DEPOSITORY

EXPORT POLICY

HEARING

BEFORE THE

SUBCOMMITTEE ON INTERNATIONAL FINANCE

OF THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

PART 2

TRENDS IN EXPORT MARKETS AND COMPETITIVENESS

FEBRUARY 23, 1978

Printed for the use of the
Committee on Banking, Housing, and Urban Affairs

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TRENDS IN EXPORT MARKETS AND COMPETITIVENESS[1]

THURSDAY, FEBRUARY 23, 1978

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
SUBCOMMITTEE ON INTERNATIONAL FINANCE,
Washington, D.C.

The subcommittee met at 9:40 a.m., in room 5302, Dirksen Senate Office Building, Senator Adlai Stevenson (chairman of the subcommittee) presiding.

Present: Senators Stevenson, Heinz, and Schmitt.

OPENING STATEMENT OF SENATOR STEVENSON

Senator STEVENSON. The subcommittee will come to order.

Today we continue our oversight hearings on export policy. On February 6 the subcommittee heard testimony on the effect of floating exchange rates on U.S. exports. This is the second in what will be a lengthy series of hearings on export policy, export trends, and some legislation, including the authorization legislation for the Eximbank.

The United States cannot rely upon floating exchange rates to automatically adjust the trade imbalance. If it's to sell enough goods and services abroad to cover the high cost of its imports, especially oil imports, it needs policies which assure the competitiveness of U.S. industry and agriculture in world markets.

This morning we will hear testimony on trends in the competitiveness of U.S. exports. The United States has traditionally been an exporter of capital goods and agricultural products. Most of its exports have gone to Canada, Europe, and Latin America. The competition is intensifying in the high technology capital goods sectors in which the United States has been dominant. There are projections that agricultural exports will be depressed unless more liberal financing is provided to certain foreign customers. The growing markets for both capital goods and agricultural products are in Asia, the Middle East, and Eastern Europe. Can the United States continue to compete in the products markets where it has traditionally been strong? Will it be able to exploit new market opportunities? Officials from the Departments of Agriculture and Commerce, as well as private experts, will help answer such questions this morning.

[1] This is part 2 of an eight part series of hearings on U.S. export performance and export policy. The hearings form part of a Subcommittee study which will serve as a basis for recommending action needed to ensure the competitiveness of U.S. agriculture and industry in world markets.

I should announce that the hearing we had planned for Monday, February 27, on the export policies of foreign countries has had to be rescheduled for Thursday, March 9.

Senator Heinz.

OPENING STATEMENT OF SENATOR HEINZ

Senator HEINZ. Mr. Chairman, I am pleased that you have chosen for today's hearing the question of trends in the competitiveness of U.S. exports. This forms a very important part of the subcommittee's overall study of U.S. export policy and performance. I am most concerned about our nation's declining export performance and hope that today's examination of changes in the markets for and composition of U.S. exports will give us a better insight into the nature of this problem. Such insight is of vital significance to many millions of Americans, perhaps ten or more million Americans whose jobs are thought to be export-related.

Our share of total world exports has declined significantly since 1960, from 18.2 percent to 12.8 percent in 1976; with our share of exports of manufacturers declining from 22.8 percent to 18.1 percent during the same period. Our major trading competitors, Germany and Japan, on the other hand, have experienced increases in their world market shares since 1960 with their shares of exports of manufacturers expanding from 18.2 percent to 18.8 percent and from 6.5 to 15.5 percent respectively.

It would appear, therefore, that the competitiveness of U.S. products in comparison to that of foreign products has in fact declined. One of our witnesses on February 6, however, pointed out that based on an analysis of movements in the major industrial nations of consumer prices, wage rates, and unit labor costs, the United States is in a strong competitive position, especially relative to Germany and Japan.

Our competitive strength, though, has apparently been in fact negated by other nations which have implemented extensive import barriers and aggressive export promotion programs. I am deeply concerned that we have been too passive in this area and have allowed others to unfairly increase their market penetration and market shares at our expense.

I hope our witnesses today will assist us in obtaining a better understanding of these broad questions and will specifically help us to focus on three issues of particular concern: first, the changes in our export position and performance in different product and geographic markets; second, the impact of foreign competition on our export markets and competitiveness; and third, the possible export policy and program changes or additions which we, the committee and the Congress, might consider to improve our export performance and to insure our future export competitiveness.

Mr. Chairman, let me take this opportunity to commend you for scheduling this series of hearings which I believe to be tremendously important to our country, tremendously important for the millions of working American men and women, somewhere between 1 in 7 and 1 in 10 of all the people employed in the United States of America are in export-related jobs.

Senator STEVENSON. This is our joint effort, but I thank you, Senator Heinz.

I will invite all of the witnesses to summarize their statements. They will then be entered in the record. If they do, that will help to save some time.

The first witness is Dale Hathaway, Assistant Secretary for International Affairs and Commodity Programs, Department of Agriculture.

STATEMENT OF DALE E. HATHAWAY, ASSISTANT SECRETARY FOR INTERNATIONAL AFFAIRS AND COMMODITY PROGRAMS, DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY KELLY HARRISON, GENERAL SALES MANAGER; AND TOM HUGHES, ADMINISTRATOR, FOREIGN AGRICULTURAL SERVICE

Mr. HATHAWAY. Thank you, Mr. Chairman.

I appreciate the opportunity to appear before the subcommittee and particularly your kindness in allowing me the opportunity to leave at 10:15 to join Secretary Bergland before the House Committee on International Relations. However, Kelly Harrison, our general sales manager on the far right, and Tom Hughes, the Administrator of the Foreign Agricultural Service, are with me and can remain longer if you wish.

In planning this hearing you provided the Department of Agriculture with a list of seven questions. We have taken the liberty of replying to these questions in some length and would like, with your permission, to submit that rather lengthy document for the record.

Senator STEVENSON. They will be entered in the record.

[Complete statement and documents follow:]

STATEMENT OF THE HONORABLE DALE E. HATHAWAY, ASSISTANT SECRETARY OF AGRICULTURE FOR INTERNATIONAL AFFAIRS AND COMMODITY PROGRAMS, BEFORE THE SENATE SUBCOMMITTEE ON INTERNATIONAL FINANCE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS—THURSDAY, FEBRUARY 23, 1978

Mr. Chairman, I appreciate the opportunity to appear before the Subcommittee—and particularly your kindness in allowing me the opportunity to leave at 10:15 in order to join Secretary Bergland before the House Committee on International Relations. Kelly Harrison, the General Sales Manager, and Tom Hughes, Administrator of the Foreign Agricultural Service, are with me and can remain longer if that is your wish.

In planning this hearing, you provided the Department with a list of seven questions on trade developments, opportunities, and policies for farm products. We have taken the liberty of replying to these questions in considerable detail, and with your permission I will submit that rather lengthy document for the record.

In summary, I might say that the competitive ability of U.S. agriculture has remained high and even improved during the 1970's. In addition to U.S. agriculture's well-known efficiency, our competitiveness has been enhanced by the United States' relatively good record in controlling inflation and the general decline in the foreign-exchange value of the dollar.

There are of course a large number of tariff and non-tariff barriers which partially or completely offset our competitiveness in certain commodities and markets. Despite these barriers, the value of U.S. farm exports has grown from $7.3 billion in 1970 to $23.7 billion in 1977. In terms of volume, there has been a 60 percent growth in tonnage during this period.

We are still the world's largest exporter of grains (wheat, rice, feed grains), soybeans, cotton, and tobacco and our exports of livestock products and poultry

meats have expanded strongly in recent years. Our share of the world's grain market has increased in part as a result of greater exports to the Soviet Union and other centrally-planned economies of Europe. While still the world's largest exporter of soybeans, we face growing competition from soybeans, palm oil, and other oilseed products grown elsewhere. This competition will continue in the future.

Cotton and tobacco exports remain strong, but the USSR has taken a substantial share of our cotton market in Europe and a number of developing nations have also become important sources of supply. Our tobacco exports are also facing increasing competition from other nations, in part because our domestic price support legislation reduces our competitiveness in many markets.

The livestock products we export are mostly hides and skins, tallow and greases, and variety meats, although pork and beef are important. Japan and the developed nations of Europe are our major markets for livestock and products, but Korea and Mexico are also important. Tallow and greases face strong competition from Australian and Canadian tallow exports, and from palm oil exports mainly from South Asia. Exports of poultry meats, while growing, are threatened by export subsidies of the European Community.

U.S. farm product exports over the years have had the assistance of two credit programs (Public Law 480 and the Commodity Credit Corporation Export Credit Sales Programs) and a strong market development effort in cooperation with private trade associations. We also are attempting to reduce foreign barriers to our exports in bilateral and multilateral negotiations. We recently were somewhat successful in bilateral negotiations with Japan, with respect to U.S. beef and citrus. We continue to push forward in the multilateral trade negotiations now under way in Geneva. We are studying the feasibilty of a CCC export credit sales program with repayment periods of more than 3 years provided under the current CCC program but with a shorter repayment period than the 20 years typical under P.L. 480 Programs.

In addition to the old problems and traditional programs, U.S. agriculture—along with the rest of the world—faces a new set of problems which require new policies and new programs, and a strengthening of existing programs. As 1978 unfolds we face (1) extremely high world-market prices for petroleum, (2) sluggish economic growth in some major nations abroad, (3) a great deal of difficulty here and abroad in reducing inflation, (4) shifting exchange rates, and (5) growing pressures for protection against imports. Underlying the new pressures for import protection is of course the growth in exports of steel, electronics, textiles, ships, and other manufactured products by a number of nations. Some of our largest and most rapidly growing markets for farm exports are also competitors in the American market.

To deal with the new problems, we should continue to urge stronger growth and larger imports by those industrial countries that presently have strong balance of payments positions. With stronger growth, their imports should increase and, thereby, increase the exports of countries with weaker international financial positions.

We need also to emphasize—here and abroad—the long-term and overall benefits that come from flexibility in economies. To maintain too rigidly the world's old economic structure is to ignore the higher cost of energy, advances in economic development and export potential in poorer nations, and even U.S. efficiencies in certain sectors and regions that might be placed in jeopardy. To attempt to preserve the status quo is to dampen or halt growth in world income—an important factor in expanding U.S. exports.

Obviously we need to make certain, for the protection of ourselves and others, that newly developed export industries are not artificially contrived or supported by monopolistic actions. But where efficiencies are based on real differences in econmic advantage, we should be prepared to compete.

In general, we need to make certain that solutions to the world's old and new economic problems are those that lead to *greater* consumption and production worldwide and not *less* consumption and production. We must be careful not to institute new policies and programs that invite retaliation and more protectionism. We must continue past efforts to increase, through international negotiations, the free flow of trade. Our export credit and market development programs are well accepted internationally, and we must continue to adapt as conditions dictate.

A large volume of U.S. agricultural exports is essential to American agriculture. Our farmers devote around 100 million acres each year to production for export—almost one acre in three of our harvested cropland. Backed off to the farm gate, just under 20 percent of income from farming is returned by export sales.

The benefits of agricultural exports are, however, not limited to agriculture. Based on an imput-output analysis, a USDA study indicates that—for the $22 billion of agricultural exports in 1974—about $43 billion of total business activity occurred—an addition of $21 billion. Thus, each dollar of agricultural exports stimulated an additional 96 cents of output in the U.S. economy—a multiplier effect of almost two.

The additional $21 billion of activity occurred in various sectors; $6 billion in the farm sector and $15 billion in the non-farm sector. Thus, about 70 percent of the additional economic activity occurred in the non-farm sectors of the economy, based on 1974.

With regard to employment an estimated $1.2 million fulltime civilian jobs were related to our agricultural exports. Of this, around a half-million U.S. farmworkers—14 percent of the U.S. farm labor force—were required to produce 1974's agricultural exports.

In addition, more than 650,000 non-farm jobs were directly or indirectly related to the assembling, processing, and distribution of agricultural products for export. Around 50,000 of these jobs were in food processing; 300,000 in trade and transportation; 100,000 in other manufacturing sectors; and 200,000 in other services.

Consequently, in 1974 about 4 percent of the work force producing food and kindred products, and just under 1 percent of the non-agricultural civilian labor force, was likely engaged in providing goods and services for agricultural exports.

In preparation for this hearing, Mr. Chairman, we were asked to comment on two legislative developments growing out of the desire of many Members to further expand exports of U.S. agricultural products. We of course join in this concern and have taken a number of important steps in the past year to further farm product exports. Unfortunately, some of the proposals now being made do not represent simple solutions, although their goals may be entirely laudable. The nation's overall foreign policy, both political and economic, is intimately involved with our trade objectives, and must always be taken into account.

1. Senate Resolution No. 355, which was introduced last January 23, would record the sense of Congress as favoring the extension of the Export-Import Bank further into the financing of agricultural product sales. It would direct the Bank to provide farm product financing at a level in proportion to its financing of industrial products, relative to the total U.S. export market. This would mean a considerable change, since the Export-Import Bank's financing of farm product exports is and has been a relatively small share of its activity.

Most government financing for agricultural exports has been centered in the Commodity Credit Corporation Export Credit Program, and we are strengthening that program substantially. The amount of funding for CCC credit in this fiscal year has been more than doubled—from $750 million to $1.7 billion. We have developed a non-commercial risk insurance program for exporters. We are joining with the Overseas Private Investment Corporation in a program to encourage U.S. business investment in developing countries, with consequent expansion in the sale of U.S. grains, soybeans, and other farm commodities. We believe that further strengthening of the CCC credit program is possible and we currently are exploring several ways to do this.

2. S. 2385 would permit Communist countries to participate in CCC import credit sales programs. Under Title IV of the Trade Act of 1974, Communist nations with the exception of Yugoslavia, Poland, and Romania may not participate in Government export credit programs or receive export credits or most favored nation treatment from the United States. From the point of view of American farmers, any legislation that would result in long-term export expansion would be desirable. Farmers know that, even without CCC credit to MFN for most of those countries, dollar sales to the Communist group will approach $3 billion in the current fiscal year—a very important market! However, because of other overriding considerations, the Administration cannot support S. 2385 at this time.

