

**INTERNATIONAL AGRICULTURAL TRADE
AND POLICY: ISSUES AND IMPLICATIONS
FOR U.S. AGRICULTURE***

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Paper presented at the International Retreat of the Department of Agricultural Economics, Texas A&M University, Walden on Lake Conroe, Texas, September 28, 1989. Texas Agricultural Market Research Center (TAMRC) International Market Research Report No. IM-2-89 by Gary W. Williams, Professor of Agricultural Economics and TAMRC Coordinator, Texas A&M University.

ABSTRACT: U.S. agriculture is now inextricably linked to world markets. This paper explains the historical underpinnings and the major current issues affecting that linkage. Maintaining and enhancing U.S. competitiveness in world markets is tied to such things as continued efforts to liberalize world trade and adequate allocation of funds to research in the production, processing, and marketing of food and agricultural commodities.

The Texas Agricultural Market Research Center (TAMRC) has been providing timely, unique, and professional research on a wide range of issues relating to agricultural markets and commodities of importance to Texas and the nation for more than two decades. TAMRC is a market research service of the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service. The main TAMRC objective is to conduct research leading to expanded and more efficient markets for Texas and U.S. agricultural products. Major TAMRC research divisions include International Market Research, Consumer and Product Market Research, Commodity Market Research, and Contemporary Market Issues Research.

**INTERNATIONAL AGRICULTURAL TRADE AND POLICY:
ISSUES AND IMPLICATIONS FOR U.S. AGRICULTURE**

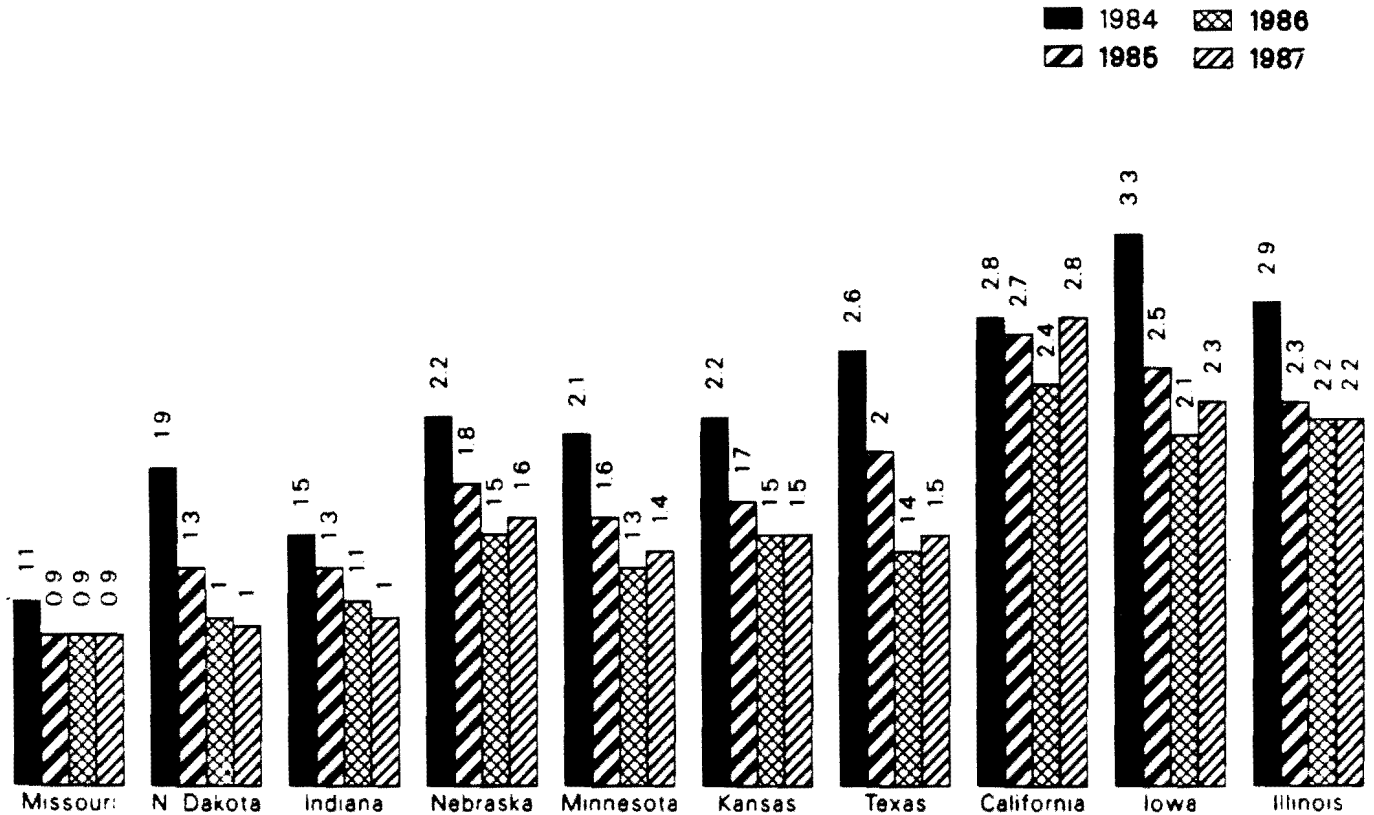
Gary W. Williams

The story of the phenomenal growth of world agricultural markets since the mid-1970s and the implications for U.S. agriculture have been hashed and rehashed, packaged and repackaged, and examined from just about every angle and point of view imaginable. Virtually hundreds of seminars, workshops, conferences, and symposia have featured thousands of presentations and debates by researchers, policymakers, agribusiness executives, foreign representatives, and others on an impressively wide array of issues concerning this phenomenon. Few issues have captured the attention of so many in the agricultural industry over the last 15 years. Consequently, there should be few here who are not familiar with at least the main thrusts of the on-going discussions on international agricultural markets and their relationship to U.S. agriculture.

A recent external review, however, identified international work as this department's "under-resourced link". My experience in serving on the College of Agriculture and Life Sciences International Mission Review Task Force suggests that this may well be the case across the entire College. This is particularly surprising and disappointing because Texas has grown to become the leader in agricultural exporting in the southern region and the fourth largest agricultural exporting state in the country (figure 1). Consequently, the objective of this paper is to provide a broad overview of the historical underpinnings and salient issues in international agriculture trade and policy as background to further discussion on the appropriate role of international programs in the Department of Agricultural Economics and the Agriculture Complex of the Texas A&M University System. First, the paper summarizes the historical events that set the stage for the current U.S. agricultural export performance. Then competitiveness in world agricultural trade is explored with emphasis on the origins and determinants of competitive strength in world markets. After highlighting a number of the salient issues in international agricultural trade and policy, some implications for both agricultural programs and policy are drawn.

Figure 1

Value of U.S. Agricultural Exports by Selected States in Billions of Dollars, Fiscal Years 1983-84 through 1986-87.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, March-April 1988; various other issues; and personal communications with officials of U.S. Department of Agriculture, Economic Research Service.

