U.S. products will cost 50 percent more to foreign buyers than our competitors' products.³

³ Changes in exchange rates usually are associated with inflation rates in different countries, sometimes offsetting impacts of exchange rate fluctuations. For example, the value of the dollar relative to the Argentinean Australa increased by a factor of 4,000 between 1980 and 1985. If nothing else had changed, Argentina's production would have been 4,000 times cheaper (in dollars) in 1985 than in 1980. However, the devaluation of the Australa was due to very rapid inflation in Argentina, averaging over 300 percent per year. Between 1980 and 1985, wholesale price levels in Argentina increased by a factor of nearly 2,000. Assuming Argentina's agricultural production and marketing costs (in Australes) increased at a rate consistent with this rate of inflation, these costs likely declined in dollar terms by about 50 percent. This demonstrates the importance of adjusting for relative inflation rates when considering the impact of exchange rates, and that exchange rates can have a major impact on relative prices and costs, even when relative inflation rates are taken into account.

Between 1970 and 1978, the value of the dollar (adjusted for inflation) relative to the currencies of importers of agricultural commodities (weighted by the amount of U.S. agricultural exports to each importer) declined 31 percent (Chart 3).⁴ This was promoted by the dollar's devaluation in 1971, rapid inflation, and the large flow of dollars into foreign countries fueled by the dramatic rise in petroleum prices in 1973. The dollar's decline was even more pronounced relative to the currencies of major importers of corn and soybeans, contributing to the more rapid export growth of these commodities.

U.S. monetary policy in 1979 shifted to a strong emphasis on controlling inflation. The resultant lower inflation and high real interest rates that began in the early 1980s increased the flow of capital into the United States and the foreign demand for dollars, leading to substantial appreciation in the value of the dollar. Between 1978 and 1985, the agricultural trade-weighted value of the dollar grew more than 40 percent (and, again, the change was even larger relative to currencies of major corn and soybean importers).

Chart 3. Real Value of the Dollar
Relative to Agricultural Importers' Currencies



The dollar's rise peaked in 1985 and since has declined significantly (about 20 percent), promoted by U.S. and international efforts, and undoubtedly contributing to recent improvement in U.S. farm export sales. However, much of the recent decline was mainly against the currencies of Western Europe and

⁴ The agricultural trade-weighted value of the dollar is an index of the value of the dollar relative to the currencies of major importers, weighted by the volume of U.S. agricultural trade with each importer.

Japan. Since they are less important markets for wheat than for corn and soybeans, U.S. competitiveness has been less improved for wheat than for the other two commodities. Nevertheless, recent reductions in the value of the dollar have contributed to U.S. competitiveness, and more time will be required for the full impacts to be realized.

Economic Growth

Macroeconomic policies also have been major forces conditioning the overall market environment. Rapid economic growth and rising incomes stimulate food demand, especially in developing nations where quantity, quality, and variety increases are sought. The experiences of the 1970s are testimony to this phenomenon. Some countries are able to expand output to partially meet the new demand, but the balance of demand--usually the lion's share--is met by an expansion of world trade.

Restrictive macroeconomic policies implemented in the late 1970s and early 1980s, attempting to curb inflation, prompted the global recession from which many countries--especially developing countries, the agricultural growth markets--have not yet recovered. Many of these same countries also are heavily indebted, and the austere economic policies they must pursue to manage that debt have further limited their purchasing ability. Their reduced incomes, slower growth, and financial situation all contributed importantly to dampen world trade.

Macroeconomic policies promoting resumed economic growth could prove highly important in the next few years. World grain consumption lagged population growth between 1980 and 1985, reflecting the impacts of recession and reduced buying power on food demand. With stimulative economic, credit, and trade policies, that consumption could rebound to above its trend growth. That would again mean world trade expansion and greater opportunity for the United States to regain market shares.

Production and Trade Policies of the United States

There are many policies of our government that influence agricultural competitiveness at all levels. Productivity and production costs are affected by both federal and state agricultural research, extension, and education programs. Public sector investment in the nation's inland waterways, highways, and railroads affect domestic transport costs, and cargo preference requirements affect ocean transport costs. Even immigration policy can have an effect. However, of all the policies influencing competitiveness at the sectoral level, the domestic commodity and agricultural trade policies perhaps are the most important.