Thank you again, Mr. Chairman, for the opportunity to meet with you and the Subcommittee.

Competitiveness of U.S. Exports and Means to Close the U.S. Trade Gap

Prepared for the United States Senate, Committee on Banking, Housing and Urban Affairs, Subcommittee on International Finance by the U.S. Department of Agriculture, Foreign Agricultural Service for hearings on February 23, 1978 in response to a list of questions submitted to the Honorable Bob Bergland, Secretary of Agriculture, on January 23, 1978, by the Honorable Adlai E. Stevenson, U.S. Senator from Illinois.

1. IN WHAT PRODUCT AND GEOGRAPHIC MARKETS HAS THE UNITED STATES BEEN A SUCCESSFUL EXPORTER, AND WHY?

Grains

Overall export success.—The United States is the largest grain exporter in the world, accounting for 50 to 55 percent of total world grain trade in recent years. World grain trade has increased sharply in the 1970's with the U.S. capturing most of the increase and improving our market share. Exports of both wheat and corn contributed to this increase. In the future, corn is expected to account for additional increases as the world demand for livestock feed increases.

Principal markets.—The destination of our grain exports are world wide. Our major markets are Japan, Europe, and the USSR.

Reasons for success.—One of the major factors for our increased export volume in the 1970's has been the success in supplying grain to the USSR and East European markets. In the case of the USSR, we now have a formal agreement which guarantees that at least 6 million tons of U.S. wheat and corn will be sold to the USSR each year. Prior to the signing of the agreement, purchases by the USSR had been erratic and at times caused serious disruptions in U.S. grain prices. Another important factor for our increased trade with the USSR was the extension of credit during 1972 to assist the financing of U.S. grain purchases. Prior to that time such credit had not been available. In East Europe, increased demand for livestock products has increased the need for feedgrain imports, with the U.S. taking the major share of the increase. Again, the extension of credit has been an important means of increasing our grain sales in East Europe.

Another very significant factor has been the transfer by our market development cooperators of technology regarding the processing and utilization of U.S. grains.

Oilseeds and Products

Overall export success.—U.S. Exports of these commodities in CY 1977 were a record level of 23.0 million tons (aggregate of oilseeds, meals and oils) valued at more than $6.6 billion.

Despite tough competition from developing countries like Brazil, Argentina, and Malaysia, the United States managed to maintain a respectable share of the world market for oilseeds and oilseed products.

Currently, the U.S. share of the total soybean meal export market—with soybeans converted to a meal equivalent basis—approximates 65 percent (49 percent in the form of beans and 16 percent as meal). The U.S. share of the world soybean and soybean oil market—oil basis—currently stands at about 71 percent. On the total fats and oils basis, the U.S. share of the world market ranges between 27 and 38 percent.

Principal markets.—Nearly all developed nations and even a number of centrally-planned and developing nations are significant markets for our exports of these commodities. Japan, the Netherlands and Germany are our largest three markets.

Reasons for success.—Soybeans represent a cheap but protein-rich source for meal used as a feed ingredient in the livestock and poultry industry. No other country at present is able to produce so greatly beyond domestic requirements as the United States is able to. World demand for soybeans has grown as the demand for meat has grown along with growth in world income.

The Public Law 480 program has made a significant contribution to the expansion of vegetable oil exports from the United States. Currently, our concessional sales of soybean oil account for about one-third of our total soybean oil exports.

Market promotion activities also have had a positive impact on oilseeds and oilseed products in general.

Cotton

Overall export success.—In 1976–77 (August–July) U.S. cotton exports were 4.8 million bales, 27 percent of world trade. This kept the United States the world's largest cotton exporter. The 1976–77 volume was substantially higher than average shipments of 3.2 million bales for the recent period of low shipments, 1968–72, but not as high as the recent peak level of 6.1 million bales in 1973–74. The 1976–77 level should be approximately maintained in 1977–78.

Principal markets.—The Far Eastern countries, which have taken over three-quarters of U.S. shipments in recent seasons, are our principal markets. Japan and Korea, each of which now receive over 900,000 bales of U.S. cotton annually, are the two most important buyers.

Reasons for success.—Long-term business ties—fostered by promotional efforts by foreign mills and the Cotton Council International— are partly responsible for the favorable U.S. position in the Far East. Proximity and availability of cotton in quantity and a variety of descriptions (cotton classifications) are also important, as are the benefits of CCC Credit, Public Law 480, and (in Japan) Export-Import Bank loans. CCC Credit has been important in the Korean market, while Public Law 480, now less important in Korea than some years ago, is important in Bangladesh and Indonesia.

Tobacco

Overall export success.—Unfortunately, the United States' market share in tobacco has not been increasing. U.S. leaf tobacco exports in 1977, at 262,179 tons, accounted for 21 percent of total world tobacco trade. This is down from 24 percent in 1973 and perpetuates a slow long-term down trend that is expected to continue in the foreseeable future.

Principal markets.—Our best markets for U.S. unmanufactured tobacco exports have been Western Europe and Asia. The European market, although, declining in U.S. share, has been the mainstay for U.S. leaf exports, taking almost one-half of our CY–1977 total. The Asian market, primarily Japan, accounted for 35 percent of total CY–1977 U.S. unmanufactured tobacco exports.

Reasons for success.—Increased demand for blended cigarettes containing U.S. leaf has developed throughout our major markets since World War II. U.S. cigarette leaf has certain qualities that manufacturers find essential and unavailable from other countries.

Western Europe is deficit in leaf production and has relied heavily on the United States for its tobacco supplies. Restrictive trade policies and increasing quantities of cheaper leaf available from third country suppliers have, however, limited exports to this area in recent years.

Growing demand for higher quality cigarettes in Japan, Thailand, The Republic of China, the Republic of Korea and the Philippines has fostered significant markets in these countries. U.S. cigarette exports to these areas and to the Middle East have increased sharply in recent years. Many countries have made the decision to either supplement domestic production with imports, or substitute imports for domestic output. This increased trade is abbetted by the multinational nature of many large cigarette companies. U.S. cigarette shipments in CY–1977 reached $615 million—a new record.

Livestock byproducts

Overall export success.—U.S. exports of livestock and meat byproducts have witnessed a strong expansion in recent years. Larger exports of hides and skins, tallow and greases, and variety meats (offals) have been primarily responsible for this increase. In 1977 exports of hides and skins (mostly cattle hides) equaled $578 million, tallow and greases $549 million, and variety meats (offals) $158 million. Since 1970, the volume of cattle hides has grown by more than two-thirds and the volume of variety meats by about 60 percent. The volume of tallow and greases has also grown, but less so.

Principal markets.—About half of the U.S. exports of hides and skins are sold to Japan and the Republic of Korea. Western Europe, Canada and Mexico are

also large markets. Western Europe, Japan, and the Republic of Korea are the largest markets for U.S. tallow and greases. The European Community and Japan together imported 87 percent of our variety meat exports.

Reasons for success.—U.S. hides and skins are derived primarily from grain-fed cattle and are of high quality. Tallow and grease exports expanded sharply in 1977 as a result of lower world availability and consequently higher price of vegetable oils. While the European Community and Japan impose quotas and/or levies on imports of beef, imports of variety meats are subject to only a duty. As a result, retail prices of variety meats are low in relation to those of beef, encouraging strong consumption of variety meats in those countries.

Poultry meats

Overall export success.—Since 1970, there has been an increase in the export value of these commodities of about 300 percent, with most of this success occuring since 1973. In volume terms the increase has been about 180 percent.

Principal markets.—Certain of the Far East countires—Japan, Hong Kong, and Singapore—have been some of our longer term successes. European markets have been substantial markets for our products in the past and some of the Middle Eastern countries appear to have significant potential for us.

Reasons for success.—Our success in the Far East results from long-term market promotion efforts. The U.S. share is increasing even though some competing suppliers are closer. In Europe extensive governmental, cooperator, and industrial efforts have been necessary to hold as much of these markets as possible as additional tariff and nontariff restrictions are placed on imports. The Middle East potential depends on the speed with which they compete—and the success with which they operate—certain new domestic poultry-raising operations. Also the nearness of certain European countries permits products to move by truck to the market. The logistics of distributing 100 to 300 metric tons from a few trucks are much simpler than unloading and distributing 2,000 to 5,000 tons from a ship. However, larger shipments of poultry meat, and eggs, have moved to this area and have been distributed.

2. ARE OTHER COUNTRIES THREATENING THE U.S. EXPORT POSITION IN OUR TRADITIONAL MARKETS?

Grains

Although the United States is the world's largest exporter of wheat, competing countries consistently price their wheat below U.S. prices. The United States thereby becomes the world's residual supplier. Australia through lower prices and/or special credit terms undercuts us in Asian markets. Argentina undersells us in Latin American markets, while Canada is a strong competitor in Europe, Africa, and Latin America. In the fall of 1976 and again in 1977, Canada sold large amounts of lower-grade wheat to large grain companies at prices well below their current market prices to reduce their supplies and storage costs. This wheat was shipped to many of our traditional markets throughout the marketing season at prices substantially below U.S. wheat.

With regard to U.S. feedgrains, Argentina, South Africa, Thailand and, on occasion, Brazil and a few others compete with us in our traditional markets. To the extent that these countries are able to export, they tend to displace U.S. sales because most will set their prices far enough under U.S. prices to clear all the grain they desire to sell.

The United States has long felt that the European Community's Common Agricultural Policy (CAP) with its complex system of price supports, threshold prices, variable levies, etc., has promoted intracommunity trade to the detriment of our exports. Over the years it has developed into a powerful force for protectionism and restriction of trade.

Oilseeds and products

The United States is facing stiff competition in foreign markets as a result of Brazil's increasing exports of soybean meal to traditional U.S. soybean meal markets.

Exports of U.S. soybean meal to Europe have dropped sharply due to "quality" problems and competition from Brazil. U.S. soybean meal exports to all markets dropped 16 percent between CY 1976 and CY 1977. More alarming is the fact that U.S. exports of this commodity to Europe dropped 41 percent during the same period, from 4.2 million tons to 2.9 million tons.

Reportedly, European buyers can obtain, at the same price, soybean meal with a higher protein content from Brazil than from the United States. Brazilian

exporters of soybean meal are currently receiving approximately $7 in the form of tax credits for each ton of meal exported. Over the long term, it has been projected that Brazilian soybean production could more than double by 1985, to approximately 25 million metric tons with most of the increase being exported. Exports will likely be in the form of oil and meal as Brazil's crushing capacity expands in line with its policy to increase the value-added portion of exports. Consequently, the U.S. soybean export situation will become worse. FAS and the U.S. soybean meal industry are currently developing a stategy to combat the effects of Brazilian soybean meal exports to Europe.

Another area of concern is the increasing availability of palm oil in the world market. World palm oil production in CY 1978 is estimated at 3.78 million metric tons and is projected to increase steadily, reaching 6.1 million tons by 1985. The crest in palm oil production is not expected until the mid-1990's. Specifically, Malaysia expects to more than double its annual palm oil production to 4.4 million tons by 1985. A situation is developing whereby world markets must be found to utilize ever-increasing supplies of palm oil. U.S. soybean exports could be seriously hampered since soybean oil competes with palm oil for most major uses—specifically, margarine, mayonnaise, and cooking oil.

Cotton

Although the United States for decades held the dominant market share for cotton in Western Europe, U.S. exports have declined in recent years. Still amounting to a half-million bales annually, U.S. shipments to Europe have been driven down by a number of factors. Several new suppliers have entered the market, notably the Soviet Union but also Turkey and some other Middle Eastern countries. Soviet cotton exports, the most important source for Western Europe, have increased because of:

a. Steadily increasing Soviet production and Soviet need to earn hard currency,

b. The Soviet selling agency "Exporetljon" will accept payment in hard currencies such as the French Franc at prices fixed in sales contracts up to six months earlier, thereby taking the risk of foreign exchange and price fluctuations,

c. Exportljon sells cotton of a quality that the large international merchants in Europe can subdivide into lots with more refined quality characteristics and realize a larger merchandiser's profit upon resale,

d. Russian transportation to Europe is less expensive and faster than U.S. transportation.

Tobacco

The U.S. export position for unmanufactured tobacco is being threatened in many of our traditional markets, especially our West European markets of the United Kingdom, Germany, Netherlands, Belgium, Ireland. The competition is largely coming from developing countries—Korea, Brazil, and Malawi. The primary basis of this competition is the EC's Generalized System of Preferences for tobacco, the changes in the rates and structure of tariffs in the EC-member countries, and the escalating prices of U.S. tobacco.

Animal byproducts

There are at present no threats to the U.S. position in traditional export markets for raw or cured hides/skins and animal protein meals (meat and bone meal, and feather meal). However, such threats do exist for tallow/grease. These threats are mainly in the traditional Asian and West European markets—e.g. Japan, Korea, Taiwan, India, Thailand, and the EC countries plus Spain.

Asian market threats are coming from Australian and Canadian tallow exports and also from palm oil exports, mainly from Malaysia and Indonesia. They have become significant in the past three years, and further intensification is currently indicated. Australia and Canada have been using short and medium term credits for exporting their tallow/grease to Korea, and this will likely continue.

European market threats are from palm oil. The threat so far is still minor, although indications are for significant increase in the future. There are also minor threats from Australian, East European and Argentine tallow. The principal threat in the *EC* markets is a likely continuation of EC domestic production of tallow/grease and exports of this between EC member countries.

There is some indication of an increasing trend for domestic hog grease production in Japan and Korea which threaten U.S. grease exports to these countries.

Poultry meats and eggs

The European Community's CAP provides for the subsidization of poultry and eggs into the export market. This is a constant threat to the U.S. position in its traditional markets. The EC is now heavily subsidizing whole broiler exports—up to 12 cents a pound. At present the subsidy impact is the greatest in the rapidly growing poultry market in the Middle East, principally a market for whole broilers. In the past, EC subsidization to Singapore, Hong Kong, and Japan severely affected the U.S. export position in these traditional markets. At any time the EC could renew subsidization to these markets and initiate subsidization to other traditional U.S. markets.

Recently, Brazil has initiated heavy subsidization of whole broilers to the Middle East.