Figure 2

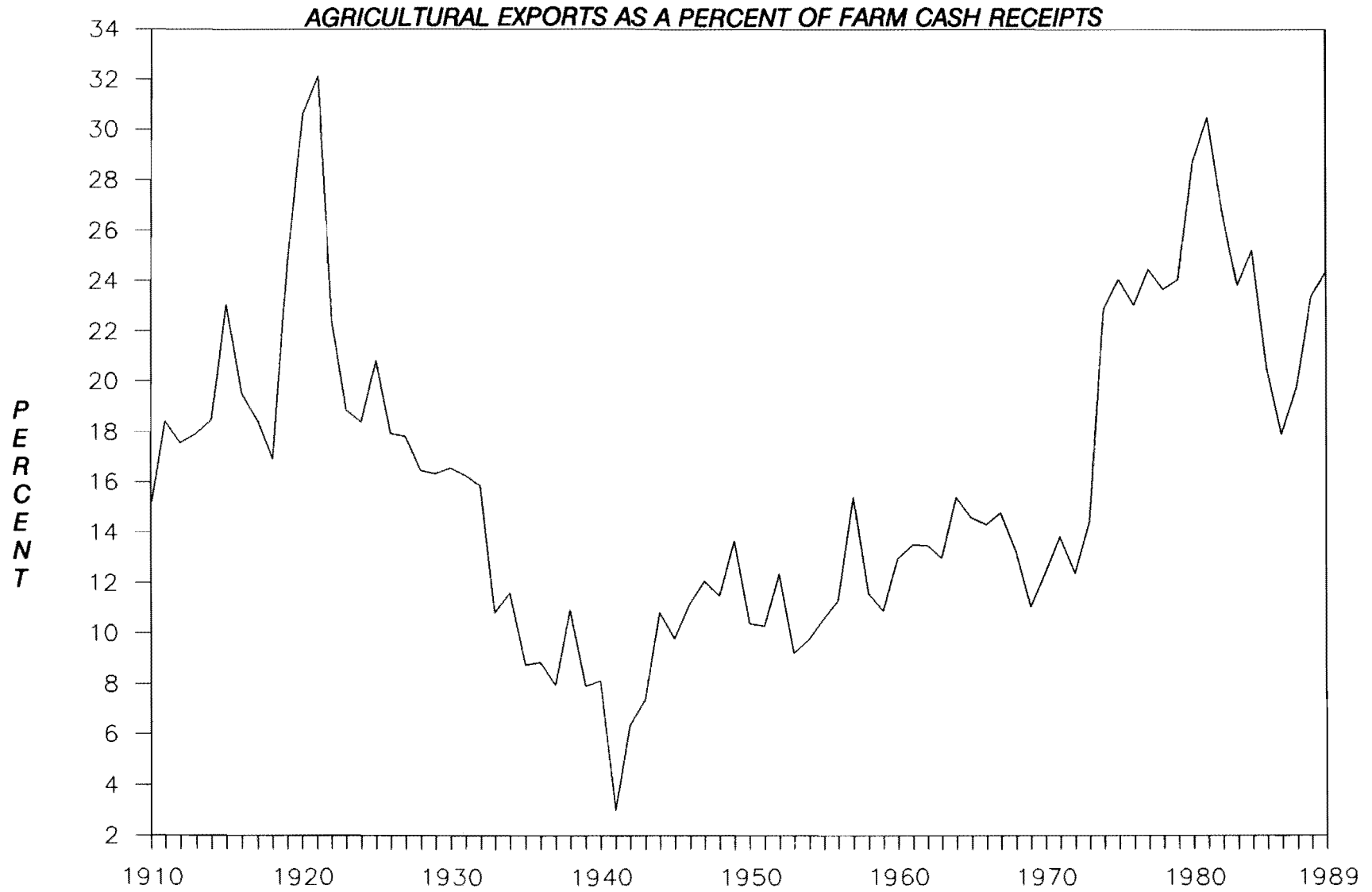
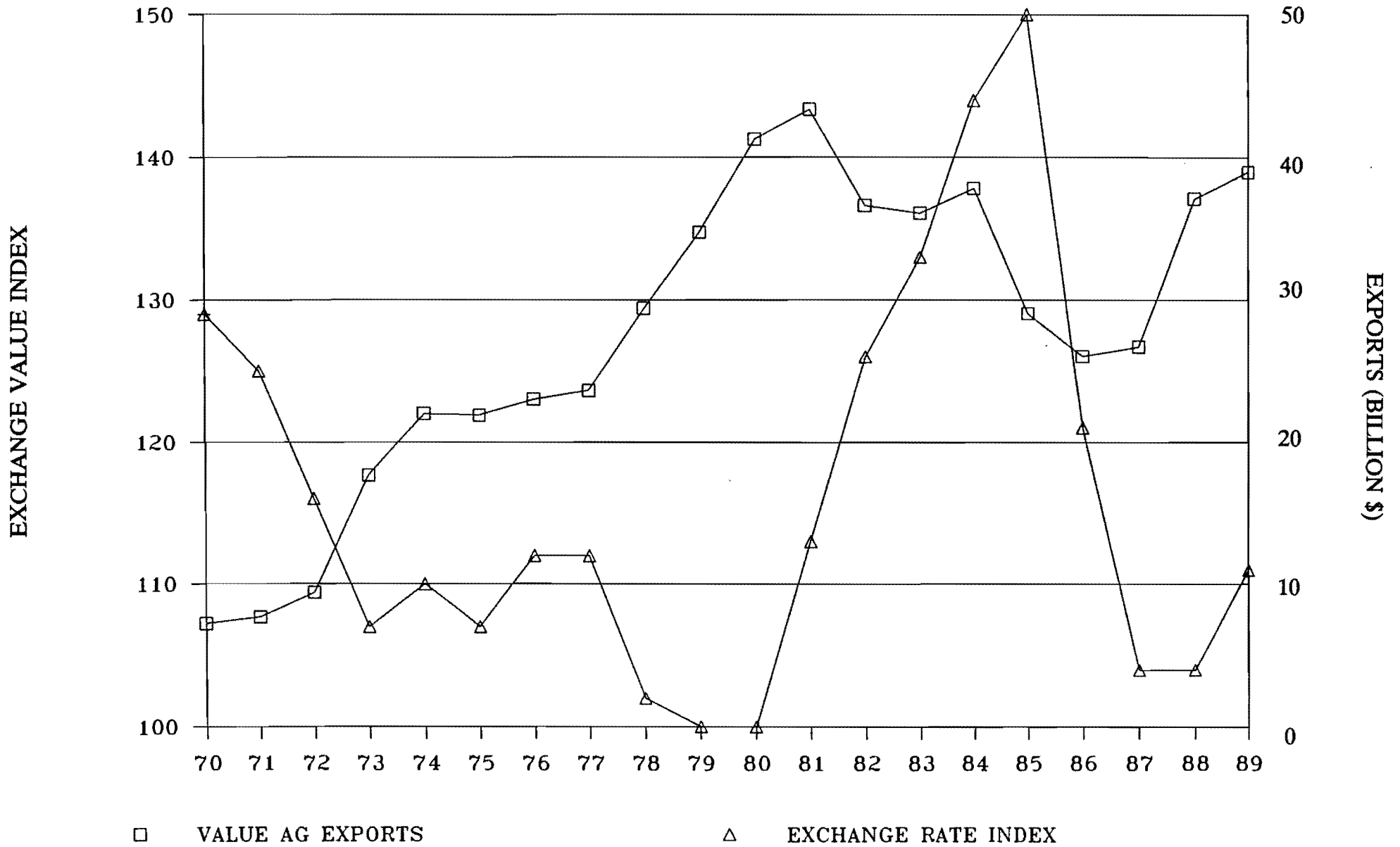


Figure 3

EXCHANGE VALUE OF THE DOLLAR VERSUS
U.S. AGRICULTURAL EXPORTS



recession in the early 1980s significantly slowed the growth in world food demand. At the same time, the potential effects of a number of developing underlying trends were either not understood or underestimated, including the growing investments in productive capacity and agricultural technology in major importing countries, the growing debt burden of many developing countries, and an upward movement in the value of the dollar.

Growth in Global Productive Capacity

The events of the early to mid-1970s that propelled the U.S. agricultural sector back into the global market, pushed commodity prices to record levels and sent strong signals to governments and farmers around the world to invest heavily in agricultural productive capacity. Such investments in developed countries occurred as the cost of farm price and income support declined. Many developing countries not only expanded their area in production but also diverted both domestic and international resources into the development of rural infrastructure and the adoption and creation of yield-enhancing technologies. The resulting expansion in world food production met a more slowly growing world market in the 1980s with the obvious consequences of declining world commodity prices and a tightening U.S. agricultural balance of trade.

The Growing Debt Burden of Developing Countries

Many became suddenly aware of what had been happening in world financial markets a few years ago when headlines about the international debt and liquidity crisis began appearing in the nation's periodicals. Reports of burgeoning external debt loads and escalating debt service ratios of many developing countries, particularly higher income developing countries, illustrated both how integrated international capital markets had become and how closely tied U.S. financial markets had become to international markets (table 1). This drain on world financial resources might not have had much effect on the world economy except that the world supply of liquidity was quickly tightening. Normally, loans at any level generate a multiplier effect which stimulates the economy. If the funds are not repaid, however, the stimulating effect is greatly reduced. And unfortunately, the most indebted countries were not repaying their loans.

How would your banker react if you walked into your bank today and told him that you

would rather not repay the 30-year mortgage on your home just now, but preferred paying only the interest for a few years after which you would expect the bank to reduce interest rates and to extend the payback period before considering a return to payments on the principal? And if he did not agree, you would simply default on the loan? He would probably laugh you out of his office. How would he react, however, if you owed the bank \$96 billion when you made this demand? He would likely sit up and listen. And that is just what happened when Brazil, Mexico, Argentina, and others made such demands in the early 1980s. The consequences were tightening available funds, higher interest rates, and extremely limited ability of many of these countries to do anything with their scarce foreign exchange except pay interest on debt. This meant both severe economic downturns in these countries and both reduced consumer purchasing power and reduced foreign exchange availability for food imports.