Domestic Commodity Policy

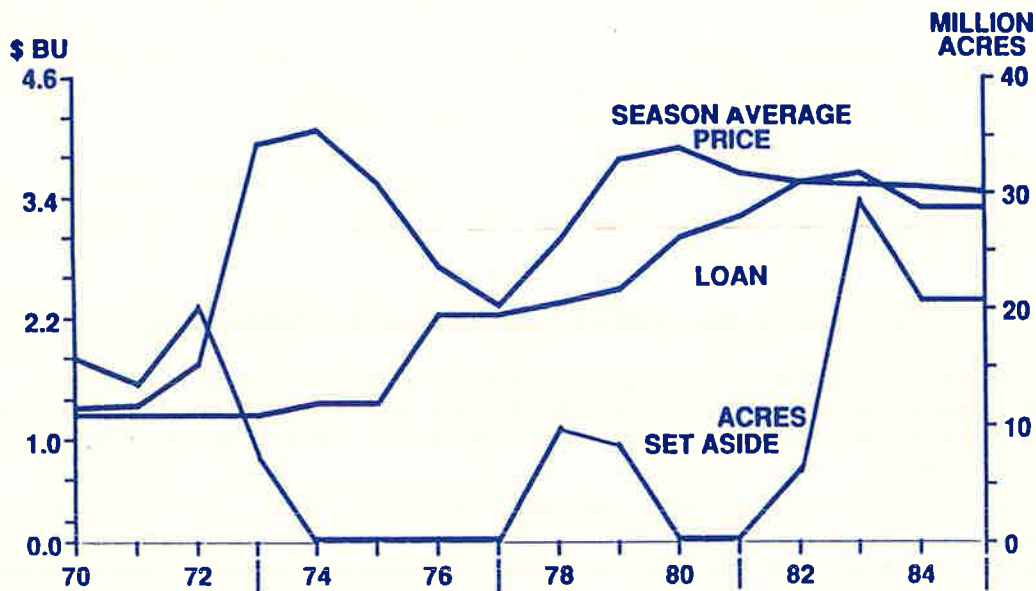
It has become increasingly obvious in recent years how our own sectoral policies can severely undermine our competitiveness at times, not only costing short-run sales and markets but also loss of those markets in the long run. Before the 1970s when the U.S. farm sector largely produced only for the

domestic market, commodity policy and the structure of the farm programs had far fewer ramifications. But, since U.S. agriculture has become heavily dependent on foreign markets and the factors that drive them, that is no longer true.

The price supports set above world market prices, target prices, and supply control programs that idle millions of acres have blocked U.S. competitiveness in recent years. Worse, they have created a relatively risk-free environment for our competitors, encouraging them to invest and expand their production and export capacity.

Uncompetitive Loan Rates. The debilitating impact of loan rates above market-clearing levels can be illustrated by reviewing the effects of the past 15 years. The wheat marketplace serves as a good example (Chart 4). From the late 1960s until 1976, U.S. loan levels were essentially unchanged. When the Soviet Union, Eastern Europe, and China burst on the scene as major new customers in the early 1970s, officials resisted the temptation of letting loan levels follow market prices up. The target price levels set out in the 1973 farm bill were moderate also. As a result of these policy decisions, U.S. agriculture was given maximum opportunity to compete for new export demand, and it garnered the lion's share of the market growth.

Chart 4. Wheat Price, Loan Rate, and Acreage Idled



Starting in late 1976, U.S. commodity policy changed. Loan rates were increased prior to the Presidential elections. Congress compounded that mistake in the 1977 farm law. The result was a steady upward creep in loan levels and target prices for the balance of the decade. Those higher support levels diminished access to export markets, and growing stocks brought acreage limitations back into use as government returned to managing U.S. agriculture.

Yet exports continued to grow, rising from 3.4 billion to 5.0 billion bushels by 1980. Also, prices remained relatively strong, and farm income rebounded. The adverse effects of the commodity policies on U.S. competitiveness were not apparent for a while. The harm did not appear immediately because the effects of these policy mistakes were offset by other events of greater magnitude. Depressed by inflation and unstable economic policies, the U.S. dollar continued to depreciate. As a result, escalating commodity supports were not as evident in foreign currencies as in U.S. dollars. The competitive harm also was concealed by strong import demand from developing countries fueled by easily accessible and inexpensive credit.

These balloons began to burst in the winter of 1979-80. Tightening monetary policy reversed the dollar's slide and triggered an unprecedented appreciation. Credit dried up for debt-burdened developing countries, greatly reducing their import demand. And, on January 4, 1980, the United States imposed an embargo on grain sales above eight million tons to the Soviet Union.