It is estimated that without subsidized competition, the value of U.S. exports of poultry and eggs would at least double.

Apples

The United States has essentially lost its traditional European market for apples and pears due to restrictive EC import policies—including a heavily protected French apple industry—and EC subsidies on exports of French fruit to these countries. In the mid-1960's, U.S. apple exports to Europe normally amounted to well over 2 million cartons annually. Since about 1970 these shipments have rapidly decreased and at present amount to about 500,000 cartons per year.

In addition, subsidized apple exports from France have decreased the U.S. market share in several South American countries, most notably, Brazil and Venezuela.

Other fruits and vegetables

Under its Mediterranean policy, the European Community grants preferential import duties to various Mediterranean countries for the importation of fresh and processed fruits and vegetables. Israel, Spain, Greece and Morocco (the major Mediterranean citrus producers) are able to export citrus products to the Community with tariff reductions ranging from 40 to 100 percent. Tariff reductions (on a seasonal basis) of 30 to 80 percent are granted on imports of many other Israeli fruits and vegetables. Similar tariff reductions on vegetables are granted to the other countries which have preferential trade agreements with the EC. These discriminatory duties have encouraged further investments in agricultural producing areas. They also have reduced the effectiveness of our foreign market development activities in Western Europe.

3. ARE THERE INDUSTRIES AND AGRICULTURAL SECTORS IN OUR ECONOMY WHERE DECLINING EXPORT COMPETITIVENESS IS LIKELY TO RESULT IN JOB LOSSES?

Total agricultural exports

Based on an input-output analysis, a USDA study indicates that—for the $22 billion of agricultural exports in 1974—about $43 billion of total business activity occurred. Thus, each dollar of agricultural exports stimulated an additional 96 cents of output in the U.S. economy—a multiplier effect of almost 2.

The additional $21 billion is accounted for by an additional activity of $6 billion in the farm sector and $15 billion in the nonfarm sector. The latter consists of $2 billion in the food processing sector, $5 billion from other manufacturing services, $2 billion in trade and transportation, and $6 billion from other services. Thus, about 70 percent of the additional economic activity occurred in the non-farm sectors of the economy.

With regard to employment, an estimated 1.2 million fulltime civilian jobs were related to our agricultural exports. Of this, around a half-million U.S. farmworkers—14 percent of the U.S. farm labor force—were required to produce 1974's agricultural exports.

In addition, more than 650,000 non-farm jobs were directly or indirectly related to the assembling, processing, and distribution of agricultural products for exports. Around 50,000 of these jobs were in food processing; 300,000 in trade and transportation; 100,000 in other manufacturing sectors; and 200,000 in other services. Consequently, in 1974 about 4 percent of the work force producing food and kindred products, and just under 1 percent of the non-agricultural civilian labor force, was likely engaged in providing goods and services for agricultural exports.

Thus, any reductions in farm exports would mean some loss in jobs. And we do face a challenge with regard to soybeans. Some of our economists have made some estimates that reflect what would happen if soybean exports were to decline. Also, a loss of tobacco exports would present some particular hardships.

Oilseeds and products

It is estimated that for every 100-million-bushel decline in U.S. soybean exports, 23,700 jobs would disappear. Out of these, 13,500 are in the farm sector and 10,200 in the non-farm sector. In addition, for every $1 million (1967 dollars) decline in vegetable oil and meal exports, our economy loses 96 jobs. Because of higher current export prices compared with 1967, the number should be lower—perhaps 60–70 jobs per $1 million decline in vegetable oil and meal exports.

Tobacco

Production and processing of tobacco is relatively labor intensive and the labor employed generally is low-skilled.

The present tobacco support programs would prevent prices to producers from falling. However, a buildup in stocks under Government loans would occur if there were a loss of exports. This inevitably would lead to cutbacks in production quotas for our tobacco farmers. Such reductions would sharply and adversely affect the largest, most capital-intensive, production units. Although these units are comparatively well mechanized, they still employ relatively large numbers of workers. Smaller production units, which rely mostly on family labor, would continue to produce but at a reduced level of income.

The volume of tobacco processed would fall with the loss of exports and cutbacks in production. Packing costs would rise and the smaller, least-mechanized packers would be the first to go under. Larger mechanized packers would reduce employment in order to control variable costs.

4. WHICH PRODUCT AND GEOGRAPHIC MARKETS FOR EXPORT HAS THE UNITED STATES FAILED TO PENETRATE AND WHY?

Grains

The People's Republic of China (PRC) represents the major market for grain which the U.S. has not been able to penetrate on a regular basis. In 1977/78 China is expected to import nearly 10 million tons of grain from Canada, Australia, and Argentina.

The PRC has traditionally looked to these three countries for its wheat needs and only when they were unable to meet its need has it considered U.S. wheat. We are hopeful, however, that the PRC will diversify its wheat purchases more in the future and include U.S. wheat. But there are some obstacles. The Chinese want contracts guaranteeing certain specifications at unloading rather than at loading; this is very unconventional for us. The Chinese have deferred payment arrangements with other countries, while we are presently unable to offer this.

Oilseeds and products

On balance, U.S. oilseeds and oilseed products penetrated a wide spectrum of the world markets. However some markets are limited. Examples of these are:

PRC.—The reasons appear to be political. Access for various oilseeds and products appear to be limited. Just recently, however, the PRC has bought about 50,000 tons of U.S. vegetable oil.

Spain.—A marketing quota on soybean oil consumption limits utilization of soybean oil within Spain and frees the oil for export to developing countries, thus reducing our share of the world vegetable oil market. Spain, although a traditional buyer of our soybeans, limits licensing of new crushing plants which in turn limits Spain's import demand for soybeans.

USSR.—Because of the centralized decisionmaking process and the absence of a free market mechanism, the Government is the sole buyer for the U.S.S.R.'s needs from foreign suppliers. The Soviet's buying intentions with regard to oilseeds are not predictable, although some guess can be based on historical purchase patterns and crop conditions. Unlike the case with grains, there is currently no agreement between the United States and the Soviet Union that defines guidelines for Soviet soybean purchases from the United States.

Japan.—The existence of an import quota on the order of 50,000–70,000 metric tons annually limits U.S. exports of peanuts to Japan.

An export embargo and longshoremen strikes have shaken the confidence of some of our major buyers (e.g., Japan and the Netherlands) in our ability to be a reliable supplier. They have consequently diversified their sources of supply. Some countries, like Germany and Iran, are believed to have negotiated joint ventures with Brazil in processing soybeans. These events have increased Brazil's share of the world market at the expense of the United States.

Cotton

The United States has largely failed to penetrate East European markets for cotton although some sales are made to Poland and Romania. The primary of planned trading arrangements that these nations have with the Soviet Union, and the absence of most-favored-nation status, are obstacles in these markets. Where U.S. sales have occurred, they have been aided by CCC credit.

Tobacco

Exports of unmanufactured tobacco and products have a growing potential but this potential has not fully developed in the following regions: most of Eastern Europe (except Poland and Yugoslavia), the Soviet Union, PRC and certain areas of both Latin America and Africa.

In Eastern Europe and the Soviet Union, the principal reason appears to be the failure to grant MFN status by the United States to the countries in question. Without MFN treatment these nations face higher U.S. duties; two-way trade in unmanufactured tobacco and products consequently has not developed. Moreover, these countries have not yet allocated the hard currency necessary to import high quality American-produced tobacco leaf and products.

In the Latin American and African markets, many of the countries are either self-sufficient in tobacco, or they have developed as competitors to the United States in the tobacco trade. Also, there are significant trade restrictions existing in these areas as well as a lack of foreign exchange to purchase U.S. tobacco.

It would seem that a mutual lowering of trade barriers could result in increased tobacco trade—primarily, to the benefit of the United States because of the high quality of our tobacco.

Citrus juices

U.S. penetration of the Japanese citrus juice market has been severely limited by very small quotas for orange and grapefruit juice. Such quotas have been maintained for the protection of the manadarin orange (satsuma) industry in Japan which has expanded appreciably over the years. Although the recent negotiations between these two countries did result in an enlargement of the annual quota, its size is still far too small to fully accommodate Japan's market potential. U.S. negotiators and industry spokesmen have repeatedly urged that the Japanese open their market to imports with the view of blending the imported product with the locally produced juice. The latter is not, by itself, a very platable end product to the consumer.

Apples and other horticultural products

The Republic of China (Taiwan) is a market which sorely restricts U.S. horticultural products because of the persistent presence of both tariff and nontariff barriers. Apples provide an excellent example. The basic import duty is 78 percent ad valorem. Furthermore, the procurement of apples is limited to only one importer, the Central Trust of China. Once the procurement is completed, the Central Trust auctions the applies to local traders. Because of the limited supply at hand, these traders are exceptionally generous in their bidding. As a result, the fruit sells at fantastically high prices to the consumer; prices of $1.25 to $1.50 per apple are common.

Beef

Next to the United States, the European Community is the world's largest market for imported beef. However, U.S. shipments of beef to it remain limited. The EC maintains a system of duties and variable levies which tightly control beef imports. In addition, EC consumers usually do not have an established preference for grain-fed beef.

As a result, most of the beef imported by the EC is from countries such as Argentina, which can supply grass-fed beef at much lower prices.

The United States has not been able to export any beef to the U.S.S.R., which has become a large beef importer in recent years. The U.S.S.R. purchases pri-

marily lower quality frozen boneless beef. Countries such as Australia and Argentina are able to supply this type of beef at about half the prices of U.S. beef.

Although Japan is the largest U.S. market for beef exports—with shipments valued at $52.5 million in 1977—it maintains strict quotas and very high beef prices to promote its domestic industry.

Part of the expansion in beef exports to Japan that have taken place have resulted from increased shipments of cuts known as hanging tenders and skirts. These cuts are considered offals by the Japanese and are therefore not subject to quotas. Even with the recent increase in quotas, U.S. beef exports will be limited by Japan's quotas.

Breeding cattle

U.S. breeding cattle sales, beef and dairy, are restricted from reaching their full potential due to the unavailability of medium to long term credits, which are offered by other supplying countries.

Leather

Japan is the largest importer of U.S. hides. However, with regard to wet blue chrome leathers (semi-processed bovine hides), Japan has refused to grant access to their economy. This remains their position despite the efforts of STR and the petition filed under the 301 provision of the Trade Act of 1974 by the Tanners' Council of America, Inc.

Other animal products

By-and-large, products of this nature have not been exported to the developing nations. A lack of foreign exchange earnings is the primary reason. As these countries start earning foreign exchange, imports of animal products usually expand, as seen by the experience in Korea, Nigeria, and some Middle East countries.

5. ARE THERE NEW MARKETS THAT OFFER SUBSTANTIAL POTENTIAL EXPORT GROWTH AND WHAT IS BEING DONE TO GAIN A FOOTHOLD IN THESE MARKETS?

Grains

Wheat

Eastern Europe, including the USSR.—The Foreign Agricultural Service and the Great Plains Wheat (GPW) are placing increased emphasis on this area. An increasing share of the time and effort of the GPW staff in the office in Rotterdam is being directed toward servicing this market. A team of Polish Government and Grain Purchasing and Processing experts was brought to the United States in December to deal with a specific marketing problem. Increased CCC allocations for credit for wheat purchases have been made. Consultants on wheat quality and milling have visited several countries in the region. Contacts with purchasing officials are being made in an effort to keep them acquainted with U.S. wheat quality and prices. Teams to the United States from the USSR and East Germany are planned this fiscal year.

Africa.—Several countries in this area are increasing their wheat purchases. In order to more adequately service this market area, Great Plains Wheat opened an office in November 1977 in Casablanca, Morocco. A U.S. wheat marketing seminar is planned in Casablanca in June, with key government and industry leaders from African and Mid-Eastern countries invited to participate. Technical servicing to the milling and baking industry in the area will be provided through visits by technical consultants. Key decision makers from selected countries will be brought to the United States to see our wheat producing and marketing system.

Latin America.—Increased emphasis is being placed on growing markets in this region. In cooperation with a University in Santiago, Chile an adequately equipped and staffed bakers training school has been established. The school will be used to train bakery workers in Chile and from other South American countries also. Great Plains Wheat is planning to establish a regional office in Chile to better service the market area.

South East Asia.—These countries are buying increasing amounts of wheat and Western Wheat Associates through its office in Singapore is increasing its efforts in the area. The staff is being increased and frequent contacts with key decision makers are being made. A new baking school has been established in

Indonesia to train bakers in an attempt to meet the rapidly growing demands for bread and other bakery products. Bread has been successfully introduced into the school lunch program in Thailand, a country where rice is a traditional staple in the diet. Milling consultants are assisting flour millers in the area in using U.S. wheats. Baking technicians covering several different facets of bakery products are conducting seminars in bakeries in the area. A team of flour mill and government officials from Malaysia visited the United States in October and two cargoes of U.S. wheat were purchased.

Feedgrains

Eastern Europe.—This is a grain deficit area that has undertaken ambitious plans to expand livestock and poultry production. Through our cooperator program with the U.S. Feed Grains Council, we are sponsoring market development activities designed to increase efficiency and output through the introduction of modern technology and the feeding of higher levels of grains. The most active programs so far have been in Poland. Here, in cooperation with Polish researchers, the Council's consultants have designed and put into operation the first modern feedlot in the country. It will serve as a model for all Eastern Europe. The Council has also a fish feeding activity in Poland and is initiating sheep feeding activities in Bulgaria and Romania. There are activities for poultry, swine, and dairy feeding, management and nutrition, all in various stages of planning and completion. We believe that the market potential for feedgrains in Eastern Europe is enormous. Our technology is eagerly accepted and readily adaptable to East European agriculture.

Africa.—Nigeria, with its large and rapidly expanding population, is a potential market of great significance. Modern livestock and poultry industries are in their infancy, and there is little technical and managerial expertise present. Market development activity has begun with a port survey to determine what is needed to effect importation of grain in bulk rather than in bags. An earlier study established livestock and poultry benchmarks and indicated the general direction market development activities should take.

Morocco, Algeria, Tunisia, and Libya all appear to be potential markets of moderate size for U.S. feedgrains. We expect an increasing amount of market development activity in this area during FY 1978 and subsequent years.