The Skyrocketing Dollar

By the late 1970s, the exchange value of the dollar had dropped to a low of about 35 percentage points below the pre-devaluation level and remained there looking for some direction from about 1978 until early 1981. The OPEC-induced petroleum price increase during in that period was pulling huge quantities of dollars out of American hands into international currency markets and helping keep the dollar weak. At the same time price inflation was out of control in the U.S., putting further downward pressure on the dollar. In the early 1980s, however, both conditions changed. The U.S. oil industry deregulation removed the implicit oil import subsidy while at the same time world oil prices were declining. Inflation dropped from double digits to the 5% range. The stage was set for a major resurgence in the value of the dollar.

A related and significant event was taking shape. As price inflation dropped, nominal interest rates skyrocketed, pushing real rates of interest to all time highs in this country. The consequence was rapidly escalating inflows of foreign capital. As the real rates of interest boosted the relative attractiveness of the U.S. for investment of foreign capital, an increasing number of foreign investors converted their currencies to U.S. dollars for investment in U.S. assets and financial instruments. The result, of course, was a more rapid increase in the value of dollar than the decline in the early 1970s to higher levels than had prevailed before the devaluation.

Table 2

NET DEBT OF THE U.S. FEDERAL GOVERNMENT*

<u>End of the Fiscal Year</u>	<u>Net Debt (Billions of \$\$)</u>	<u>Percent Change</u>
1945 TRUMAN	235.2	
1952 EISENHOWER	214.8	-8.9
1960 KENNEDY/JOHNSON	236.8	10.2
1968 NIXON/FORD	289.5	22.2
1976 CARTER	495.5**	71.2
1980 REAGAN	709.3	43.1
1988 BUSH	2,050.2	189.0
1990***	2,285.0	11.5

* Gross debt of the Federal Government less that owned by trust funds of the federal government.

** Includes fiscal-year transition quarter of 1976.

*** Forecasted data.

A debate over the size of the export demand elasticity raged and continues to rage. The Administration, however, was successful in persuading Congress to let loan rates fall towards world market levels although they were less willing to allow a decline of the same magnitude in target prices. At the same time, the framers of the 1985 Farm Bill put in place numerous other instruments to stimulate exports through both price subsidies and non-price means. The Export Enhancement Program and marketing loans for rice and cotton, for example, are essentially export subsidy programs in that they reduce the cost of U.S. commodities to foreign buyers. The Targeted Export Assistance Program, on the other hand, is an effort to develop foreign markets for U.S. produced agricultural commodities and, thereby, shift out the U.S. export demand curve.

Much of the sentiment that supported export incentive measures was a reaction to the fact that not only were U.S. agricultural exports declining but also the U.S. share of world exports (table 3). In supporting the world price of many agricultural products from 1981 to 1985, the U.S. became the residual supplier in world markets, absorbing all the downside risk. Our export competitors, and particularly the European Community, found it profitable to become more aggressive in export marketing, export pricing, and export subsidization. The hope was that even if the new export policies in the 1985 Farm Bill did not by themselves recapture world markets, they would make it extremely costly for U.S. export competitors to continue subsidizing exports and force them to the bargaining table.

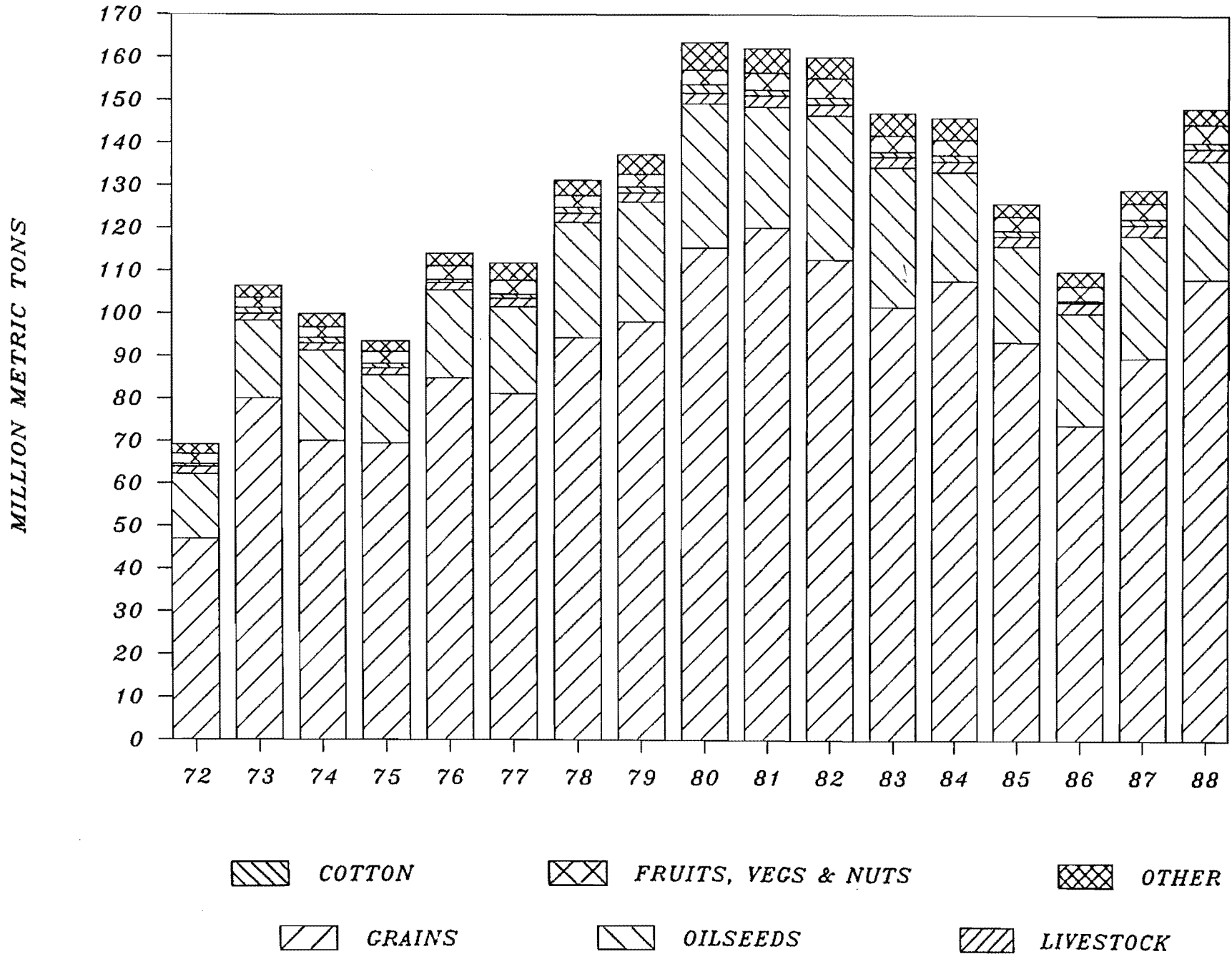
U.S. Agricultural Export Performance Since the 1985 Farm Bill

Have the export enhancing provisions of the 1985 Farm Bill worked? What has been the performance of agricultural exports since 1985 and what role has the Farm Bill played? These are two of the key questions to be debated in the upcoming debate on the new farm bill when the current one expires next year. In the year or so immediately following the implementation of the 1985 Farm Bill, the data on exports fueled the nay-saying of the Farm Bill pessimists. Total agricultural export volume and value dropped 13% and 16%, respectively, from FY 1985 to FY 1986 (figures 4 and 5). As a percent of farm cash receipts, exports dropped to their lowest level since 1974 (see figure 2). Although there were a few bright spots, including soybean and product exports, exports of most commodities, and program crops in particular, were down. The following year (FY 1987) brought

Figure 4

VOLUME OF U.S. AG EXPORTS BY COMMODITY

FISCAL YEARS 1972-88



renewed optimism because total grain and cotton export volumes recovered to pre-1985 levels. The pessimists, however, quickly pointed out that although export volumes had increased, the value of those exports had increased little if any and were still well below the 1985 levels.