U.S. policy officials ignored these reversals and continued to escalate loan levels and target prices. Since the government could not deliver buyers for the grain U.S. farmers wanted to produce at those support levels, market prices fell to the level at which grain could be defaulted to the Commodity Credit Corporation (CCC)—the financial arm of the U.S. Department of Agriculture. Burgeoning stocks were locked up in the CCC and the Farmer-Owned Reserve. The government then responded with a dramatic expansion in supply control programs, further limiting U.S. competitive ability while our competitors were expanding their production and exports.

Unfortunately, our competitors had been strengthening their investment in agriculture since 1976, when U.S. support levels began their upward creep. The Canadian Wheat Board had contracted for 3,000 grain hopper cars to remove that logistical bottleneck to its export growth. The EEC's Common Agricultural Policy had avoided any restrictions on its ability to dump grain in world markets in the Tokyo Round and was actively stimulating EEC grain production toward full self-sufficiency. And, a change in the Argentine government had opened the doors to agricultural development after years of taxing agriculture to pay for other programs.

Poised to grow, our competitors moved rapidly to expand under the umbrella of support offered by the 1981 farm law and U.S. supply-management policies. Some developing country importers, needing to export to increase foreign exchange earnings and to substitute for and reduce imports, also expanded their output. Not all were able to do so, of course, but the expansion was considerably greater than previously expected, contributing to the sluggish world trade growth.

Overall, the effects of uncompetitive loan rates can be summarized as: stimulating expansion of production and exports from other exporters; subsidizing our competitors' farmers at U.S. taxpayer expense; and reducing growth in commodity utilization. Moreover, the stockholding that results from high supports—the Farmer-Owned Reserve and other government stockholding—

further ensure that U.S. farmers produce for stockpiles while other exporters produce to sell.

It now appears ironic that the 1981 farm law provided such a stimulus to foreign competition. During its passage, the view in the U.S. Congress was that it did not provide enough price and income support for domestic producers. Most at that time were worried about food shortages--not food surpluses.

Supply Control Programs. When the price and income supports are set too high and stocks become burdensome, the United States then attempts to reduce annual production by idling acreage. Although this has been a feature in U.S. policies for more than 50 years, no other nation has embraced such a policy. When the U.S. farm sector was relatively isolated, acreage allotments and set asides may have seemed more practical, but they cannot be viewed so benignly when they influence others around the world and in ways ultimately detrimental to our own agriculture.

Another little-understood but major adverse effect of supply controls is that they inflate production costs. As acreage is required to be left idle, the fixed costs must be spread over fewer units of output, thus boosting unit costs. For example, a 20 percent acreage reduction requirement can add as much as 33 cents per bushel to the costs of a typical Iowa corn farmer (1). Acreage controls also artificially stimulate use of purchased inputs as a substitute for land. As land is idled, producers farm the remaining acreage more intensively using more chemicals and fertilizers to boost yields and total output.

Finally, supply controls reduce U.S. output in the face of growing production elsewhere, withering America's capacity to compete. Under the umbrella of above market-clearing U.S. loan rates and target prices, our competitors actually expanded acreage in the early 1980s while we employed larger and larger reductions each year. For example, our major competitors have expanded wheat acreage from 1981/82, while we have reduced our plantings by 16 million acres.

Target Prices. Target prices, first adopted in the 1973 farm law, were thought to be an innovative means of supporting farm incomes while enabling the market distorting effects of high loan rates to be reduced. But, that promise has proved largely illusory. Target prices generally have been set at such high levels that they induce unneeded production (which has to be stored rather than sold) and they have proved to be very expensive to U.S. taxpayers. Target price payments for all commodities in FY 1986 reached a record \$8.2 billion. Because of this high cost in the face of the already-large fiscal deficit, the Congress, rather than lower the target prices, now is considering raising loan rates and relying on even greater use of supply controls. These options may be less expensive initially but much more damaging to U.S. competitiveness and costly in the long run.

A longer-term result of high target prices is that they get bid into production rights. They become capital assets and strengthen this

generation's balance sheet, rather than its income, and raise the entry costs to future farmers. In addition, the combination of high price guarantees and acreage controls supports inefficient production and correspondingly reduces competitiveness. For example, variable costs for soybeans likely are more competitive than corn or wheat costs, reflecting the fact that soybeans have no target price and U.S. producers have to produce at variable costs lower than market prices or the loan rate to be profitable. This encourages them to minimize costs. In contrast, corn and wheat farmers can profit even when costs are higher than market prices, as long as their costs are below the target prices. Consequently, they increase fertilizer and chemical usage on cropped acres. Thus, target prices, together with supply controls, increase unit costs directly and correspondingly reduce competitiveness.