Latin America.—This area also appears to have significant market potential for feedgrains. We would like to see a USFGC regional office established in Central America and the initiation of market development activities soon thereafter.

Middle East.—This is another market area with potential. Poultry industries are being developed and existing sheep industries could be expanded with the introduction of modern feeding and management practices. The Council has begun a series of activities in the area and will expand them in the coming years.

Rice

Nigeria.—Following a significant duty reduction, U.S. exports of rice (mostly parboiled) jumped from 16,060 tons in 1975/76 to 130,000 tons in 1976/77 and are continuing at about the same pace (61,000 tons for August/December 1977). Largely as a result of this new business, several U.S. rice mills have invested heavily in expansion of their parboiling facilities. These have been persistent rumors to the effect that the Nigerian Government plans to implement some sort of import restrictions. This has caused great concern in the U.S. rice industry. It is our understanding that determinations on which commodities will be allowed entry are made annually in April.

Our market development program in Nigeria consists of three relatively small brand incentive programs carried out in cooperation with three U.S. mills. There is some concern on the part of the Cooperator (Rice Council) that the promotional program for Nigeria not become so large as to attract undue attention and thereby result in some restrictive action by the Nigerian Government.

This market offers additional growth potential for American rice providing access is maintained.

Oilseeds and products

Eastern Europe and the Soviet Union.—There is growing interest in improving local diets by shifting from starches to proteins in these countries. Therefore, an increase in livestock numbers is planned, creating a potentially strong market

for soybean meal. FAS/ASA have attempted to show the value of using soy meal as an efficient and economical livestock feed ingredient. They have also used trade servicing to promote the idea that U.S. soybean producers are ready and able to supply needed assistance in feed and livestock technology. Another goal has been promoting increased use of soy oil and soy protein for human consumption. To this end, a conference was held in Moscow in early FY 1977 to show the value of soy protein products, and the economics of including soybean meal in livestock feeding rations. A soy oil refining team and a soy protein team are expected to visit the United States from this area.

Middle East and North Africa.—U.S. exports of soybeans and products passed the $100 million mark for the first time in 1977 in this growing market. The biggest customers at present—Iran, Egypt, and Morocco—have large populations to feed and are trying to raise the protein level of their diets. These countries, together with other potential consuming countries in the area, are investing in new plant machinery for the processing of soybeans into soybean meal and soybean oil. Investments for meat production, especially poultry, have also grown. FAS/ASA have tried to acquaint all feed manufacturers and direct users with the value of soybean meal and how to formulate it. For those countries expanding their crushing capacity, we have sent an oil technician to show how to operate the plants efficiently for soybean meal production and for refining of oil suitable for cooking use. A nutritionist for poultry production and a soy protein nutritionist to formulate foods for school lunch programs and the military are other projects planned. Poultry teams have been brought to the United States to see U.S. integrated poultry operations, as well as nutritionists to observe the manufacture and various end-uses of soy protein.

South East Asia.—Preliminary trade servicing activities were initiated in Hong Kong and the Philippines to promote utilization of soybean meal and soy protein. FAS/ASA are expanding these activities to Singapore, Malaysia, and Thailand. The program emphasis is now on utilizing soybean meal in livestock feeding rations and promoting the use of soy protein in daily diets.

Latin America.—The major emphasis in this region has been, as in the Middle East and Eastern Europe, on encouraging the use of soybean meal in livestock feeding rations through feeding demonstration, seminars, and publication of technical literature. For soybean oil, U.S. technicians have visited these countries to acquaint oilseed crushers with current techniques for processing a quality soybean oil. More effort is also being placed on promoting soy protein for human consumption.

Cotton

Portugal is virtually a new market for large quantities of U.S. and other cottons. This country lost its traditional source of supply for about 200,000 bales annually in 1974 when Mozambique and Angola were decolonized. Under FAS market development activities, a trade mission was sent to Portugal in 1976 and Portugese buyers have regularly been included on Cotton Council International/FAS annual U.S. Cotton Orientation visits. FAS also conducted a market study in Portugal during early 1977.

U.S. raw cotton exports to Asia increased by nearly 50 percent in the five-year period 1972–1976 in comparison to the previous five-year average. Currently about 80 percent of U.S. raw cotton exports are shipped to Asia. The Cotton Council International (CCI) conducts a joint advertising program with third party cooperators in six Asian countries. U.S. cotton trade and technical missions to Asia and U.S. cotton orientation visits for Asian cotton buyers are also carried out by the Council. CCI is currently planning to open a cooperator regional office in the Far East for the purpose of providing trade and technical servicing to the Asian market.

Meat and Livestock Byproducts

Beef, Pork, and Offals

Our greatest potential for market expansion of these products remains in Japan and Western Europe; the limiting factor is market access. Both markets have very restrictive quota and variable duty systems and efforts to eliminate or minimize these restrictions have been carried out through bilateral and multilateral trade negotiations. We are seeking increased HRI quotas of up to 10,000 metric tons in each market and reduced fixed rates of duty.

The U.S. Meat Export Federation, a FAS market development cooperator, established an office in Tokyo, and will soon have a European office in London. Each office is responsible for servicing U.S. exporters, provide support for market development trade exhibits, seminars, and public relations activities. The European office will also initially coordinate such activities for the Middle East and Africa.

A relatively new market for U.S. beef is the Middle East—Iran, Saudi Arabia, Kuwait and the United Arab Emirates. These "oil rich" countries have greatly expanded beef imports in the past 2 years because of the increasing demand by foreign business travelers, tourists, and the greater affluence of the general public.

Hides and Leather

Together with the Tanners' Council we have made continuous efforts to develop new opportunities for tanned hides/leather. Severe trade-barrier restrictions in nearly all prospective countries have greatly limited our success. We are now trying to eliminate or reduce these trade barriers via the MTN negitiations.

Tallow and other byproducts

Three years ago we launched a concentrated effort to increase export markets for U.S. tallow/grease in new markets. We expect to complete in a few months a series of market surveys. These and some studies already completed will be the main basis for taking actions to capitalize on these markets—mainly in Latin America, Africa, Middle East, and East Europe. Several follow-up activities have already been taken on the portion of these surveys/studies which have been completed.

USDA is also attempting to ascertain new markets for meat/bone meal, feather meal and blood meal. The most promising areas discovered to date are in the Far East and Eastern Europe. Follow-up actions have already been taken in both areas, especially in East Europe.

Poultry meats and eggs

Indonesia and the South Pacific Islands are new markets with substantial potential export growth for these products. Currently, high import duties are a barrier to developing the Indonesian market to its fullest potential. U.S. exporters are being encouraged to contact Indonesian traders to develop interest in U.S. products—particularly further processed items for the restaurant, hotel, and institutional trade—with the hope that such development of trade interests could lead to a quota for such products, or a reduction in duty.

Trade shows are scheduled to be held in the South Pacific Islands and U.S. poultry exporters will be encouraged to participate. The rapid growth in hotels throughout the South Pacific Islands area to service an ever-increasing tourist trade has significantly increased the market potential for U.S. poultry products.

The Poultry and Egg Institute of America (PEIA) is the poultry and egg industries' market development cooperator with FAS. The cooperator has recently included Indonesia and the South Pacific Islands in its market development planning. PEIA will coordinate its activities with FAS activities to maximize the development effort.

Fruits and vegetables

Japan.—This market offers substantial potential growth for U.S. horticultural products. However, Japanese import rules and regulations severely restrict U.S. exports of many fruits and vegetables. For example, if Japan were to fully drop restraints on fresh oranges and orange juice, it would become our largest foreign market for these products.

Several relatively new items also have potential in Japan, for example, avocados, papayas and cranberry products. In order to obtain a foothold in this market, FAS is providing funds for market promotion activities for a number of horticultural items, including these three products. In the case of fresh and processed citrus, we are continuing to work through the MTN in Geneva and separate bilateral negotiations to increase our access to this market.

Middle East countries.—We believe substantial market potential exists for exporting U.S. horticultural products to this area. It would appear that canned goods show particular promise—especially juices and selected fresh fruits and vegetables such as citrus, apples, grapes, strawberries, and cherries. We are

currently working to identify other items showing potential for export. FAS-sponsored food exhibits and trade teams are two important activities through which we can learn more about this area. As an indication of trade interest, we have recently serviced more requests than in the past for information on rules and regulations with regard to business operations in this area, as well as specific commodity information.

The Northwest Horticultural Council in conjunction with FAS is currently studying possibilities for market development in the Middle East.

Taiwan.—In recent months Taiwan has demonstrated willingness to increase imports of horticultural products from the United States. Our bilateral negotiations with Taiwan have resulted in agreements to purchase a minimum of $4 million of U.S. fresh oranges, lemons, and apples, and, $400,000 of U.S. wines. They have also agreed to a reduction in the tariff rate for fresh citrus. We are also working to reduce other excess tariffs such as those applied to raisins. Where appropriate, the sale of these items will be supported by coordinated FAS/industry promotional activities.

Discussions between the United States and Taiwan concerning the bid/auction import system for apples will continue. This system works against any significant increase in sales volume by artificially inflating retail prices in Taiwan.

India.—Discriminatory practices in India in issuance of import licenses and "preferences" with Afghanistan and Iran resulted in nearly all of the almond imports to originate in Iran and Afghanistan in recent years. However, after several years' efforts by the United States almond industry and FAS, the Government of India announced in March 1977, the liberalization of imports of dried fruits, including almonds. This allowed importers to obtain import licenses but India's requirements that individual licenses be limited to 10,000 rupees and be shipped independently prevented efficient shipment of container-sized orders.

In spite of this limitation, shipments to India totaled 897,075 pounds valued at $1.3 million for the July-December, 1977 period compared with 33,375 pounds for the same period in 1976.

In late December 1977, India further liberalized the importation of dried fruits, including almonds, by increasing the import license value limit from 10,000 to 50,000 rupees effective through the end of the current Indian fiscal year 1978 (March 31, 1978). This will further stimulate almond exports by decreasing paperwork as well as enlarging individual orders.

Seeds

In cooperation with the American Seed Trade Association, we have mounted a very aggressive market development program which we have been expanding as fast as the Seed Trade Association has found feasible. The program includes foreign market studies, surveys, and representations with both governmental and non-governmental contacts. We maintain active contact with all appropriate regional and international organizations concerned with seeds. We sponsor visits to the United States of appropriate traders as well as government officials in foreign countries concerned with the purchase and importation of seeds to acquaint them with the high quality of our seeds and their availability for export. Also, we are planning to sponsor demonstration plantings of our varieties in some foreign areas where this is needed to convince prospective buyers of the superior quality of our seeds.

Processed food items

Two obstacles severely limit the market potential of processed items: (a) foreign marketing systems not yet sophisticated enough to absorb the products, and (b) the desire of many nations to develop their own processed food industry rather than import.

Despite these hurdles, FAS's on-going market promotion activities include programs designed to locate new markets and to assist firms in exploiting all opportunities. Activities embraced in these efforts include market surveys, sales teams, and new product testing.

6. WHICH U.S. EXPORT SECTORS ARE BEING HARDEST HIT BY THE EXPANDING EXPORT ROLE OF DEVELOPING COUNTRIES?

As discussed in the answer to question #2, the United States currently is receiving strong competition from tobacco exports from Korea, Brazil, and Malawi; and from fresh and processed fruits and vegetable exports from Morocco and Israel. The competition from these sources is not discussed further here.

Oilseeds and products

The expanding export role of developing countries so far has reduced significantly the U.S. share of the world market for oilseeds and oilseed products. Nevertheless, U.S. soybean exports doubled over the past 10 years. With regard to soybean meal, however, Brazil succeeded in capturing a large segment of the market.

The U.S. share of the world market for soybeans and soybean meal in 1965—on a soybean meal equivalent basis (SME)—was 92 percent (66.4 percent in the form of beans and 25.6 percent as meal). At that time, Brazil had less than 2 percent of the market (0.1 percent as beans and 1.3 percent as meal). At the present time, the U.S. share contributed by soybean exports has stabilized at about 50 percent; however, soybean meal exports have declined, contributing an expected low level of 16 percent in 1978.

Brazil's accelerated growth in soybean meal and oil exports is largely attributed to several tax incentives for soybean products and not so much soybean production *per se*. These incentives include tax credits, preferential financing, which offers below market interest rates to finance production for exports, and waiving income taxes on profits earned from the export of soybean products.

Some impact on the U.S. export market for vegetable oil has developed in recent years because of the expanded role of Malaysian palm oil exports. Needless to say, the United States itself is a large outlet for Malaysian palm oil exports. However, U.S. vegetable oil exports managed to maintain a significant share of the world market. The U.S share currently accounts for about one-third of the world total edible vegetable oil export market

Cotton

Although U.S. raw cotton exports have not dropped, a large number of developing countries have become increasingly important suppliers of raw cotton to West European and Far Eastern markets. These countries include West African countries (the Ivory Coast and Chad), South American countries (Colombia), and Middle Eastern countries (Turkey, Iran, and Afghanistan).

Horticultural products

The rapid emergency of Taiwan as the world's leading exporter of a number of important horticultural products during the 1960's dimmed the prospects for several U.S. export items, particularly to Western Europe. Among these items were canned asparagus and pineapple. More recently, Taiwan has suddenly emerged as an important world exporter of canned tomato products. It has already penetrated two markets in high volume, Canada and Japan—both of key importance to California canners.

Brazil is another country that has altered the export posture of U.S. horticulture. This country has displaced the United States as the world's leading exporters of frozen concentrated orange juice, and it now appears that the gap will widen even further.

In addition to the recent competition from Taiwan, the tomato processing industry in California has experienced considerable displacement by other producers in its export markets over the past 10–15 years. In contrast to only a few producers and exporters in the Mediterranean region about 10–15 years ago, virtually every country in that area is now an exporter of some renown of canned tomato products. These countries, through lower costs and the attendant lower prices, have hurt us in such important markets as Canada and Japan.