In FY 1988 and 1989 (i.e., crop years 1987 and 1988), however, the story changed somewhat. Not only did grain and cotton exports increase to pre-1985 levels, but the value of those exports jumped considerably. A perusal of figures 6 through 11 (which give the data in crop years) suggests that this was the case for most of the program crops. For wheat and tobacco, export values have increased significantly this past crop year (1988), despite drops in their volumes. For rice, export value has increased in both of the last two years even though there was only a slight recovery in rice exports last year. In corn and cotton, export value increases have nearly caught up with increases in export volumes. Despite a slight drop in wheat export volume over the past crop year, export value has increased dramatically.

Is the 1985 Farm Bill responsible for these increases? Would the declines experienced in FY 1986 and 1987 have been even worse without the 1985 Farm Bill? The U.S. share of world grain trade has increased steadily from a low of 35% in 1985 to 50% last year, only 6 percentage points under the 1979 peak (table 3). Does this mean that the U.S. has regained its international competitiveness in world agricultural markets? The difficulty in answering these questions, of course, is that following implementation of the 1985 Farm Bill, the dynamic forces influencing world markets did not remain in a ceteris paribus ("all else held constant") condition. The exchange value of the dollar, for example, dropped 46 percentage points from its peak in FY 1985 to the low levels of the previous decade by FY 1987 (see figure 3). The dollar declined by more in those two years than during the previous ten year depreciation of the dollar from 1970 to 1980, likely as the result of Central Bank efforts in various countries.

It is interesting to note once again from figure 3 the correspondence of the turnaround in exports and the downturn in the dollar. If this relationship holds true, then the recent strengthening of the dollar could once again foreshadow some weakening of agricultural exports in the near future. Nevertheless, U.S. recovery from the recession of the early 1980s has spread worldwide to some extent, helping to bolster foreign demand. Some of the most indebted developing countries have also found some flexibility in their foreign exchange situations after several years of macroeconomic