Relative Effects on Demand Growth/Contraction. Another point also can be made regarding the role of policies, and especially commodity policy. The many economic and political factors affect competitiveness differently depending on whether markets are expanding or contracting. Economic factors appear much stronger for the United States in an expanding market, enabling it to compete very effectively. In contrast, commodity policy factors appear to have an overriding negative influence in a contracting market.

The United States captured roughly three-fourths of the import increases of the 1970s, but has lost much more than its proportionate share in the contraction of the 1980s. The success in the 1970s was due to ample production and marketing capacity enabling a quick, low-cost response. The dollar was favorably valued, and domestic commodity policy was not an impediment. Price support loan rates had been gradually lowered coming into the 1970s and remained virtually unchanged for several years.

In sharp contrast to that success, the United States quickly experienced contracting sales when demand faltered and prices declined after 1981. Policy factors—ours as well as those of our competitors—then began to dominate market access.

The domestic farm policies, attempting to protect the farm sector when demand begins to falter, are a major factor in diminished competitiveness. This policy approach entails supporting commodity prices, with little attention paid to improving export marketing. Even though markets are shrinking, farmers want to continue producing at the support prices, and stocks begin to accumulate. Commodity policy then involves adjusting production, to slow the growth in the stockpiles. Our major competitors generally take a completely opposite approach. They focus first on improving marketing and make conscious efforts not to accumulate burdensome stocks, thus coming under less pressure to make production adjustments. And, improving marketing may involve direct export subsidies, concessional credit, and other forms of subsidized competition.

The U.S. approach is self-defeating in a contracting market. Reducing production and propping up world prices through price support loans only serves to increase the U.S. loss of volume and market share. Moreover, it

reduces our competitors' price losses, their cost of income support for their farmers, and their loss of volume/market share.

U.S. agriculture tends to have more opportunities to compete in expanding markets than when markets contract because of the very nature of the policies we pursue. But, those policies also can interfere when market growth opportunities are potentially available. And, it would appear that such opportunities again could be in the offing, if not foreclosed by our policies.

Accumulating evidence increasingly suggests that lower prices from the 1985 Food Security Act (FSA) and a lower-valued dollar are having a highly dramatic effect on world trade. Exports of wheat, corn, soybeans, and soybean meal from the principal exporters have surged 194 million tons, fully recovering the slide between 1980 and 1985. The United States, principal victim of the earlier inflexible pricing strategy, has been a major beneficiary of the FSA's competitive pricing strategy. U.S. grain exports in 1987 will exceed four billion bushels, up one billion bushels or about one-third.

While the pace of this recent expansion will level off, long-term factors suggest stronger world consumption growth, presenting opportunities for U.S. farmers again to capture a larger market share. World wheat and feed grain consumption in 1987/88, driven by recovering economies and attractive prices, will be 77 million tons higher than in 1985/86, an amount equivalent to the total increase in world grain use over the preceding five years. Looking ahead, if utilization continued at trend levels in 1988/89, even with the favorable yields of recent years, usage would exceed production by more than 50 million tons. The cumulative result of stronger utilization growth would be carryover stocks closer to long-term equilibrium levels and higher market prices.

Overall, with present record stock levels and attractive prices stimulating consumption, it appears the balance between world production and use has shifted from the rapid stock-building pattern of the first six years of this decade to a perhaps even more rapid drawing down of stocks.

While the 1985 FSA appears appropriate policy on the price and income fronts, there is growing concern that the heavy reliance on supply management could reduce U.S. farmers' opportunities in the expanding world market. Decisions made now on acreage cutbacks could be played out in a distinctively different environment than the first half of this decade, and have consequences not now anticipated.

As available stocks are drawn down (50 million tons of grain stocks are in the Farmer-Owned Reserve and 71 million tons are in CCC inventory, relatively isolated from the market), the market could well require more production. However, if the United States continues to take roughly 75 million acres out of production in 1988, market prices could rise to attract the land into production elsewhere if the United States does not provide ways for isolated stocks to enter the marketplace at competitive prices. The market will invite other producers to do what U.S. programs would be blocking U.S. farmers from

doing, another clear example of how policies can impede competitiveness of our agriculture.