Poultry meat

While poultry meat exports are expanding, there are certain developing countries which are entering the export market in direct competition to our sales. Brazil, which started to export poultry meat in 1975, has expanded its production and exports each year since then and is forecasting additional growth for the coming years. Brazil's exports are supported by a tax relief.

Offals

One area where the U.S. exports of offals may be affected by exports from developing countries is to the EC. The EC is placing certain marking labeling and other requirements on offals being imported. Due to the special consideration given to exports from developing countries, these requirements could perhaps be waived for them, thus providing them a sharp advantage over U.S. products.

Tallow

Tallow has been one product that has been hurt by palm oil production in certain developing countries in Asia, Africa and Central South America. For certain products, including soaps and certain foodstuffs, palm oil can be substituted to some extent or completely for tallow.

7. WHAT POLICIES DO YOU RECOMMEND TO ENSURE THE COMPETITIVENESS OF U.S. AGRICULTURE AND INDUSTRY IN WORLD MARKETS?

Based on a worldwide free market system and the principle of comparative advantage, U.S. agriculture is competitive in the world market. Few countries have soil as rich, climate as favorable, and farmers as competent as has the United States. Furthermore, the United States has *one* of the best records with regard to controlling inflation and cost of any nation in the world, and *the* best record of those nations that are agricultural exporters in any meaningful way. Also, the decline in the foreign exchange value of the U.S. dollar during the 1970's has generally added to our competitiveness. However, the U.S dollar has actually appreciated against the currencies of some agricultural exporters—Argentina, Mexico, South Africa, Thailand, and very recently, Canada. But, when changes in the exchange rate and the degree of inflation here and abroad are all considered, our calculations reflect a generally improved competitive position for the United States from 1970 through 1976 as a result of these factors. (Data for all countries are not yet available for 1977.) Monetary developments in South Africa represent an exception, however. This country has not controlled inflation better than we have but, through 1976, it had devalued its currency more than enough to remain competitive with us.

Unfortunately—as discussed in answering questions to 1 to 6—there are many tariff and non-tariff barriers that negate the free flow of agricultural exports in the world market and these significantly negate the economic advantages possessed by U.S. farmers. These problems have been with us for a number of years now. They have been greatly analyzed and attempts have been made, and are being made, to reduce them in bilateral negotiations and in various MTN's under the aegis of the GATT. I am sure you are aware, for example, of the progress we have made in increasing Japan's import quotas on beef, oranges, and orange juice.

To offset in a general way the effect of these impediments, it has been necessary to institute a number of export promotion programs. These include (1) Public Law 480 under which we extend extremely concessional dollar credits, (2) our Export Credit Sales Program (CCC credit) under which we extend credits up to 3 years, and (3) a strong market-promotion program in cooperation with private trade associations. With the inherent competitiveness of U.S. under the ageis of the GATT, I am sure you are aware, for example, of the institutional impediments that face us—U.S. farm exports have increased from about $7.3 billion in 1970 to $23.7 billion in 1977. Because of inflation, some of this increase is more apparent than real. In terms of quantity, there has been about a 60 percent increase.

But as 1978 begins to unfold, U.S. agricultural exports face a relatively new set of problems. In addition to the old impediments, we now have (1) extremely high world-market prices for petroleum, (2) sluggish growth in some major nations abroad, (3) a great deal of difficulty here and abroad in reducing inflation, (4) shifting exchange rates, and (5) growing pressures for protection against imports. Underpinning the new pressures for import protection is of course the growth in exports of steel, color television sets, textiles, ships, and other manufactured products by Japan and a number of developing nations.

In general, we need to make certain that the solutions to the world's old and new economic problems are ones that lead to *greater* consumption and production and not *less* consumption and production. We must be careful not to institute new policies and programs that invite retaliation and more protectionism. We must continue our past efforts to increase the free flow of trade through international negotiations. Our export-credit and market-development programs are well accepted internationally and we must continue to adjust them as new conditions dictate.

With regard to the new set of world problems, we should continue to urge stronger growth by those industrial countries that presently have strong balance of payments positions. With stronger growth, their imports should increase and,

thereby, increase the exports of countries with weak international financial positions.

The increase in exports by the weaker countries should assist them in two ways. There is the direct effect on domestic economic activity of larger exports, although this effect is not expected to be large in the opinion of some economists. In addition, larger exports will strengthen their balance of payments position and thereby permit them to undertake more expansionary fiscal and monetary policies.

With greater growth in most industrial countries, there would be less pressure within them for protection from imports. Thus, the developing nations could earn more foreign exchange which they, in turn, could use, in part, to purchase our agricultural produce. Larger U.S. agricultural exports would strengthen the dollar, and since it is the world's key currency, all nations would benefit. The world's international system of payments cannot be based very long on a weak currency.

A second step we can take is to create a much greater public awareness—here and abroad—of the need for flexibility in the allocation of resources. With higher oil prices and growing efficiency in a number of rapidly growing less developed nations, we must shift resources—both labor and capital—to reflect these new conditions. To maintain too rigidly the world's past economic structure is in effect to ignore (1) the higher cost of energy and (2) to negate the economic development and export potential that has occurred in the developing nations, and (3) possibly even negate new efficiencies in certain sectors and regions of our own nation. To overly preserve the status quo is to dampen or halt world progress.

We need obviously to make certain, for the protection of ourselves and others, that competitive export-positions by foreign nations are not artifically contrived by governmental or monopolistic actions. But where efficiencies are based on sound economic principles, nations should adjust to them—not nullify them.

Our agriculture—and the whole world in fact—stands to gain greatly by the recognition of new efficiencies. In this regard, we cannot inform the American farmer that his Government will not guarantee his income—and the U.S. Government should not—and then permit Governmental actions which dampen the demand for his commodities in foreign markets. And when we limit the importation of industrial goods, we may very well be doing exactly that. Japan, with its large foreign exchange reserves and strong currency, can import more without exporting more for a while, but few developing nations can duplicate this act and Japan cannot do it forever.

To the extent we limit industrial imports, we have been and would be adjusting to the world's economic problems by reducing industrial production and food consumption abroad, and reducing food production here. The reduction in industrial production abroad probably would be offset mostly by increased production here. However, the price of a given item would likely be higher as a result of this shift and consumption and production on balance probably would be reduced a little.

However, food consumption abroad and food production here would likely be reduced significantly. Food production in the developing nations would no doubt increase some, but few places in the world have an agriculture as effective as ours.

The economic principle underlying this discussion is not new. Economists years ago developed the principle of comparative advantage. Nor has the U.S. Government failed to recognize the principle. Our international trade negotiations are proof of this recognition. What is new, by-and-large, is the set of economic problems thrust upon us in this decade and characterized by some economists as the economic storms of the 1970's. In the context of these storms, it is more difficult to sell the principle of comparative advantage—but no less essential. Adherence to this principle sometimes requires change and it is difficult to change positions during a storm. But we should try to calm the storm and make those changes required by economic conditions not artificially contrived.

With freer world trade and sufficient world economic growth, U.S. agriculture in the short run is competitive. With the present institutional barriers to our agricultural exports, we need to maintain and perhaps strengthen our credit programs and our market development efforts.

Given our efficient agriculture and the growth in the world's population, U.S. agriculture in the long run is not only viable, it is absolutely essential to the world's well-being.

Mr. HATHAWAY. I think in brief I could summarize by saying that the competitive ability of U.S. agriculture has remained high and improved during the seventies. In addition to agriculture's well-known efficiency, our competitiveness has been enhanced by our ability and relatively good record in controlling inflation and to some extent has been improved by the decline in the value of the dollar.

Now there are, of course, a large number of tariff and nontariff barriers which partially or completely offset our competitiveness, but despite these, the value of U.S. farm exports has grown from $7.3 billion in 1970 to $23.7 billion in 1977. In terms of volume, there has been a 60-percent growth in the tonnage of U.S. agricultural exports over this period.

We are still the world's largest exporter of grains, soybeans, cotton and tobacco, and our exports of livestock products and poultry meats have expanded strongly. Our share of the world's grain market has increased in part as a result of greater export to the Soviet Union and other centrally planned economies of Europe. In some other areas we face increased competition.

U.S. farm product exports over the years has had the assistance of two credit programs: Public Law 480 and the Commodity Credit Corporation export credit sales programs and a strong market development effort in cooperation with private trade associations. We are also attempting to reduce foreign barriers to our exports in our bilateral and multilateral negotiations. We recently were somewhat successful in this effort in our bilateral negotiations with Japan regarding U.S. beef and citrus. We continue to push forward in the multilateral trade negotiations now underway in Geneva.

We are studying the feasibility of a CCC credit sales program with repayment periods of more than 3 years which is now provided under the current program but with a shorter repayment period than the 20 years typical under Public Law 480 programs.

In order to deal with the various problems that we think we face, we want to emphasize that we believe flexibility is important. We believe that flexibility here and abroad in our economies is a major factor. To maintain too rigidly the world's old economic structure is to ignore the high cost of energy, advances in economic development and export potential in some other countries, and even U.S. efficiencies in certain sectors and regions that might be placed in jeopardy by shifts that are underway. To attempt to completely preserve the status quo is to dampen or halt growth in world income which is a very important factor in the expansion of U.S. exports of foreign products.

Now obviously we need to make certain, for the protection of ourselves and others, that the newly developed export industries that are competitive with ours are not artificially contrived or supported by monopolistic actions; but where efficiencies are based on real differences in economic advantage we should be prepared to compete for a growing market.

In general, we need to make sure that solutions to the world's old and new economic problems are those that lead to greater consumption and not to less consumption and production. We must be careful not to institute new policies and programs that invite retaliation and more protectionism because one of the great losers in a decline toward protectionism would be the exports of U.S. farm products. We must con-

tinue past efforts to increase through international negotiations and improve freer flow of trade.

Our export credit and market development programs are well accepted internationally and we must continue to adapt them as conditions dictate.

I would like to just mention some relatively important statistics. Our farmers devote around 100 million acres each year to production for export, almost 1 out of every 3 acres of harvested cropland in the United States. If one takes that back to the farmgate, just under 20 percent of the gross income from farming is from export sales. Value and benefits of export sales are not limited to agriculture or farming. Based on an input-output analysis done by the USDA, it states that the $22 billion of agricultural exports in 1974 resulted in about $43 billion of total business activity. In other words, each dollar of agricultural exports stimulated an additional 96 cents of output in the U.S. economy, an export multiplier of almost two. The additional $21 billion occurred in various sectors. We estimate $6 billion in the farm sector and $15 billion in the nonfarm sector. Thus, about 70 percent of the additional economic activity occurred in the nonfarm sectors of the economy based on that 1974 anaylsis.

With regard to employment, an estimated 1.2 million full-time civilian jobs were related to our agricultural exports. Of this, about a half a million are U.S. farm workers; 14 percent of the farm labor force were required to produce exports.

In addition, more than 650,000 nonfarm jobs were directly or indirectly related to the assembling, processing, and distribution of agricultural products for export. About 50,000 of these jobs were in food processing, 300,000 in trade and transportation, 100,000 in other manufacturing sectors, and 200,000 in other services.

Consequently, in 1974 about 4 percent of the work force producing food and kindred products and just under 1 percent of the nonagricultural civilian labor force were engaged in providing goods an services for agricultural exports.

In preparation for this hearing we were asked to comment on two legislative developments growing out of the desire of many members to further expand the exports of U.S. agricultural products. We, of course, share the concern of the Members of the Senate and the House in the expansion of agricultural exports. Unfortunately, some of the proposals now being made may represent simple solutions to rather complex problems and even though their goals are completely laudable may not completely deal with the problem.

The Nation's overall foreign policy, both political and economic, is intimately involved with our trade objectives and has to be taken into account.

I would like to comment specificially on two. Senate Resolution No. 355, which was introduced January 23, would record the sense of Congress as favoring the extension of the Export-Import Bank further into the financing of agricultural product sales. It would direct the Bank to provide farm product financing at a level in proportion to its financing of industrial products relative to the total U.S. export market. This would mean a considerable change since the Export-Import Bank financing of farm products is and has been a relatively

small share of its activities. Most Government financing for agricultural exports has been centered in the Commodity Credit Corporation export credit program and we are strengthening that program substantially. The amount of funding for CCC Credit in this fiscal year has been more than doubled from $750 million to $1.7 billion. We have developed a noncommercial risk insurance program for exporters. We are joining with the Overseas Private Investment Corporation in a program to encourage U.S. business investment in developing countries with a consequent expansion of the sale of U.S. grains, soybeans, and other farm commodities. We believe that a further strengthening of the CCC program is possible and we are currently exploring ways to do this.

Senate 2385 would permit Communist countries to participate in CCC import credit sales programs. Under title IV of the Trade Act of 1974, Communist nations, with the exception of Yugoslavia, Poland, and Romania, may not participate in government export credit programs or receive export credits or most favored nation treatment from the United States. From the point of view of American farmers, legislation that would result in long-term export expansion would be desirable. Farmers know that even without CCC credit and preference for most of these countries dollar sales for the Communist group will approach $3 billion in the current fiscal year. They are in fact an important market. However, because it is not clear that the bills or the changes suggested would substantially enhance the market for farm products and because of other overriding considerations, the administration cannot support Senate 2385 at this time.

Thank you, Mr. Chairman. I will stop at this point and take any questions that you may have.

Senator STEVENSON. Thank you, Dr. Hathway and we are grateful to you for the preparation which you put into your appearance this morning and for the detailed submission you have given us analyzing the U.S. agricultural export markets. It's the most comprehensive document I have seen on the subject and it will be very helpful to us.

Now before you get out of here I would like to focus on CCC and Export-Import. I suppose with the same logic that has been suggested Export-Import should support the export of agricultural commodities, it could be argued that the CCC should support the export of nonagricultural commodities. I agree that we ought to keep Export-Import of agricultural commodities and as a matter of fact I have been trying to cease its very limited support of cotton exports to Japan. It's an indefensible practice which began many years ago for reasons that have nothing to do with the welfare of American agriculture and I think the Eximbank is finally prepared to bite the bullet and cease that one agricultural export activity.