Figure 7

COTTON EXPORT INDEX

1985=100

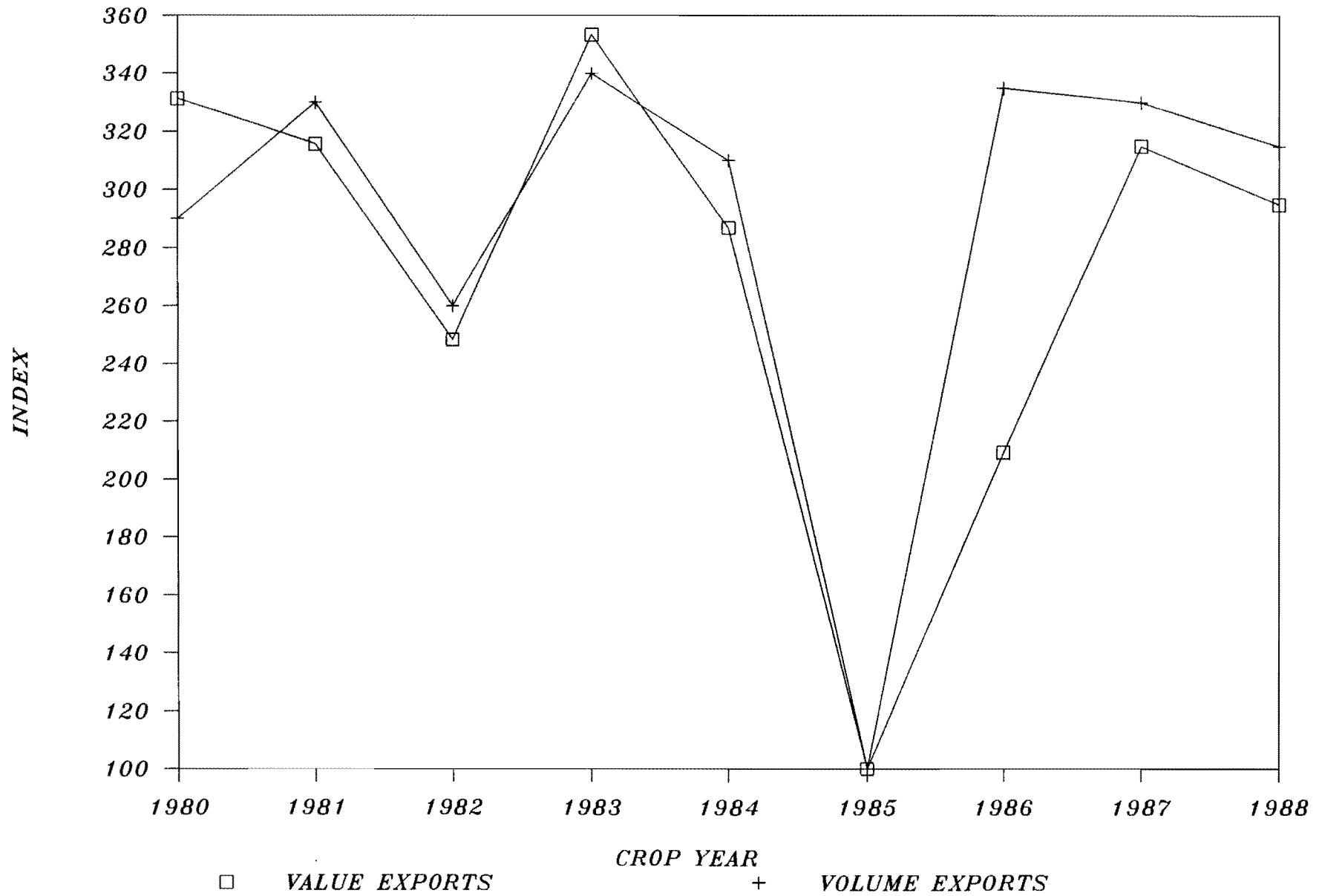


Figure 9

SOYBEAN EXPORT INDEX

1985=100

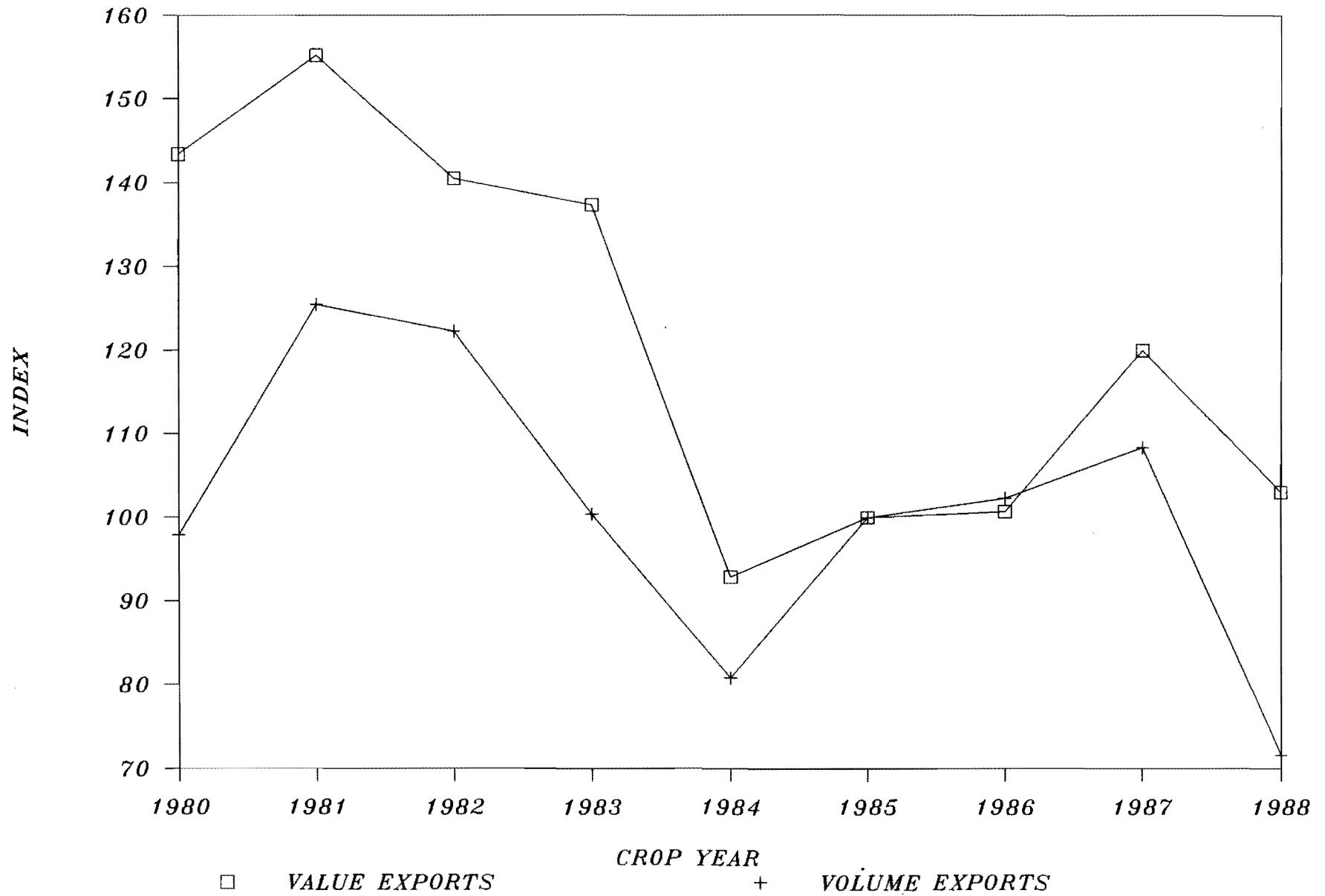
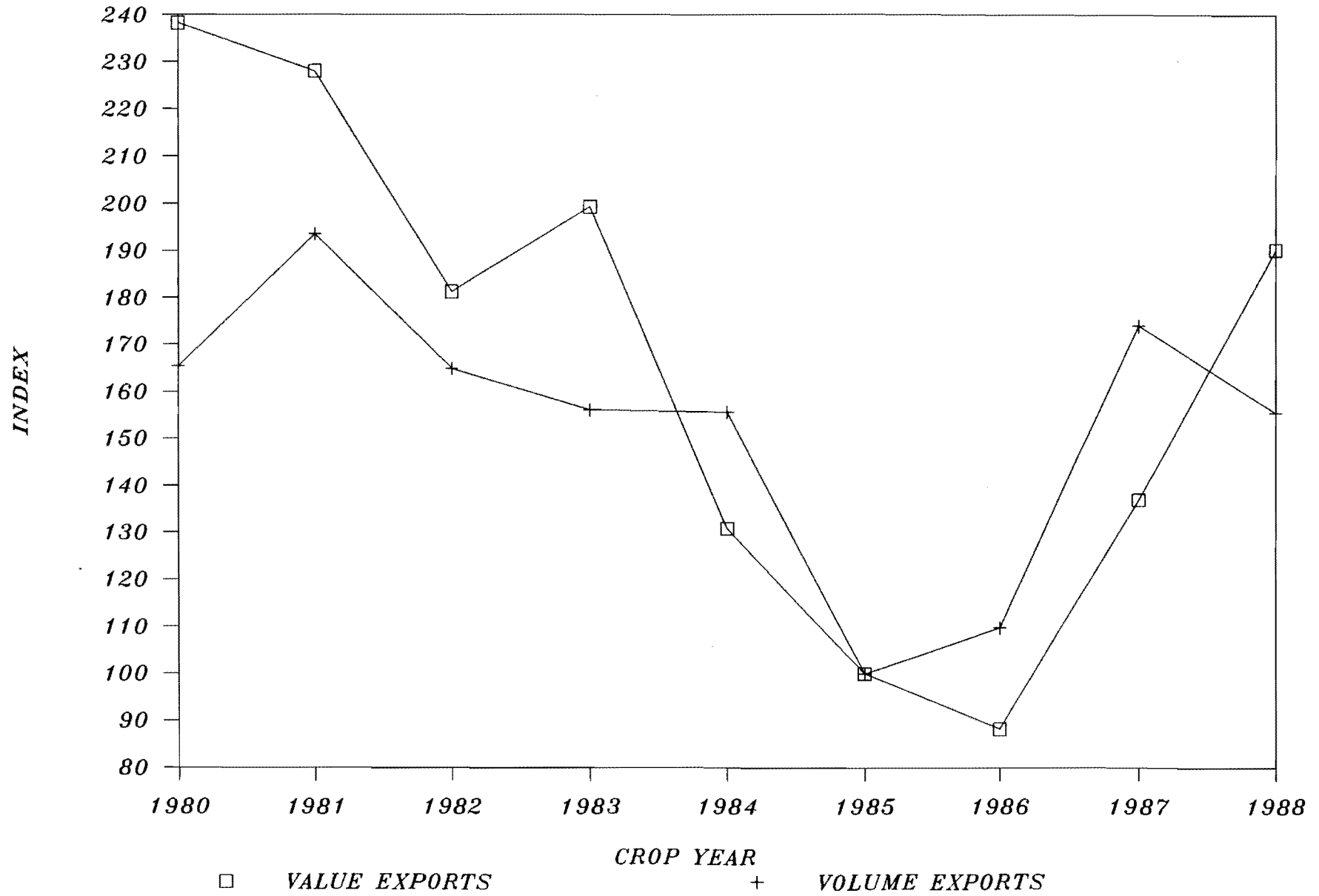


Figure 11

WHEAT EXPORT INDEX

1985=100



commodity if it is a lower cost producer of that commodity than another country. That is more akin to an earlier notion of absolute advantage. Thus, even a country which is a higher cost producer in all commodities than other countries can gain economically by producing and trading the commodity that it is most efficient in producing, i.e., the commodity in which it has the least disadvantage relative to the other commodities it produces. Consequently, those who attempt to determine comparative advantage by country and commodity through a simple comparison of costs of production have apparently not understood the principle of comparative advantage as the basis of trade.

It is important to understand, however, that comparative advantage is a dynamic concept. It can be gained and lost. The basic resource endowments of land, labor, and capital that determine comparative advantage are not fixed for all time. In particular, comparative advantage can be gained (and maintained) through investment in research and development of cost-reducing technologies. On the other hand, comparative advantage can be quickly lost through inadequate allocation of resources to such research.

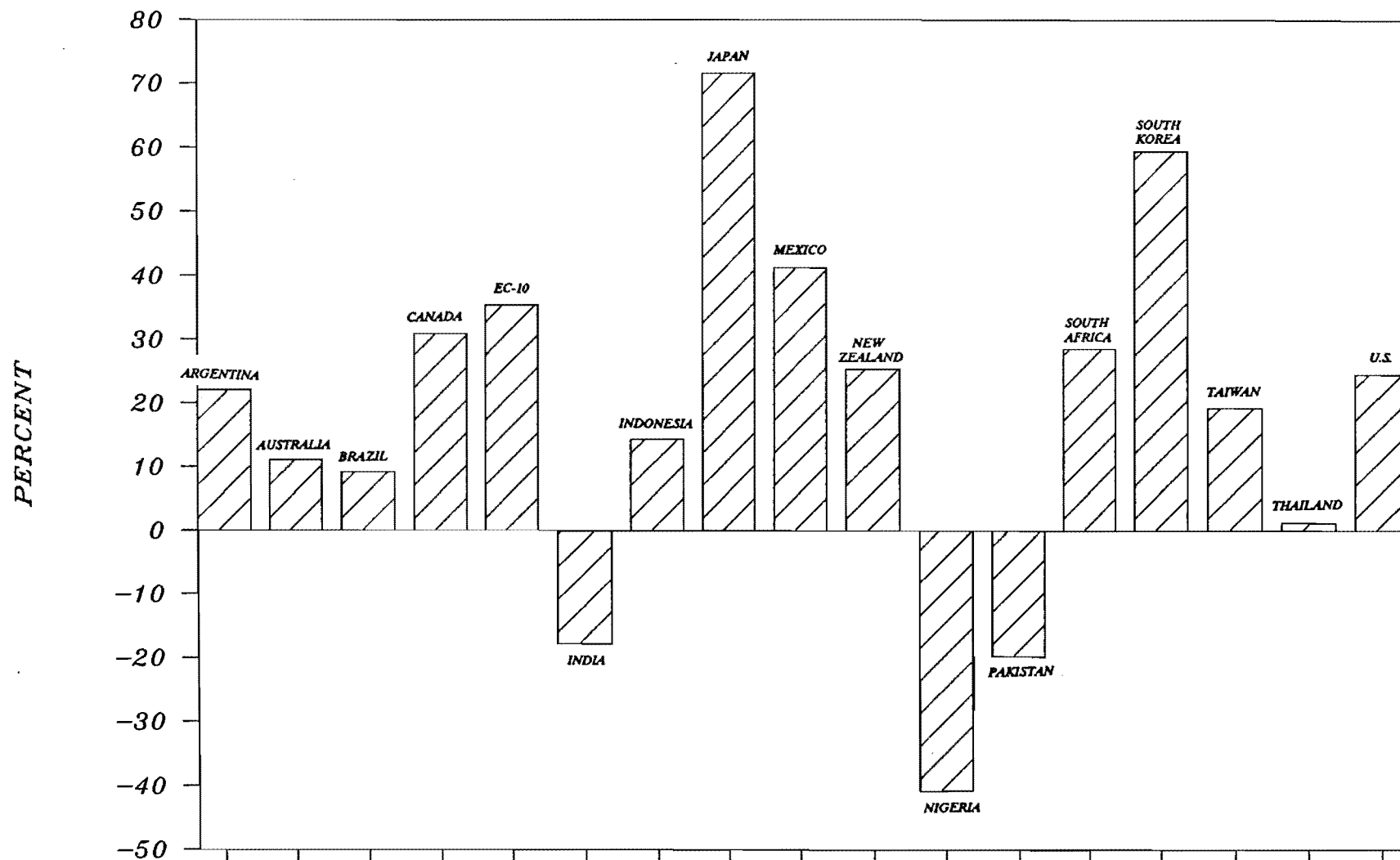
In this age of rapidly expanding worldwide technological progress in agriculture, a steady growth of research investment is needed to simply maintain comparative advantage. Infusion of sufficient funds to provide for possible gains in comparative advantage have been difficult to come by in the U.S. agricultural sector in recent years. The biotechnology revolution, if properly funded, has the potential to increase agricultural productivity and significantly reduce our relative costs of production. We are not the only country, however, that understands the potential of biotechnology. The country which pushes this frontier the furthest forward the fastest will reap the rewards of increased international competitiveness.