Agricultural Trade Policies

Beside macroeconomic and commodity policies, the United States also maintains other policies that can affect competitiveness. The agricultural trade policies are notable in this category, especially export credits for purchasers, export subsidies, and foreign food assistance.⁵

Export Credit Policy. The United States, like most of its competitors, has for many years offered commodity purchasers some form of credit to assist in the sale. Such programs are aimed at enhancing the United States' competitive position and in expanding total trade, by inducing sales that would not occur without the availability of such credit.

Several programs have been operated from time to time since the mid-1950s with widely different terms and conditions. Credit programs have been a particular focal point in recent years as the export slide and the programs of our competitors continued. However, the policy direction has been unsteady. Programs have been authorized by the Congress but not funded, or funded but only reluctantly used by the Administration. The most widely used of the programs have been credit guarantees and short-term blended credit (a combination of guarantees and direct credit).⁶ Last year, these programs provided guarantees of over \$4 billion, an amount approaching one-sixth of the total value of U.S. export sales.

Export Subsidies. The 1985 FSA authorized the Export Enhancement Program (EEP) and the Targeted Export Assistance Program (TEA) to boost exports. The EEP, a much larger program than TEA, is used to assist primarily wheat, wheat flour, and barley exports. It first was targeted to specific markets in an attempt to counter the unfair competitive practices of other exporters, notably the EEC, and recapture or maintain what were viewed as traditional U.S. markets. Now, the program's coverage has been expanded, with both the USSR and China eligible under certain circumstances. TEA also is to counter subsidized trading practices of competitors and has been used to finance market promotion efforts for fruits, vegetables, nuts, wine, and processed products.

All of the programs, and especially the EEP, were intended to offset some of the loss in competitiveness from other domestic policy sources, such as high

⁵ There are other programs intended to boost exports, such as the export promotion program. Perhaps the most important of these efforts, although relatively small, is the jointly funded public-private cooperator program. It is intended to facilitate market development and sales through provision of technical assistance, product displays and demonstrations at trade shows, advertising, and the like.

⁶ Blended credit is not currently used.

loan rates, and to directly counter competitors' unfair practices. Their importance is reflected in the extent of their use: as much as ten percent of all agricultural exports in the past three years have been financed by these programs. And, for some commodities, they are particularly important. For example, the EEP assisted 45 percent of U.S. wheat and flour exports in the 1986/87 marketing year while being little used for soybeans and rice. There have been no EEP initiatives to date involving corn.

Foreign Food Assistance. The major program of foreign food assistance is the over 30-year old Food for Peace program (PL 480). In addition to its humanitarian purposes, the program also emphasizes long-term market development. The program's concessional financing does enhance competitiveness although such sales are intended to be additional to purchases the importer would have made in the absence of the program. In recent years, from three to five percent of all agricultural exports have been concessional sales under the various PL 480 titles.

Production and Trade Policies of Others

While U.S. macroeconomic, farm sector, and trade policies have a substantial effect on U.S. competitiveness, so do various of the policies of other countries. The adverse effects of their trade policies often are cited because their effects are most obvious. But, many of these are the byproduct of agricultural and economic policies that result in greater agricultural output, but at the same time, stifled domestic market growth. This thus leads to efforts to dump surpluses in world markets, pushing prices even lower. How well the U.S. can compete in the future may well depend upon how successful the ongoing multilateral trade negotiations prove to be, not only in terms of eliminating unfair trade practices but also in securing reform of these agricultural sector policies.

Competitor Agricultural Policies

Virtually every country intervenes in its agricultural sector to some extent. Such intervention typically takes the form of price supports or guarantees which, although intended as economic protection for farmers, almost invariably have the effect of inducing extra production. And, since these countries do not idle acreage and tend to hold no surplus stocks, that production must find its way to external markets, and usually with a subsidy to help displace other output.

Most countries' policies usually include concessional capital and credit to agriculture, which tends to encourage investment and expansion of output. Many countries authorize marketing boards and grant them monopoly powers, and their operations may well reduce farmers' responses to market forces. In addition to national policies, provincial and local governments may operate programs that guarantee prices, stabilize incomes, and regulate trade. Sectoral policies in some countries also include transportation subsidies for agricultural products.

Not unlike the effects of the U.S. domestic farm programs, the result of all the price and income stabilization, marketing, transportation, credit, and other subsidies is protection of farmers from market realities, encouraging inefficient output, affording the output certain pricing advantages, and encouraging production that must be disposed of in world markets to the detriment of someone else.

And, it is important to note that all of our competitors' programs have been much more effective and less costly in meeting their objectives because of our farm programs. While intended for our farmers, the programs actually provide considerable indirect subsidy to competing farmers. When we finally stop being the world's commodity price umbrella, the extent of the indirect benefit is indicated by the protests of competitor countries, as occurred after enactment of the 1985 farm law and price supports were lowered substantially.