Now CCC is the vehicle with which to do so and that brings us to an immediate and obvious question. One is the length of time for repayment of CCC credits now limited to 3 years, and the other as you indicate is the status of the communist countries which—one correction to what you said—are eligible for CCC credits now, and I mean in addition to Poland and Romania and Yugoslavia, but upon terms that they don't feel are acceptable.

To be a little more precise, would you support the extension of CCC credits to those Communist countries without regard to their emigration policies?

Mr. HATHAWAY. Mr. Chairman, as I indicated in my testimony, this is a matter which we view as having substantial and important foreign policy implication and thus it is not possible for the administration to support that at this time.

Senator STEVENSON. At this time? Can you be a little more precise? Does that mean this morning or tomorrow? We'll be facing up to that very issue in conjunction with the Eximbank legislation and I would have thought that if the administration took one position with respect to the export of nonagricultural commodities that we could assume reasonably that the same position would obtain with respect to agricultural commodities. It's going to have to face up to this issue in the context of these hearings and within the next few weeks if legislation is to be reported by this committee before the May 15 deadline and the Eximbank is not to go out of existence. Can we expect a position on this general proposition by then from the administration?

Mr. HATHAWAY. I would assume so, Mr. Chairman.

Senator STEVENSON. Well, I would hope so.

Mr. HATHAWAY. I would, too.

Senator STEVENSON. And the 3-year limitation on credits, since these credits are for perishable, consumable commodities, most bankers would view the possibility of extending those credits for longer periods of time with some misgivings. The principle beneficiary I suspect is Poland which as you know faces a bunching of maturities in the near term and notwithstanding the President has indicated that $200 million of additional credits will be made available to that country. Those credits are of no value to the country unless they can be made available on terms longer than those now permitted in the CCC legislation.

Is this another subject upon which you cannot give us a position this morning? Three years is too short for Poland. I just returned, incidentally, from Poland. It looks like the winter wheat crop is about to fail. The Polish economy is in a serious situation. The market for agricultural exports continues. It seems to be large in the area and the need for credits on longer terms is very large. How far out would you go in extending the term for CCC credits?

Mr. HATHAWAY. Mr. Chairman, on the question of the intermediate term, as we call it, perhaps 3 to 10 years CCC credit, we believe that the question that has to be looked at is whether or not the extension of this for consumables, essentially grains which are likely to be consumed within a very short period of time, will in fact expand the total market or will become a tool for essentially market share competition and be viewed as such by other competitors for these agricultural markets.

Our impression is that the additional sales—in other words, the total expansion of demand for these products—might be very limited by the extension for those.

On the other hand, we do believe there are some possibilities for a number of agricultural products and related things that would in essence have the possibility of long-term market development and be

very significant. We are investigating very carefully the extent to which these possibilities might exist and that this might prove to be a useful tool for market development. We are thoroughly familiar with the Polish situation. We have had extensive discussions with the representatives of the Government of Poland. Mr. Harrison is putting together a team of the Department of Agriculture, of private industry, and other people to visit Poland and several other countries to look at the possibility of longer term joint cooperation in the planning of the handling of their credit and other needs as a part of a much more comprehensive and carefully developed package of tools that can be of use both to the recipient country and in our export market development, and I'm sure he would be glad to talk about some of these which are quite new and we view with great promise and we think that these kinds of activities may in fact deal with the particular problems of that country and some related problems of other countries with similar concerns regarding credit bunching.

Senator STEVENSON. Before I turn this over to Senator Heinz, let me suggest to you that in addition to the political complications in some of these countries, there are very legitimate economic questions, and one goes beyond the credit risk to the fact that certain countries are not part of a global monetary system and their currencies are not convertible and suggest that the Department of Agriculture as well as other agencies of our government with whom I have discussed this matter as a matter of fact, and the Polish Government, take whatever opportunities are available to suggest that the availability of U.S. credits, whether it's through Export-Import or through CCC, would be facilitated greatly if they were to become members of the Intertional Monetary Fund.

You do agree that these questions would be easier to answer if they were members of the International Monetary Fund, do you not?

Mr. HATHAWAY. Yes, Mr. Chairman. In fact, we have already discussed this issue in our rather extensive discussions regarding this particular problem—Poland and other countries have and the fact that it would be substantially easier for us to deal with some of those problems.

Senator STEVENSON. I know in the case of Poland its membership would be—assuming the conditions could be worked out—would be welcomed by the Fund itself.

Senator Heinz.

Senator HEINZ. Thank you, Mr. Chairman.

I would like to state my concern regarding the need for a very clear statement, if not from you perhaps from the Secretary himself or the Secretary of State, as to whether or not, and if not, why not, the administration is going to favor the extension of credits to nonmarket countries. I think we have to address that because there are an awful lot of domestic political complexities of the issue, and it's a substantial economic consideration we should investigate thoroughly.

Having said that and recognizing your severe time limitations, there are a number of questions I would like to submit to you in writing for a response regarding the benefits that we obtain from our international commodity agreements, a careful evaluation of commodity credit programs as to whether or not they are competitive with the foreign

equivalents thereof, the benefits that we are obtaining from Public Law 480, which according to the CBO cost the U.S. taxpayer $603.3 million in fiscal 1976, and finally, the benefits that we are deriving or anticipate deriving from the OPIC planned farm commodity program for developing nations.

As this time I would like, though, to focus in the few minutes we have on one particular question. In your lengthier submission—in your statement to the committee, unless I missed it, I didn't see much reference to the common agricultural policy of the EEC or indeed to many of the other nontariff barriers that exist in countries like Japan. My general question to you is: Other than simply putting those as an agenda item at the multilateral trade negotiations which they are perpetually what leverage are you seeking as part of a U.S. national trade policy that we can use to obtain concessions in those areas and what is new about the leverage you intend to use, if anything? What do you think from a negotiating standpoint we ought to use as leverage?

Mr. HATHAWAY. Senator Heinz, I might comment, in our longer statement we have in fact commented rather specifically upon our view of the effects of the common agricultural policy, certain aspects of it that are even somewhat more of a problem than the variable levy upon the effects of certain of the other restrictions—quotas, resale policies, et cetera—of other governments, and, in essence, I would hope that those specific answers would in fact answer some of the questions you may have had.

It was not our intention in the short statement to omit those, but rather to—they are not easily handled in a generalized statement. In terms of the answer to your question——

Senator HEINZ. May I just respond at this point? I think it should be pointed out that your lengthier statement which we are glad to have—it's a 43-page statement—only became available to my staff this morning in spite of the fact that it is in response to a list of questions submitted to Secretary Bergland by Senator Stevenson on January 23, but as I have gone through it—and I'm not a graduate of anybody's speedreading course—as I go through it, I still do not see the answer to the question that addressed to you.

I see goals and objectives for a variety of commodities, of products, of agricultural products, but I do not see any statement that answers my question. What are going to be our principal points of leverage? What stands are we going to take involving the upholding, let us say, of our laws against unfair trade, as one example, in order to force a more reasonable accommodation of our export necessities?

Mr. HATHAWAY. Senator Heinz, I think I can only answer that in a general fashion and I would answer in this fashion.

First, the negotiating strategy itself is, as you know, in the hands of Ambassador Strauss as the President's trade negotiator. We in the Department of Agriculture are working very closely with him on the development of that end and looking at the specific things of the type which you have mentioned. I can only repeat what Ambassador Strauss has said and that is that in the absence of successful agricultural negotiations there will be no satisfactory settlement in the multilateral trade negotiations. Thus, our leverage——

Senator HEINZ. What does that mean? One way of interpreting that is that if things are unsatisfactory what we have is unsatisfactory, but we still have it.

Mr. HATHAWAY. I think that perhaps Ambassador Strauss is in a better position to define precisely what that means.

Senator HEINZ. I think that's a good idea. I can't remember, Mr. Chairman, whether Ambassador Strauss is part of our oversight.

Senator STEVENSON. May 17.

Senator HEINZ. May 17. Very good. Thank you very much, Mr. Secretary.

Senator STEVENSON. You must leave.

Mr. HATHAWAY. If I could, Mr. Chairman.

Senator STEVENSON. Thank you, Dr. Hathaway. We may have some additional comments for the record. I would be grateful if your associates could remain behind for a few minutes.

Mr. HATHAWAY. They would be pleased to remain behind and answer any questions that you may have and any other questions that you may have we would be glad to submit the answers for the record.

Senator STEVENSON. Thank you, sir, again for the statement that you have given us.

First, let me just address these questions to both of you, if you can remain behind, and you can decide which should answer.

The CCC is limited to 3-year credits. What's the practice in other countries? Are the CCC counterparts in other agricultural export exporting countries similarly limited in the terms of credits which they can grant for the support of agricultural exports?

Mr. HARRISON. Mr. Chairman, we don't have at our disposal—at least I have not seen it in the Department—a complete analysis of the credit programs of other countries.

Based on our long years of experience in observing those markets, we find that other countries tend to have somewhat greater flexibility in terms of being able to offer the kinds of credits that they see as being necessary in order to obtain sales in the other country in certain circumstances. That varies, of course, upon the competing country. The wheat boards in Australia and Canada particularly, in association with their governments, have that kind of flexibility. They use a variety of devices which range from the concessional type of credits or grants associated with commercial sales to shorter term kinds of credits depending upon the competitive situation.

Senator STEVENSON. Could we get a rundown country by country on the policies of our foreign competitors for our record?

Mr. HARRISON. Yes, sir.

[The Department submitted the following information for the record:]

ANALYSIS OF CREDIT PROGRAMS OF SELECTED FOREIGN COUNTRIES

Competing suppliers of agricultural commodities, notably grains and soybeans, do not make public the terms of their credit arrangements as does the United States. Consequently we cannot be as specific as we would like to be in this area. What information we have is usually after the fact, second-hand and sometimes incomplete. It can be summarized as follows:

Canada.—Wheat exports from our strongest competitor are controlled by the Canadian Wheat Board (CWB) which has monopolistic powers over Canada's

wheat marketing, including transportation and exports. It finances its operations with bank credit which is guaranteed by the government. It does not own physical facilities. Privately owned entities such as elevators, terminals and grain companies function as agents of the CWB.

The CWB sells through agents to private buyers in foreign countries, under standard commercial practices. It also sells to such buyers on special credit terms, and negotiates directly with grain importing agencies of foreign governments. CWB offers importers credit terms of up to 3 years. Longer term credits are at times extended on government-to-government arrangements.

No information as to interest rates has been received respecting credit sales to the People's Republic of China. Reportedly, down-payments of 10 percent to 25 percent were made. Information as to the volume of such sales is incomplete. A 1977 sale to Poland was for 5 percent down, for 3 years at ½ percent over the London Bank offering rate. There is reason to believe that many sales to Eastern Europe are on still more favorable terms.

Canada has sold to Peru on 5-year terms with interest as low as 5 percent. Last year, one sale on 3-year terms with 5 percent down was reportedly at 7½ percent interest when the CCC rate for a similar transaction would have been 9 percent.

A sale to Brazil was clearly concessional, with interest at 5 percent, a 5 percent down payment, a 2-year grace period and repayment over 10 years. A sale to Brazil in 1977 was for 3 years at 7¼ percent, below the corresponding CCC Credit rate. Syria bought Canadian wheat on 3-year terms at 6¼ percent (however CWB was not involved).

Canada does not have an official concessional program; however, the Export Development Act of 1969 provides the framework through which an effective concessional program has been maintained. Interest-free loans can be made available for up to 50 years with grace-periods for up to 10 years. Up to 20 percent of the value under bilateral agreements can be granted for projects in recipient countries, on a totally untied basis.

Australia.—The Australian Wheat Board which is controlled by producers, buys and sells all wheat marketed. It receives credit advances from the Reserve Bank of Australia. It sells directly to foreign governments and to commercial grain traders

Sales to government comprise a large portion of total exports, at times more than 50 percent. These involve substantial use of credit, reportedly up to 10 years although the usual period seems to be 12 months. Interest rates of 6½ percent have been reported but information in this area is incomplete. In at least one instance the AWB provided a "volume discount".

Sales to private traders is a residual amount after sales to governments are made; also, provisions for the GOA food-aid program. The AWB rarely provides credit to commercial importers, although private grain traders at times do so.

Argentina.—The National Grain Board is the only legal market for wheat and feed grains. Among other functions it negotiates bi-lateral agreements with importing countries. These are essentially statements of intent. The eventual price is fixed with reference to actual market values.

EUROPEAN ECONOMIC COMMUNITY

Subsidies, rather than credit terms, comprise the main tool used to stimulate exports and relieve over supply situations. EC prices are normally higher than world prices and some subsidy would be needed to bridge this gap. However, there have been subsidies more than sufficient to bridge this gap, leading to concern about unfair trade practices. Also, the size of the subsidy can vary by country of destination, to encourage penetration of particular markets.

In addition to EC export subsidies, the individual member countries are free to use long-term credits and low interest rates to make the offered price still more attractive. Two-year credits at 3 and 3½ percent interest have been reported. The combination of subsidized prices and convenient credit terms makes the EC a formidable competitor.

Brazil.—A system of tax forgiveness and tax credits is a major tool for implementing Brazil's export policy. Adjustment of various tax items within the system can have pronounced affect in distorting export prices of processed goods, increasing or lowering them with respect to domestic prices and world market, according to government aims.

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Until recently, soybean oil exports were accorded a substantial price advantage, but no longer. Also soybean meal prices were set so as to favor meal exports over bean exports. This too has been corrected.

As long as the system itself remains intact, however, the GOB has the means of implementing specific policies than can give Brazilian products a distinct competitive advantage in foreign markets. Reacting to specific commodity situations, future export policy may differ from that of today.

Preferential financing is another export-incentive. Loans are made for production destined for export at two-fifths the normal rate of interest.

There are also subsidies. For example, all cotton exports are currently subsidized by 20 percent, payable in raw cotton from government stocks.

Brazil has been known to offer soybean oil on 3 year terms and interest similar to the CCC Export Credit Program.

Japan has a rice-export program patterned after P.L. 480 Title I. At different times, the Philippines obtained rice from Thailand on 12-year terms with a 3-year grace period and 7½ percent interest, and from Taiwan on 10-year terms with the same interest and grace period. The PRC reportedly sold rice to Sri Lanka on 20 year terms, interest free.