Competitive Advantage

Not only is comparative advantage dynamic and changeable as the natural result of market forces and technological advances, comparative advantage can be shifted or distorted by government policies that subsidize or reduce costs and increase prices to producers. Policies that reduce world prices of an exporting country's commodities, such as export subsidies, deficiency payments, and marketing loans, can redirect the world trade flow and mask the underlying comparative advantages.

Figure 12

OVERALL PSE BY COUNTRY, 1982-86



Source: Ender and Wanio, USDA.

CURRENT ISSUES IN INTERNATIONAL AGRICULTURAL TRADE AND POLICY

A number of issues and developing trends in world agricultural markets have the potential to shift current world patterns of agricultural trade significantly. These shifts will likely impose disruptive adjustments in the agricultural sectors of virtually every country at every market level. Among them, five of the most discussed issues include the following in no particular order: 1) the current round of multilateral trade negotiations just getting underway; 2) the growing trend toward higher value products in world trade; 3) economic integration of the European Community scheduled for completion by the end of 1992; 4) foreign development assistance and the impact on trade; and 5) the U.S.-Canada Free Trade Area Agreement.

Agriculture and the MTN

The U.S. and other signatories of the General Agreement on Tariffs and Trade (GATT) have agreed to participate in another round of trade negotiations, the eighth since World War II. Launched in Punta del Este, Uruguay with the signing of a ministerial declaration in October of 1986, the negotiations (referred to as the Uruguay Round or the GATT negotiations) will feature hard bargaining on reductions in trade barriers among participating countries. Through the several past rounds of negotiations little process has ever been made on liberalizing world agricultural trade. One reason is that, in the past, cuts in agricultural tariffs could only be negotiated if they were offered in exchange for tariff cuts by other countries. Some across-the-board cuts have been achieved for industrial products but never for agriculture. More importantly, however, is that border measures for agricultural goods, primarily for the purpose of validating domestic farm programs, have never been on the table for negotiation.

This round of talks is focusing on several areas for more comprehensive treatment than in past rounds, one of which is agriculture. The U.S. was quick to take the initiative in the talks in July of 1987, calling for removal of all trade-distorting agricultural policies including domestic subsidies and border measures over a ten-year period. Other groups, including the EC and the Cairns Group, rejected the U.S. proposal as unrealistic and submitted their own. Over the last couple of years, officials of the participating countries have met numerous times, both formally and informally.

Figure 14

World Trade in Agricultural Products
Total and High-Value Products

\$ bil.
250

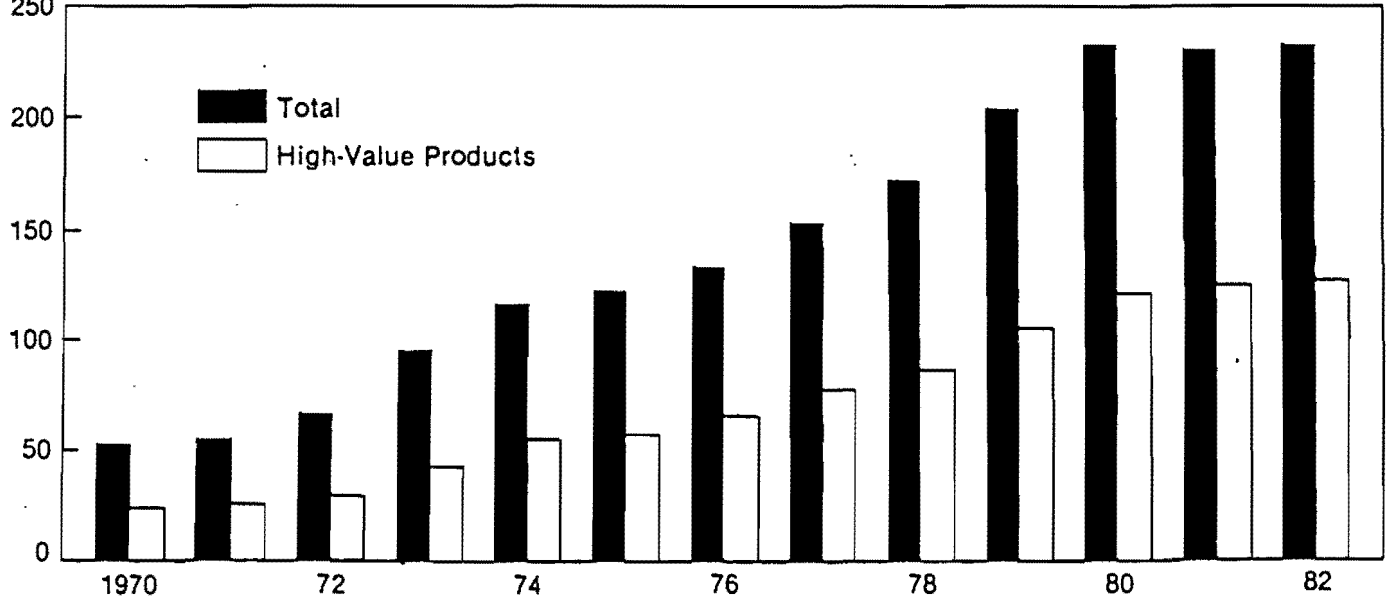


Table 4

AVERAGE SHARE OF U.S. PRODUCTION EXPORTED OF
SELECTED CROPS, 1930-1988

<u>Decades</u>	<u>Wheat</u>	<u>Cotton</u>	<u>Tobacco</u>	<u>Corn</u>	<u>Soybeans</u>	<u>Rice</u>
	----- PERCENT -----					
1930-1939	8.4	50.9	31.4	1.6	6.7	16.6
1940-1949	18.7	23.1	22.4	2.0	2.8	42.7
1950-1959	35.9	35.7	23.6	4.5	16.3	49.6
1960-1969	53.6	35.0	26.1	12.4	28.1	61.2
1970-1979	58.1	41.2	36.7	24.4	38.3	58.9
1980-1988	58.2	45.2	37.3	24.9	40.0	49.3

Source: USDA. Agricultural Statistics. (Various Issues)