A fuller understanding of the distorting influence of these policies can be gained by briefly noting the policies of some important competitor nations.

Economic European Community. The 12 country EEC operates a Common Agricultural Policy (CAP) that supports farm prices through extensive use of variable import levies, export subsidies, and direct payments. Since the CAP was established in the early 1960s, the EEC has shifted from being a net importer to a major exporter of several agricultural commodities.

The CAP has had a major impact on EEC grain production and exports. The current intervention price for bread quality wheat is \$5.25 per bushel and \$4.90 per bushel for corn, substantially above U.S. target prices of \$4.38 for wheat and \$3.03 for corn.⁷ Moreover, EEC farmers are not subject to acreage reduction requirements that reduce farmers' returns, as in the United States. EEC producers thus have substantial incentive to expand production, as they have done. Between 1976 and 1986, wheat and coarse grain production rose 41 percent, compared to only 22 percent in the United States. In this period, the EEC shifted from net imports of 26 mmt of wheat and coarse grains to net exports of 16 mmt.

Oilseed production also has grown rapidly. Between 1979 and 1986, oilseed output, promoted by high prices, grew 250 percent, while soybean imports fell almost 20 percent. There are no levies imposed on soybean and soybean meal imports, but subsidies paid to crushers are calculated to encourage use of domestic oilseeds before imports.

Since EEC target prices for farmers are well above world prices for most commodities, the CAP has become increasingly expensive as the cost of export subsidies has grown. In 1986, the cost was approximately \$23 billion, and could well be higher in 1987.

Current low world prices and high budget costs have increased pressure to change the CAP and reduce costs. This has led to several proposals, including

⁷ Based on prices and exchange rates on September 15, 1987.

increases in contributions required from member nations to finance the CAP, lower price supports for some commodities, and a tax on consumption of vegetable oils and fats (of great concern to the United States and other producers of oil crops). After long and difficult negotiations, EEC leaders agreed to a modest reduction in cereals prices and other minor changes, while temporarily shelving the proposed tax on fats and oils. These changes are unlikely to resolve the budgetary problems and pressures for change in the CAP will continue.

Canada. Canada historically has provided little direct income support for its grain and oilseed producers. However, income stabilization payments have increased substantially in recent years as world prices have declined, exceeding \$1.6 billion in the 1986/87 marketing year. Canada also encourages grain and oilseed exports through transportation subsidies worth about \$25 per ton. Canadian grain is marketed by a wheat board that provides guaranteed initial prices, which can blunt the transmission of price signals to growers. And, Canada maintains a higher price for domestic consumption of wheat, which provides a production stimulus.

Australia. Australia, like Canada, markets its wheat through a national board and has pursued policies to stabilize producer incomes through a stabilization fund. As in Canada, direct payments to grain producers have increased in recent years. Domestic prices of many products are higher than world prices. In addition, farmers receive tax concessions and fertilizer subsidies (12).

Argentina. Argentina traditionally has provided little support to its agricultural producers--in fact, agricultural exports are taxed. However, recent policy shifts have begun to favor agriculture. Support prices recently were increased for wheat and initially established for corn and soybeans. Export taxes recently have been reduced for most agricultural commodities. Higher taxes on oilseeds than oilseed products promote exports of the products. Also, the present government has proposed eliminating export taxes on grains and implementing a production credit program.

Competitor Trade Policies

The trade policies of our competitors embrace a wide variety of forms and practices, many of which are beyond accepted rules of international competition and serve to directly thwart U.S. competitiveness. They introduce distortions into the world trading system and greatly obscure competitiveness. These practices include subsidized ocean transport, export tax credits, differential export taxes, linkage of commercial and concessional sales, countertrade arrangements, preferential agreements, and many others. Perhaps the most damaging are export subsidies, export credit programs, and limitation on imports.

Export Subsidies. The most obvious of the trade practices designed to enhance our competitors' positions is the direct export subsidy, usually used in a two-price system to bridge the gap between a domestic support price and a lower world market price. Such direct subsidies are used to differing extents by our major competitors. Argentina and Australia, for example, rely little,

if at all, on direct subsidies while Thailand has used them effectively to garner market share. However, the most comprehensive export subsidy system operated by any of the major exporters is the EEC's restitution payments on grains, whose costs continue to grow as internal production continues apace while world prices decline. It is estimated that the average subsidy on EEC 1986 grain exports averaged \$116 per ton, as much as 96 percent of the value of the shipments.