Mr. HUGHES. I would just like to pursue one point that Kelly mentioned. I would emphasize as a major difference the fact that Australia and Canada have wheat boards. These are government corporations that make all of the commitments and contracts with the countries purchasing the commodities. We here deal through the private trade and the Commodity Credit Corporation, whereas their government wheat boards make the final decision on their exports—a role played by our private enterprise system.

Mr. HARRISON. I might just add that when you talk about a total competitive situation which involves price, quality, terms of sale, and credit, we frequently find our credit programs are necessary in order to make our exporters competitive.

In other words, the wheat boards or the foreign monopoly sellers are in a position simply to offer a lower price. It may be on cash terms. We have found that our credits are very helpful in competing with those lower prices in order to make our sellers more competitive, since we sometimes can't match their price offers.

Senator STEVENSON. Do other countries have a wheat board such as Canada for all exports and, in that case, intraprovincial or interprovincial sales of all agricultural commodities? Do they market similarly in other countries?

Mr. HARRISON. Argentina does. A number of other countries have. There also is, of course, the matter of export subsidies in the case of soybeans. For instance, Brazil uses a fairly flexible export subsidy program to accomplish a similar kind of objective. The European community, of course, has an export subsidy program. So there are countries which have marketing boards set up, and there are others that utilize the export subsidy. If you like, we could submit to you an analysis of that.

[The Department submitted the following for the record:]

EXPORT SUBSIDY PRACTICES OF COMPETING EXPORT NATIONS

Details of subsidy practices—and amounts—are not readily available and change without notice. What becomes apparent to U.S. sellers is that a lower price is frequently offered by the competition and the sale is lost.

A number of exporting countries have government entities which set prices, make sales, and provide financing. Under these arrangements no formal subsidy plan is needed. Australia and Canada employ commodity boards which have

broad authority. Best known of these are the wheat boards which have relatively strict control over most aspects of wheat trading, both domestic and export. The European Economic Community (EEC) vests broad authority in a commission to grant the substantial subsidies necessary to move high-priced Community wheat (and flour) into the world market.

The Wheat Boards of both Canada and Australia have moved very sizeable quantities of wheat under long-term supply agreements with importing countries, e.g. the People's Republic of China and the Soviet Union. Details of these agreements never become public, but it is known that they include prices and financing favorable to the buyer. The Wheat Boards have full authority to set prices on all other sales as well. By observing U.S. markets they are able to determine prices private U.S. exporters will have to quote to avoid losing money. The Boards then may choose to offer at slightly lower levels.

The Canadian Wheat Board (CWB), in some cases, utilizes the private grain trade as export agents to negotiate sales with foreign buyers. When it suits the Board to do so, agents are allowed to buy grain and hold it for later resale. The CWB also offers a deferred pricing system whereby the Board absorbs the cost of carrying grain for forward shipment and thus gives the private trade a price advantage in reselling the wheat. Export agents may purchase Canadian wheat for nearby or distant future delivery periods. The price may be set either at the time of purchase from the CWB or some later date, even after actual loading of the wheat. The price paid by the private trader who enters into such an agreement is the Board price on the date he elects to fix it. CWB export agents may or may not extend the deferred pricing privileges to the foreign buyer.

Canadian grain also moves at subsidized rail rates to export points from scattered elevators. Railcars are allocated to move grain at unusually low Government rates established in 1925. The Government also subsidizes feeder lines which tie into the main rail lines for shipping grain to the ports.

The Australian Wheat Board (AWB) has generally followed a policy of destination pricing in order to maintain full competitiveness in selected overseas markets. This enables the AWB to meet specific competition in any part of the world. The AWB charters its own bulk carriers, permitting lower freight costs. They pass this benefit on to buyers.

The secrecy surrounding the AWB's chartering activities makes it impossible to know if a subsidy is involved. However, this is academic since the Board has full authority to set the price on individual sales as well as under long-term supply agreements.

The EEC has used huge export subsidies to relieve surplus situations and prevent depressed prices in the Community's soft wheat market. Average EEC subsidies in 1971–72, a buyer's market year, equalled about 90% of the value of the wheat exported by the Community. In the current buyer's market, subsidies have not averaged that high, but they have been sufficiently high to move the surplus.

In addition to the EEC export subsidy, the individual member countries use long-term credit and low interest rates to make the actual grain price even more attractive. Financing is supplied by private banks—particularly French banks—operating under a Government subsidy scheme. How effective the use of this credit is depends on the situation in the money markets, the country involved, the extent of competition, and repayment terms. Terms vary from transaction to transaction and are not publicized.

Brazil used an indirect export subsidy for soybean products that enabled them to move their entire export availability in the past. Brazil provided funds to exporters at preferential interest rates to proportion to their exports of soybean products. Exporters were able to loan these funds on the domestic market at substantially higher interest rates and utilize the differential as necessary to reduce prices to foreign buyers. In addition, exporters received a government subsidy on domestic sales of soy products which helped them make a profit on their overall operations. While there have been changes recently in the Brazilian subsidy schemes, the potential remains for a repeat of indirectly subsidized export sales.

Senator STEVENSON. We would like to have that. We are at an obvious disadvantage. Some of the largest buyers in the world centralize

their purchases, the larger countries do, and some of the larger exporters centralize their selling and we are left to the vagaries of the marketplace and all of the actors in it. That's one of the subjects we want to get into. It isn't necessary to copy the Canadians or others. There may be some alternatives, though, to our present unstructured system. The Japanese have large trading companies which export to the advantage of their economy and on nonagricultural commodities. Maybe something of that sort ought to be considered for the United States. One of the obstacles is the antitrust laws. If you have thoughts as to how we can more effectively market agricultural commodities, not just through promotion but through some restructuring perhaps of the institutions through which we do it, that would be welcomed also.

I have a particular interest in research and development and our technological position in the world because of another subcommittee I chair, and there's mounting evidence that that's one of the reasons for our trade deficit. We are losing our technological superiority.

Isn't that a problem with agriculture, too? American agricultural production is very expensive. The investments in all the inputs from the chemicals to the equipment to the land is high—they are very high, and then we come along through the Government with set-aside and price-support programs which add to production costs and increase the price of agricultural commodities, and at the risk of pricing them out of many markets in the world. Why, therefore, shouldn't we be doing two things—let me get responses to the two general propositions. Reorient research away from the bias of American industry toward expensive inputs and toward inexpensive inputs, more efficient American agriculture in other words; and second, and to the extent it's necessary to support the prices, support them—as I think it was Secretary Brannan first of all proposed—with payments that will keep the farmer in production, cash payments, at a production cost level letting the commodities find their market level in the world instead of pricing them out of markets?

There are two general propositions there that I would be glad to get responses from you either now or subsequently.

Mr. HUGHES. I will start briefly on that and let Kelly respond, too. I think specifically this deals with a great deal of domestic agriculture that we directly are not involved in in terms of the policy decision, but we will supply you with some information on that.

I will make a couple of general statements. One is that obviously many of the costs in the United States are higher in agriculture than they are in other areas of the world.

Senator STEVENSON. That's the point I'm making.

Mr. HUGHES. This is evident in all areas, but is especially true in agriculture.

The question, second—let me say that we have greater efficiency than most any other country in the world in terms of our agricultural production.

Senator STEVENSON. You're assuming a definition of efficiency that is not assumed in many parts of the world, particularly—you're just wrong. American agriculture in China, for example, would be absurdly inefficient. It may be efficient for the United States. Even that is open to question. Excuse the interruption.

Mr. HUGHES. The second point here is that the programs that you mentioned that Secretary Brannan and others initiated involved, in effect, payments to the American farmer and were a form of export subsidy. To do this involves a decision as to whether we should be involved in a subsidy program and how we then negotiate this in our international trade discussions, such as we have going on now. This would require a policy decision that would have to be made by the administration and by the Congress.

But, in effect, the difficulty would be that to change the free market by a subsidy to the farmers and to our exports, all other countries of the world would obviously oppose, particularly Canada and Australia in wheat and feed grains.

Mr. HARRISON. I might just add a comment. It seems to me that while we have not as far as I know, we haven't done a careful analysis on the question of whether or not because of the technology aspects of U.S. agriculture we are noncompetitive in a number of countries. I think as a matter of fact on a lot of commodities we continue to be able to supply the products cheaper than they can produce themselves.

For instance, I'm just back from India and we could put U.S. wheat under current circumstances—of course, our prices are low right now as you know—but we could put it in there at a price that would be quite a bit lower than they can produce it for themselves even under their labor intensive, low labor cost circumstances.

I think it's not completely clear that we are, because of the technology that we utilize, pricing ourselves out of world markets. I think if we were to go to 100-percent parity prices that—and legislate those, we would probably be out of competition, but I don't think we have to go that high in order to make profits for our farmers, that there is a level that's more adequate, more acceptable which does keep us competitive.

Senator STEVENSON. Well, all the bias in America I guess is toward expensive inputs. That's because the bias comes from industry which makes money out of chemicals, out of equipment and so on. Farmers in Illinois, many of them, could be using 100-horsepower tractors instead of 180-horsepower tractors. Some of them could be using more organic fertilizers and fewer inorganic fertilizers. They could do more to bring certain marginal land into production.

Why don't we get a little more research invested on how to decrease cost instead of letting it all go toward increasing costs? That's the general proposition. That's where it goes because it's industry supported research. The public has an interest it seems to me in offsetting that bias toward the bias that would benefit the public as well as the farmer. The farmer makes some choices which increases his costs, too, like stereos and air-conditioning in the cabs.

I wish you would take that up, if it hasn't already been, in the Department of Agriculture and reconsider some actions such as the decision apparently to cut back on research in Peoria, Ill., where maybe some of this new research could be done.

Let me ask another question in connection with research. We ought to be able to export more meat—and I grant you that there are barriers to exports that ought to be reduced as a result of the negotiating process, but if Poland can import American corn and beans and

then raise hogs and sell them back to the United States, it would seem to me that we ought to be able to put our own corn into hogs and sell the hogs to the Poles and to ourselves. Why can't we do this? Why can't we grow the feed grains? Why can't we export the meat? Others do.

Mr. HUGHES. Well, this could be done. The problem would be, one, that if the Poles were going to import hogs from us or pork, it would increase their costs.

Senator STEVENSON. I don't think you understood the question. They are not importing hogs from us. They are importing corn from us so they can export hogs to us—hams.

Mr. HUGHES. That's true, but they would be paying—I'm saying they would have to pay more than it would cost them to produce it at home themselves and what in essence they are trying to do is stimulate their own economy, to import wheat and feed grains so they can stimulate some of their own industry and increase their income.

Senator STEVENSON. Well, I think we need a little more research on exports, including exports of meat products.

Senator Heinz.

Senator HEINZ. Thank you, Mr. Chairman.

To what extent have you found nontariff barriers of a sophisticated nature, for example, the Japanese until recently insisted that with respect to our citrus products we use only a particular insecticide that we don't use here?

Mr. HUGHES. These are extremely serious problems for us, particularly with the developed countries, and Japan is a leading example. We have been putting pressure, as you know, on the Japanese to try to resolve these problems. We are continuing it. We have been fairly successful, but more needs to be done and we are continuing it.

Senator HEINZ. Without engaging in what to me are clearly unfair, nontariff barrier practices, as Japan does, to what extent are we trying to subject foreign imports, let's say of dairy products to just the same reasonable sanitation standards that we impose on American producers?

Mr. HUGHES. We apply sanitary standards and that also includes meat imports. The Department of Agriculture has meat inspectors located in foreign countries that inspect meat plants which ship to our country to ensure that inspection requirements meet the same standards that are applied domestically each shipment of imported meat is inspected at entry point by USDA Veterinarians prior to entry into U.S. Commerce that which is found not satisfactory is denied entry.

Senator HEINZ. Do we have similar inspectors for dairy?

Mr. HUGHES. Not inspectors—we have similar regulations.

Senator HEINZ. Isn't that a bit different?

Mr. HUGHES. I'm not sure that we actually have dairy inspectors in foreign countries but this outcome is the same.

Senator HEINZ. I can tell you for a fact that you don't.

Mr. HUGHES. It is the same in terms of what they can import into our country and it is inspected when it comes in here.

Senator HEINZ. But doesn't our inspection system—at least I seem to recall FDA inspectors visiting regularly certain processes that were used by a former employer of mine in Pittsburgh, Pa.—rely primarily on process inspection as a means of determining quality with respect to agricultural products?

Mr. HUGHES. No; I'm not sure—meat inspection—the inspectors are in our meat processing plant which is where it's necessary to have them when the cattle comes in. We don't have them on the farms, if that's what you mean.

Senator HEINZ. No; but don't we have inspection of dairies? Don't we have certified testing of milk quality so that the milk that goes to the dairies is of appropriate quality? Don't we do an awful lot of things before we unwrap a package of cheese?

Mr. HUGHES. Oh, yes.

Senator HEINZ. That are in fact process related as opposed to end product related? Isn't that in fact the case?

Mr. HUGHES. That's right.

Senator HEINZ. Well, that's the point. Now my question is: Doesn't it seem to you that we should apply the same kind of process standards to imports as we apply to our own products that we produce here?

Mr. HUGHES. Well, I think the difference here—and we will supply you with more——

Senator HEINZ. Because you do it in meat. You just said a moment ago you do it in meat. You actually send somebody from the meat inspection division down to Argentina or Uruguay or Paraguay or wherever we get those partially cooked rounds from, but we for some reason don't accord the consumer the same kind of protection on dairy products; yet other countries have taken this to the 120th degree and are using this against us. It's not a question of symmetry. It's a question of protecting our consumers and demonstrating to people that we are not fools when it comes to understanding what other people are doing.

Mr. HUGHES. Let us get more information if we may from the agency that deals directly with this, but we do not import fresh milk into this country.

Senator HEINZ. No. We import an awful lot of agricultural products, dry milk or cheese in particular.

Mr. HUGHES. Which I know is inspected and regulated. Now I can't answer the specific question on where we have the inspectors, whether they are located in foreign countries or it's inspected when it comes here. We will supply that.