Table 6

AVERAGE SHARE OF U.S. PRODUCTION EXPORTED:
SELECTED COMMODITIES, 1981-1988

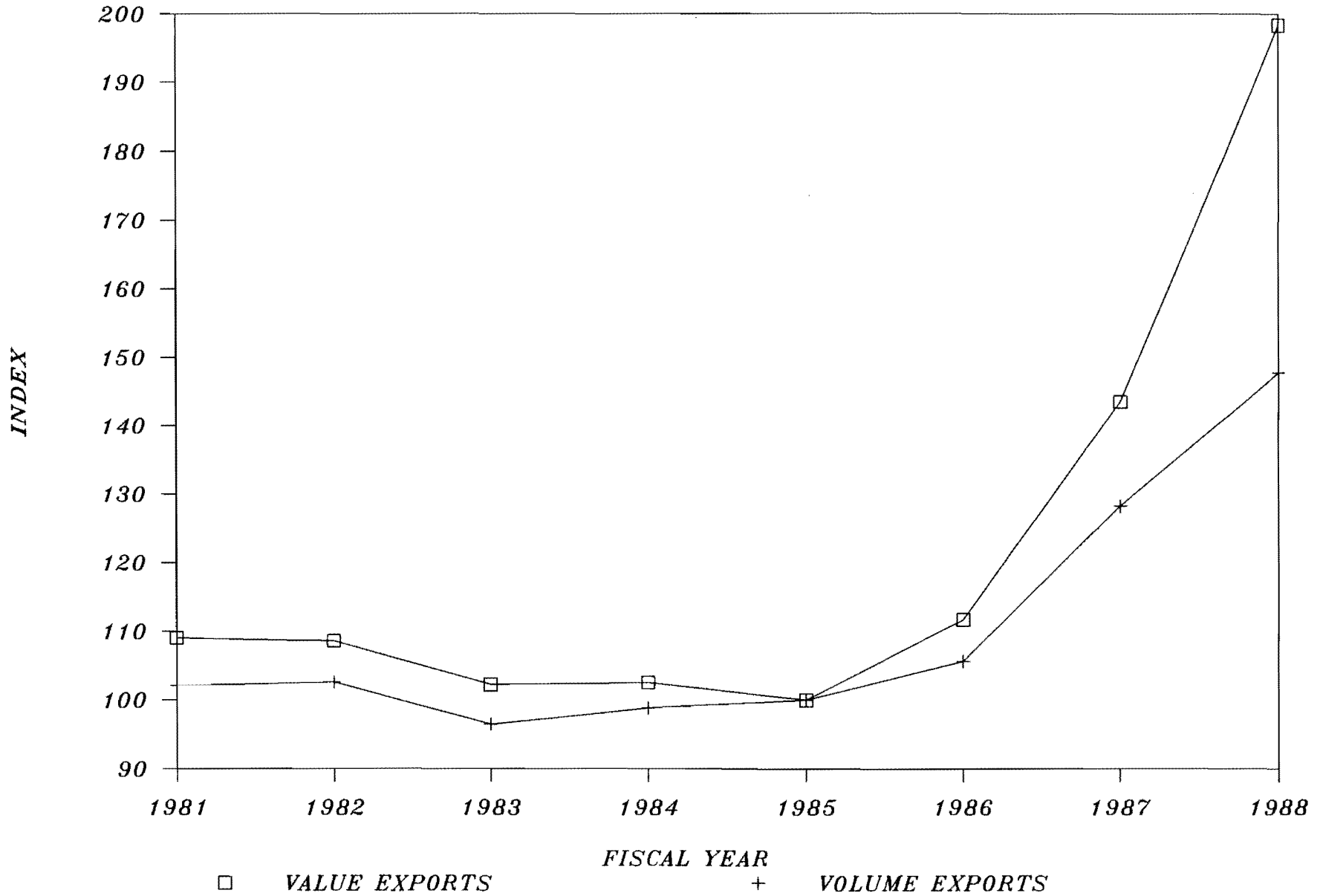
<u>Fiscal Year</u>	<u>Fruits</u>	<u>Vegetables</u>
1981	7.5	8.6
1982	6.8	8.4
1983	8.4	6.8
1984	8.5	6.0
1985	8.5	5.2
1986	8.9	5.7
1987	8.4	6.1
1988	9.3	6.9
TOTAL	8.3	6.7

Source: USDA. Agricultural Statistics. (Various Issues)

Figure 16

RED MEAT EXPORT INDEX

1985=100



that either restrict total imports or reduce the U.S. share of total imports; 2) legal barriers like health and sanitation laws that act as non-tariff barriers; 3) the relative distance of the U.S. agricultural industry from many of the faster growing international markets such as the Pacific Rim; 4) social factors and cultural differences that affect food consumption patterns in foreign countries; 5) the paucity of international food science research and the processing skills and technology in this country required to develop higher value processed food products with the physical characteristics most desired by foreign consumers that also conform to traditional food preparation and consumption practices in foreign countries 6) an export marketing intelligence quotient (I.Q.) deficiency in this country; and 7) the usual concerns about comparative advantage as well as other economic forces that might impede U.S. meat exports.

If U.S. HVP exports are to achieve any significant increase over the next decade or so, research resources will have to be directed at analyzing the nature and extent of each barrier in each potential market and generating the information, technology, institutions, educational programs, and policy recommendations required to lift or circumvent the barriers that exist. Consequently, those barriers can be considered either as a justification for abandoning hope for greater U.S. involvement in world HVP trade or as opportunities waiting to be discovered through research. Because the problems endemic to U.S. exports of higher value commodities defy disciplinary boundaries, the research agenda must be multidisciplinary in scope. Consequently, the search for meaningful solutions to those problems will require an interdisciplinary effort, a task at which most U.S. research institutions are not particularly experienced.

The trend towards growth and economic development among the world's poor and middle income countries suggests that the current trend toward a larger volume and value of HVP products in world trade will continue into the foreseeable future. The process of economic development brings increases in per capita incomes and a shift in the composition of the food products demanded by consumers from food grains to higher value commodities. In general, the period from the 1940s through the 1960s could be considered to be the age of U.S. foodgrain exports (figure 18). The 1960s through the 1980s then became the age of U.S. feed grain exports. As development proceeded around the world during that period, demand shifted away from food grains toward beef, pork, poultry, dairy products, and other commodities for which feed is a production input. The 1990s and beyond

could well become the age of world high value product trade. Whether or not the U.S. becomes a major player in that trend will depend upon the extent to which the barriers faced are removed or circumvented.

European Integration 1992

The 12 member countries of the European Community (EC) have initiated an ambitious effort to fully integrate their diverse national economies by removing all barriers to the movement of goods, services, capital, and people by the end of 1992. If successful, this process would create a single European market greater in size than the U.S. with a gross domestic product of \$4 trillion (Kelch). The economies of scale achieved through this process are expected to improve market efficiencies and make the EC much more competitive in world markets. The political and economic dynamics, however, are so complex that full integration by 1992 or the foreseeable future, is not deemed likely by most observers.

EC officials claim that the integration effort is not intended to affect EC agricultural trade. Nevertheless, any efficiencies gained will most certainly have both short and long-run effects on the EC and world patterns of agricultural trade. In the short-run, the food and agribusiness sectors are likely to be the most affected sectors of the EC agricultural industry. Mergers in EC food retail, wholesale, and processing industries have already begun in preparation for a significantly increased market size. As a result, U.S. food exporters and multinational food companies will face increased competition in the EC. The EC 1992 effort will also affect the transportation, finance, input supply, and labor sectors of the EC as integration forces harmonization of standards and extra-EC border policies, coordination of sectoral and cross-sectoral regulations, removal of trade barriers, and other efficiency-enhancing changes.

Short-run gains in efficiency will lead to long-run gains in comparative advantage in agricultural and food production. The removal of the intra-EC barriers will allow freer movement of agricultural resources to lowest cost areas. This will likely have a dramatic effect on the pattern of production, processing, and marketing of agricultural and food products within the EC. As these adjustments occur, changes in the composition and pattern of EC agricultural trade will also take place.

population growth is low; per capita income levels are high but food demand is relatively unresponsive to income changes; domestic food supplies are growing; and import policies are highly restrictive. Middle income countries like Taiwan and South Korea have experienced rapid growth in recent years but those markets are quite limited in size. The centrally planned economies such as the Soviet Bloc and the People's Republic of China have great potential but have been quite erratic in their import behavior. There is no particular obvious trends to suggest that food imports by these countries will grow significantly and become more consistent for the foreseeable future. In developing countries on the other hand, population is growing rapidly; incomes are low but food demand is highly income elastic; domestic food supplies are not growing as rapidly; and imports of higher value products, in particular, are much less restricted. Income growth and improvements in foreign exchange in these countries is likely the best hope for future growth in foreign demand for U.S.-produced agricultural and food products.