In recent years, while carefully protecting its own internal markets and operating an aggressive, expansionist trade policy, the EEC has seriously distorted world trade in several commodities. And, its market expansion in grains and oilseeds frequently has been at the expense of the United States, while it contends the CAP system is not in violation of the GATT rules.

Besides export subsidies which generally are transparent, many other indirect subsidies are used to give an exporting country's product a competitive edge. Among these are hidden subsidies for inland transportation, ocean transport, credit, special investment and technical assistance package deals, and specific incentives to encourage exports.

Indirect subsidies such as these are used by Canada, Australia, and Brazil, as well as other major agricultural exporters. Many such subsidies also are extremely difficult to prove under the GATT rules, and the lengthy determination process and frequent vagueness of rulings discourage challenges to them.

Export Credit. Another "non-price" method that countries frequently use to enhance their relative competitive position is concessional credit arrangements to finance importers' purchases. Such programs may have political as well as sales expansion and market development objectives. An example is Argentina, which generally provides credit almost exclusively to Latin American countries.

In the case of both Australia and Canada, which use national marketing boards, credit is an important marketing tool, and the boards have considerable flexibility and leverage in arranging government or commercial financing on extremely favorable terms. The EEC does not have a common financing policy, leaving export credit to each member country. And, the concessional programs operated by the countries constitute an export subsidy over and above the CAP restitutions. Thailand operates a less direct system, using the national banking system's rediscount facilities to effectively achieve considerable reductions in prices for purchasers.

Overall, the export credit schemes of the major exporters, added to the direct and indirect subsidies and all the other various schemes, create a highly complex web that greatly distorts world grains and oilseed trade and obscures competitiveness.

Import Limitations. Adding to the difficulties caused by U.S. and competitors' policies that are fostering uneconomic agricultural production and aggressive use of export subsidies are the policies of importing nations

that restrict access to their markets. Such policies include widespread use of import levies, tariffs, quotas, preferential trade agreements, and voluntary restraint agreements, as well as more subtle forms of control such as health or safety regulations.

Virtually every nation restricts imports of some agricultural products, including the major exporters. The United States, for example, restricts imports of dairy products, meat, and sugar using tariffs and quotas. In addition, meat imports have at times been subject to voluntary restraint agreements (8). The EEC uses variable levies to control imports of most commodities and imposes quotas on meat imports. Preferential trade agreements affect EEC imports of sugar, dairy products, and some meat products. Canada imposes tariffs on imports of most agricultural products and quotas on dairy products, meat, and poultry. Australia imposes tariffs on dairy product imports and certain meat products, and prohibits sugar imports (except under special circumstances). Quarantine restrictions limit Australia's imports of dairy products and grain. Meat and livestock imports are affected in virtually all countries by health and sanitary regulations.

The EEC's variable levy system has a major impact on our ability to export agricultural products, particularly grains, to that market. Import levies currently are more than \$5.00 per bushel for corn and wheat, protecting the high internal prices which promote expanded uneconomic production while discouraging consumption. Since 1979, EEC coarse grain consumption has declined 19 percent, and total grain consumption has declined four percent. Grain imports in the same period were reduced from 27 mmt to six mmt. U.S. corn exports to the 12 EEC countries reflect this change; a decline from 15.5 mmt in 1981/82 to about two mmt last year. That critical market loss is more than one-third of total U.S. corn exports last year.

Japan is another market where import barriers have had a major impact on U.S. exports. It has the most protective agricultural policies of the major trading nations (12). Imports of rice, wheat, and barley are strictly controlled to maintain very high domestic prices, as much as six times the world price. Beef and dairy products also are subject to import quotas, and tariffs and levies apply to sugar, pork, poultry, and numerous other products.

Japan's policies have greatly inhibited market growth, just as in the EEC. Rice imports have been very small while rice consumption has declined over the past few decades. Wheat consumption has grown less than three percent since 1980, barely keeping pace with population growth. Total wheat imports and imports from the United States declined about six percent in this period.

Taiwan, South Korea, Brazil, and India are other important markets where market growth for many products has been inhibited by policies. And, direct government control of agricultural trade and marketing, as in the centrally planned economy countries, serves to have the same effect.

IMPACTS OF TRADE LIBERALIZATION

Eliminating or reducing the trade distorting impacts of the myriad government policies affecting agricultural trade would greatly benefit U.S. and world agriculture. Growth in markets currently constrained by strict import limits and artificially high prices would provide greater opportunities for most producers and reduce pressure on exporters to use export subsidies and other practices in competition for limited markets. Allowing producers to respond to market signals would eliminate the tendency to overproduce commodities already in surplus and lead to more efficient production.

Sometimes such policies are justified in the name of equity—as a means of transferring income from the more affluent to the lower income people. However, considering the policies pursued by governments throughout the world, equity often does not appear to be the primary concern. Moreover, in many cases, the policies have adverse impacts in terms of equity. For example, although unintended, the price support policies of developed countries can have the effect of transferring income from low income consumers to wealthier landowners. And, policies of developing countries generally discriminate against peasant farmers in favor of the better off and more politically potent urban consumers.

In cases where policies may address legitimate equity concerns, the goals often can be achieved without distorting trade and efficiency. For example, assistance to financially distressed family farmers could be provided without fostering inefficient production if such assistance were not linked to production decisions. And, this type of assistance can address the needs of particular groups more directly and be more cost effective.

A recent World Bank study examined the impacts of liberalization of agricultural trade, from the levels of protection that prevailed in 1980-82 (13). It estimated that if the agricultural trade policies of all market economies were liberalized, world trade in coarse grains would increase 30 percent, wheat 6 percent, rice 100 percent, sugar 60 percent, dairy products 190 percent, and meat and poultry over 200 percent. And, higher prices would prevail for most commodities as well. Developing countries would gain \$18 billion from improved resource use efficiency while industrial market economies would gain \$45 billion. In addition, world prices would become substantially less volatile for all commodities, because all countries would adjust to changes in production and consumption, rather than having the adjustments forced on only a few market-oriented countries. According to the study, the world wheat price variability would be reduced 78 percent if all countries eliminated protective wheat policies. The benefits of trade liberalization likely would be even greater today, because of the rapid increase in policy interventions in recent years.

Clearly, these potential gains from liberalizing trade are enormous. The United States, with its capacity to expand production and exports quickly, would be well positioned to gain from resulting expansion in trade, although other nations would benefit as well. The new market environment, of course, would require difficult adjustments for many. Structural adjustment

assistance, made independent of production decisions, would be needed to assist producers and others to make these adjustments. In the long term, however, the improved market would make such assistance unnecessary.

CONCLUSIONS

Despite declining agricultural exports and market shares during the first half of the 1980s, the U.S. comparative advantage in agricultural production and trade remains strong. Our abundant natural resource base, skilled human resources, highly favorable climate, rapidly advancing technological capability, and extensive production and marketing infrastructure provide the economic foundation for a highly competitive agriculture.

The vast bulk of major export crops are produced at costs competitive with those of producers anywhere in the world. In addition, the costs of moving commodities from the farm to export locations is lower in the United States than for any major competitor, and ocean shipping costs from the United States to major markets are very competitive.

Most importantly, the United States has the production and marketing capacity to greatly expand exports rapidly at low incremental costs, a major advantage over competitors. These advantages are particularly important when world markets are expanding as they did for several decades until the early 1980s and now appear poised to do again.

The explanation for the decline in U.S. agricultural competitiveness in the early 1980s is not that we suddenly lost our comparative advantage, but that policy factors, including both those implemented by the U.S. and foreign governments, impeded it. U.S. commodity policies have been particularly damaging, providing price protection for foreign producers and unilaterally reducing our production and exports while foreign production has expanded. Protectionist policies pursued by many other nations, especially the EEC and Japan, also have restrained market growth and stimulated uneconomic production. To dispose of surpluses caused by these distortions, exporters have resorted increasingly to the use of subsidies and other means of export promotion, resulting in a very depressed world market, escalating trade tensions, and unprecedented farm program costs.

Reducing or eliminating the distortions caused by such policies, the goal of the current GATT negotiations in agriculture, would greatly benefit U.S. agriculture. It would allow world markets to grow again. As trade in agricultural products expanded, all nations could benefit from expanded market opportunities and reduced instability in world trade. The United States, with its production and marketing capabilities, would be in a strong position to take advantage of new market opportunities. By restoring comparative advantage rather than special advantage as the basis for agricultural trade, these negotiations would give U.S. agriculture a fair chance to compete on the basis of their economic abilities and provide the basis for sustainable improvement in the agricultural and rural economy.

Trade liberalization would impose costs on some in agriculture and create a difficult adjustment process. But, structural adjustment assistance, unconnected to producers' production decisions, could ameliorate those difficulties, and likely at costs lower than those for current commodity programs.

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