Fourth, *overall economic development has rarely been achieved in any country without a strong agricultural sector.* Agriculture generally provides the source of income that facilitates industrialization. Resources are often transferred from agriculture to the industrial sector through some form of explicit or implicit tax on agricultural output. Thus, a growing efficient agricultural sector is a necessary precursor to overall economic development. Food surplus countries, such as the U.S., therefore, have an interest in helping foster agricultural development in developing countries as a means of generating overall development, income growth, and an increase in the demand for food.

As the agricultural sector of a developing country becomes more efficient over time, however, some gains in comparative advantage in the production of commodities that have traditionally been imported may result. This is the dilemma of foreign development for U.S. agriculture. It is not necessarily the case, however, that such foreign development will simply lead to greater competition for U.S. exports. There are a number of reasons for some optimism about the impact of foreign development on U.S. exports.

First, *the U.S. likely has a comparative advantage in feed grains and possibly in various higher value agricultural products.* Thus, as development proceeds abroad, the U.S. may be well positioned to benefit from and even capture a significant portion of newly created demand for higher

The U.S. - Canada Free Trade Agreement

Although hotly debated and widely discussed in Canada before it went into effect on January 1, 1989, the U.S. - Canada Free Trade Agreement has received little attention in this country. The agreement is the first step in a effort to remove trade barriers between the U.S. and its largest trade partner. The main issue in Canada, however, has been related primarily to fears of losing cultural identity in a move intended to bring even closer together two countries that are already extensively connected economically. Before the agreement, bilateral trade between the two countries was already large and growing with relatively low tariff and trade barriers (Coyle).

Even though agriculture accounts for less than 5% of the trade between the two countries, the agreement calls for removal of all tariffs on agricultural products over the next 5 to 10 years, bans export subsidies, institutes various trade liberalizing measures with respect to specific commodities such as grains, oilseeds, sugar, and meat, and outlines a trade dispute settlement process. Because agricultural trade and trade restrictions between the two countries are low, however, the agreement is expected to have little impact on the agricultural sectors of either country. Goodloe and Webb estimate only a 2 to 6 percent increase in U.S. - Canada agricultural trade as result of the agreement.

IMPLICATIONS FOR AGRICULTURAL PROGRAMS AND POLICY

Growth in world agricultural markets has thrust Texas and U.S. agriculture firmly back into larger global economy in recent years. With nearly one out of every three dollars in farm receipts coming from foreign consumers, U.S. and foreign agricultural and macro-economic policies, global weather patterns, growth and development in developing countries, foreign currency movements, global advances in technology, and other international forces now exert as much influence on the profitability and future viability of U.S. and Texas agriculture as events in our own markets. Despite likely ebbs and flows, international markets will remain an important source of revenues in the agricultural sector and of potential demand for U.S.-produced agricultural products. This greater role of international markets in the fortunes of U.S. agriculture suggests a number of implications for agricultural programs in research, teaching, and extension and for agricultural policy.

First, virtually all agricultural subsectors and subdisciplines have been, are, and will be increasingly affected by the pervasive influence of international markets on U.S. agriculture. The

Finally, the competitive edge of U.S. and Texas agriculture has come under considerable pressure as foreign countries have erected protective policies and invested heavily in technology to improve the efficiency and profitability of their agricultural sectors. Maintaining and improving the competitiveness and economic vitality of U.S. and Texas agriculture will require concerted effort to expand the socio-economic and technological knowledge base in this country of global production, processing, and marketing of agricultural products. Biotechnology and other cost-reducing technologies and related education and extension efforts are the basis upon which the U.S. will maintain and enhance its comparative advantage in agricultural production. The scope of agricultural programs, however, must broaden to encompass productivity gains and efficiency beyond the farm gate. Food science efforts to enhance the value of agricultural products and improve the efficiency of the food and fiber processing industry will help shift the composition of U.S. agricultural exports toward higher value commodities. Research, education, and extension efforts in the international marketing of agricultural commodities will help insure a more efficient, competitive flow of new and traditional products to expanding world markets.

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University of California Task Force. A Hungry World: The Challenge to Agriculture, Berkeley, University of California, 1974.

Why is What Produced Where and Traded to Whom for What:

David Ricardo's Answer

Comparative Advantage

A country has a comparative advantage in the production of a commodity over another country if it produces the commodity relatively more cheaply.

Law of Comparative Advantage

A country will gain economically if it specializes in the production of that commodity for which it has the greatest relative advantage or least relative disadvantage and then trades with other countries. Total world production of the commodity will consequently increase.

OUTLINE

1. THE RE-INTERNATIONALIZATION OF U.S. AGRICULTURE
2. COMPETITIVENESS IN WORLD AGRICULTURAL MARKETS
3. CURRENT ISSUES IN INTERNATIONAL AGRICULTURAL TRADE AND POLICY
4. IMPLICATIONS FOR AGRICULTURAL PROGRAMS AND POLICY

COMPETTIVENESS IN WORLD AGRICULTURAL MARKETS

- **WHERE DOES COMPETITIVE STRENGTH COME FROM?**
 1. **THE PRINCIPLE OF COMPARATIVE ADVANTAGE**
 2. **COMPETTITIVE ADVANTAGE: POLICY DISTORTION OF
COMPARATIVE ADVANTAGE**

- **PRODUCER SUBSIDY EQUIVALENTS**

HIGHER VALUE PRODUCTS TRADE TRENDS

- GROWTH IN WORLD HVP TRADE
- U.S. CAPTURED WORLD LVP TRADE
- U.S. HVP EXPORTS LAGGING BEHIND BUT GROWING
- BARRIERS TO FUTURE INCREASES IN U.S. HVP EXPORTS
 1. POLICY BARRIER
 2. LEGAL BARRIER
 3. DISTANCE BARRIER
 4. SOCIAL/CULTURAL BARRIER
 5. FOOD SCIENCE RESEARCH BARRIER
 6. EXPORT MARKETING IQ BARRIER
 7. ECONOMIC BARRIERS
- ECONOMIC DEVELOPMENT AND HVP TRADE

THE DILEMMA OF DEVELOPMENT AND DEVELOPMENT ASSISTANCE FOR U.S. AGRICULTURE

- THE DILEMMA

"FUTURE GROWTH OF U.S. EXPORTS DEPENDS ON GROWTH IN FOREIGN DEMAND BUT ASSISTING IN THE PROCESS OF DEVELOPMENT MAY SIMPLY LEAD TO INCREASED COMPETITION FOR U.S. PRODUCERS"

- SOME THOUGHTS ON THE RELATIONSHIP BETWEEN TRADE AND DEVELOPMENT

1. ECONOMIC GROWTH LEADS TO HIGHER VALUE FOOD DEMAND
2. WORLD GROWTH LEADS TO INCREASE IN HVP TRADE
3. PROSPERITY IN U.S. AGRICULTURE TIED TO GROWTH IN U.S. EXPORTS WHICH IS TIED TO GROWTH IN LCDs
4. OVERALL ECONOMIC DEVELOPMENT RARELY ACHIEVED WITHOUT STRONG AGRICULTURE SECTOR

- REASONS FOR OPTIMISM

1. U.S. HAS COMPARATIVE ADVANTAGE IN FEED GRAINS
2. TECHNOLOGICAL ADVANCES CAN MODERATE NEGATIVE EFFECTS
3. LDC NATURAL ADVANTAGE IN COMMODITIES U.S. IMPORTS
4. DEVELOPMENT BRINGS ECONOMIC AND POLITICAL STABILITY
5. LDC GROWTH WILL REQUIRE ADJUSTMENTS

IMPLICATIONS FOR AGRICULTURAL PROGRAMS AND POLICY

- **INTERNATIONALIZATION OF AGRICULTURAL RESEARCH, EDUCATION, AND EXTENSION PROGRAMS IS INEVITABLE**
- **GREATER BENEFITS FROM TAKING ADVANTAGE OF INTERNATIONALIZATION THAN FROM PROTECTIVE MEASURES**
- **EARLY RESPONSE OF AGRICULTURAL POLICY AND PROGRAMS TO MAJOR CHANGES AND TRENDS IN WORLD MARKETS NECESSARY TO MAINTAIN COMPETITIVENESS**
- **THE SCOPE OF AGRICULTURAL PROGRAMS MUST BROADEN TO ENCOMPASS AGRICULTURAL SECTOR ACTIVITIES BEYOND THE FARM GATE**