[The Department submitted the following for the record:]

Responsibility for the inspection of imported dairy products for the protection of human health is by law vested in the Food and Drug Administration. All dairy imports are subject to FDA inspection at the time of entry; the standards are the same as apply to domestic dairy products entering interstate commerce. FDA also has the authority to enter into memoranda of understanding with foreign governments, after necessary investigation and approvals, recognizing their sanitary control standards and procedures as equivalent to those of the the United States. This authority has been used in some cases. For fresh products which are subject to the Federal Import Milk Act, FDA approval of individual plants is required before such products can enter the United States. The Food and Drug Administration has testified before the Congress that it considers both

its authority and its sanitary control procedures to be fully adequate and that it knows of no evidence to the contrary. The Department of Agriculture agrees with the FDA that additional legislation to impose additional mandatory sanitary controls on dairy products imports is unnecessary.

Whereas laws and regulations regarding the sanitation and wholesomeness of meat products entering interstate commerce are applied by law nationwide, federal milk production sanitation standards are voluntary and apply only to those states which have adopted them. To impose mandatory inspection and sanitation standards on imported products when these same standards are not fully applicable to domestic production would constitute a discriminatory nontariff barrier to trade. We believe that countries supplying our dairy imports would react in a retaliatory way to such trade restrictions. Since our dairy imports from these countries amount to only about $270 million compared with our agricultural exports to them of about $8 billion annually, such import restrictions would be clearly prejudicial to our export objectives.

Senator HEINZ. I'm grateful for that, but more importantly I'd like an explanation of whether in fact we do meat onscene and we don't do cheese or cheese-type. And if your conclusion is we shouldn't, why is that? Why should we treat one kind of import differently from another? There are problems associated with both—one, hoof and mouth disease is well known and there are others. There are a variety of problems you can have with dairy products.

Well, one other question I'd like to address to you. Do you think our export subsidies, the ones that CCC and others have at their disposal, are competitive with what other countries have?

Mr. HUGHES. I'll let Mr. Harrison answer that one. We don't have subsidies as such. That's not considered a subsidy.

Senator HEINZ. I beg your pardon?

Mr. HUGHES. The commodity loan is not considered a subsidy as such.

Senator HEINZ. Well, our export promotion tools, if you prefer.

Mr. HARRISON. Well, let me just see if I can comment a bit further on a lot of issues. As you know, we have authorization to offer direct subsidies. In previous years we did have direct subsidies which were made available for exports. We are not currently using that as a policy matter.

In terms of the export credit programs which we use as marketing tools, I think the fact that our exports have been increasing and in fact doing fairly well indicate that they have been quite useful to us in keeping us competitive in those world markets.

On the other hand, we do believe—and I personally believe—that the intermediate credit program to help us develop and expand markets for agricultural commodities abroad would be a very useful addition to the kit of tools that we have in terms of stimulating U.S. agriculture.

Senator HEINZ. Would you care to elaborate a little further on the intricacies of such a desirable tool?

Mr. HARRISON. Well, as we indicated before, the concept is to give us authorization to make credits available for 3 to 10 years on the sale of U.S. commodities. We would visualize managing that program very carefully, utilizing it primarily in those countries which are what we would call in a transitional development stage. They are not the Public Law 480 recipient countries. Neither are they the more advanced, developed economies, but rather the middle income group countries who for their own economic development reasons have not yet developed their agricultural economies and their food distribution and

handling systems. These commodity credits could be reinvested in the development of marketing facilities and handling facilities. Additional marketing facilities would be beneficial in terms of enhancing the flow of commodities to their consumers, and hopefully out of the coffers of U.S. agricultural producers and out of the stocks that we have in this country. We really believe that that would be a genuine program that we could use with great efficacy.

Senator HEINZ. Do other countries have similar programs?

Mr. HARRISON. They occasionally utilize their existing authorities to make available grants or loans that are utilized for that purpose. We cannot say that they have large programs specifically oriented in that direction at this time.

Senator HEINZ. I believe there is a joint program—at least it's a relatively recently announced program between DOA and the OPC-planned farm commodity program for developing nations. To what extent is that off the ground?

Mr. HARRISON. Well, we have reached agreement and we are ready to receive requests, proposals from U.S. private industry, private firms, who have proposals to submit to us—to OPC and to the Department of Agriculture—for financing of facilities on a joint venture basis or as a 100-percent investment by U.S. investors abroad. And so in a sense we are ready to do it. We are just waiting for proposals.

Senator HEINZ. And what do we see as the potential benefits of that program and to what farm sectors if it's successful?

Mr. HARRISON. I think it would depend upon who chooses to take advantage of the program for what kinds of commodities. So it's difficult for us to know what.

Senator HEINZ. What are the program goals?

Mr. HARRISON. Well, the program goals are to encourage the investment by U.S. private investors in the development of foreign countries and simultaneously to enhance and increase the export of U.S. agricultural commodities.

Senator HEINZ. Are there any particular commodities that you target as receiving benefits from this program? Are there any goals in that sense?

Mr. HARRISON. No, sir. We have really preferred to keep it flexible and open in terms of any U.S. private firm benefiting. Any commodity would be encouraged to take advantage of that program.

Senator HEINZ. Then it would not be correct to say that a major goal is to help expand and improve livestock and processing industries in the developing nations with the explicit goal of increasing demand for U.S. feed grains or other farm commodities? That would not be an important goal of this program?

Mr. HARRISON. Well, it is within the broader goal and objective which I stated earlier. That is implicit. That is one of the commodities that might benefit by this.

Senator HEINZ. I guess the reason I'm having some problems with the answers is somebody is going to have to decide in the future whether this program is a success or failure, and the goals are so general that it's nearly impossible to associate any performance criteria with the goals. The only way I know to measure progress or success or failure is how you do versus what you say you are going to do.

Mr. HARRISON. Well, I guess I would have to disagree. The fact that they are fairly broad goals, which does not limit it to any given commodity, should not limit the ability for outsiders to evaluate the effectiveness of the program. If the program does not stimulate U.S. investment abroad or does not stimulate the export of agricultural commodities, whether they be citrus or meat or feed grains, it seems to me you can evaluate that.

Senator HEINZ. We have a disagreement. I think the statement you just made typifies what the American taxpayer correctly believes is wrong with government, that government doesn't have clear goals, that it doesn't measure its performance, that there's no feedback mechanism—no pun intended—that we don't evaluate success or failure; and since we don't evaluate success or failure along objective criteria, we aren't able to improve the performance of programs. The programs go on endlessly. Those cost the taxpayer money, and we end up with a $500 billion budget and a $61 or $63 or some people say $100 billion deficit. So we have a disagreement but it's one that will take considerable time to resolve.

Thank you, Mr. Chairman.

Mr. HUGHES. If I could just make one short comment relative to the intermediate credit, I think that the problem that Senator Stevenson raised at the beginning of this hearing on Poland is one good example of why it's necessary for the Congress and the administration to take a very careful look at intermediate credit. In essence, the laws that we have now were adopted years ago, and there have been significant changes in countries. There's a great difference, obviously, between Japan and the European Community and their use of commodity credit loans, and Bangladesh and their use of Public Law 480 loans. The countries have changed a great deal in other areas of the world, Poland being an excellent example. That's why we are taking a very careful look at this and that's why careful consideration needs to be given to changing the procedure and the law we have now that enables us to give adequate credit.

Senator STEVENSON. Thank you, gentlemen. You haven't heard the last of us. We will be holding a full day of hearing on agricultural exports in Chicago on March 30, and before then we will be in touch with the Department to determine what kind of representation would be appropriate then. Thank you very much for your attendance this morning and your help. It's been useful to us.

Our next witness is Frank Weil, the Assistant Secretary for Industry and Trade of the Department of Commerce; and I apologize to him for the delay and thank him for his patience, and I'm glad to see he's in good hands. Please proceed, Mr. Weil.

STATEMENT OF FRANK A. WEIL, ASSISTANT SECRETARY FOR INDUSTRY AND TRADE, DEPARTMENT OF COMMERCE, ACCOMPANIED BY STANLEY MARCUSS, FRANK VARGO, AND FRANCES HALL

Mr. WEIL. Mr. Chairman, I don't need to introduce the gentleman on my right, my deputy, Mr. Marcuss.

Senator STEVENSON. Mr. Marcuss is a graduate of this committee.

Mr. WEIL. We didn't bring him just for that fact. We brought him because he was helpful to our endeavors. On my left is Mr. Frank Vargo, and Ms. Frances Hall is to his left. Both had a great deal to do with preparing the 34-page statement which you have.

Senator STEVENSON. Which you will summarize, I trust?

Mr. WEIL. Yes; you also have a 10-page summary of my remarks, as well as a recently compiled set of tabular and statistical data. For the sake of time, as well as general interest, I will be brief and not speak from the prepared remarks.

Senator STEVENSON. Very good. Thank you. The full statement and the summary charts you referred to will be placed in the record.

[Complete presentation follows:]

STATEMENT OF FRANK A. WEIL, ASSISTANT SECRETARY OF COMMERCE

Mr. Chairman, I am pleased to appear before this Subcommittee to discuss the competitiveness of U.S. exports and to explore some of the ways in which U.S. export performance could be improved.

I would like to begin with a brief review of the current U.S. trade position. Last year the United States ran a merchandise trade deficit of record size—$26.7 billion ($31.4 billion when tabulated according to the balance of payments definition of trade). This was the third deficit in the past four years and was four times as large as the previous record deficit (1972). The exception among the last four years was in 1975, when a record trade surplus of $11.0 billion occurred. In the two-year period of 1975–77, therefore, the U.S. trade balance has declined by almost $38 billion.

We do not foresee another dramatic trade balance change in 1978. We believe that exports will expand at a somewhat faster rate than in 1977; and that import growth will slow considerably, in part as a result of a leveling in oil imports. These movements would result in a deficit of about the same magnitude as last year. Thus, the forecast for 1978 is for another large trade deficit.

In attempting to account for the abrupt shifts in our trade balance since 1975, we can attribute most to oil imports and to the general international economic setting, particularly the cyclical difference between the U.S. economy and the economies of our major trading partners. The decline in economic activity in late 1974 through early 1975 was deeper in this country than in most others, and the subsequent recovery here has been more vigorous and more sustained. These differences help explain the large 1975 surplus, as our exports continued to expand while imports declined. They also help explain the shift to a deficit position in 1976 and 1977, when U.S. import demand was considerably stronger than foreign demand for U.S. products.

The growth of imports over the past two years has, of course, been a major factor in the trade deficit. The sharp rise in petroleum imports, to almost $45 billion in 1977, has been the key contributory element in import growth. Other imports, however, also expanded significantly. The recovery and continued expansion of the U.S. economy following the recession provided most of the stimulus for the growth since 1975 in imports of industrial supplies, capital equipment, and consumer goods. Last year, special factors, such as soaring coffee prices and additional large oil imports (due to both exceptional weather conditions and a large buildup of oil inventories) also added considerably to the import total.

Price cutting and heightened foreign competition were also factors in our import growth. Nevertheless, U.S. import growth in the past two years generally appears to be in line with what we would expect, given the pace of economic activity here and taking into account the special factors mentioned.

THE U.S. EXPORT POSITION

The export position is an entirely different story; and, other than oil, the major part of our trade problem is on the export side. The value of U.S. exports grew only 4.6 percent in 1977, the slowest rate of growth since 1971. Particularly disturbing is the fact that the exports of the other industrial nations grew much faster than U.S. exports in 1977. Based on data through the first three quarters of 1977, the exports of the other industrial nations were up about 16 percent—

even excluding their exports to the United States. Must of the growth, however, stemmed from changes in currency valuation.

As a consequence, the U.S. share of the value of industrial nation exports fell in 1977. Taking the first three quarters of 1977 as a whole, the U.S. share of the value industrial national exports fell from 19.2 percent in 1976 to 17.9 percent. Currency changes account for part of the share decline, and on an exchange rate-adjusted basis the share decline would have been smaller.

U.S. exports have grown only about 7 percent per year since 1974, in sharp contrast to the 13.5 percent average annual growth of imports during the same period. Further, not only had U.S. export growth been slowing each year since 1974, but also almost all of the growth in the value of U.S. exports has reflected increased *prices* rather than a greater *volume* of sales abroad. In real terms, the volume of U.S. exports in 1977 was only one percent larger than in 1974.

The sluggishness of U.S. exports in 1977 was widespread, rather than being attributable to any particular group of products or countries. Agricultural exports, about one-fifth of the total, grew only 3.9 percent. Manufactured goods exports, which account for two-thirds of total exports, grew only 4.3 percent. Non-agricultural raw materials exports were up about 6 percent.

U.S. exports to industrial nations grew 4.5 percent, while the growth rate to the non-oil developing countries was 4.7 percent. Exports to the communist nations fell 25 percent. OPEC was the only area in which U.S. exports exhibited strong growth, with U.S. exports to that group up about 12 percent. Even here, however, the exports of the other industrial nations rose considerably more.

This slow growth of our exports is of the utmost concern to me and to the Industry and Trade Administration. It is, I believe, the basic reason for these hearings. It is very important to the U.S. economy, to our standard of living, and to the stability and value of the dollar that U.S. exports grow more rapidly in the future.

Economic growth

There is no single explanation for the slow growth of U.S. exports in 1977. One of the most important determinants of U.S. export performance is, of course, economic activity in foreign countries. The slow pace of business activity abroad since the recession is a key explanatory factor underlying the slow growth in U.S. exports. The lingering economic problems abroad have been well documented. In the developed countries, which purchase over three-fifths of our exports, industrial production has not followed a smooth upward path since the trough of the recession, but rather in most countries has see-sawed, exhibiting particular weakness in 1977. Relatively low rates of capacity utilization and high unemployment remain a drag on foreign industrial economies. Moreover, fears of rekindling inflationary pressures have inhibited the adoption of more expansionary economic policies in some countries.

Among the developing countries, our sales have been dampened by constraints stemming from balance of payments difficulties and the consequent necessity for many nations to slow their economic growth. Even exports to OPEC and the other oil-exporting LDCs have slowed from previous years, in part because of physical and economic limits to their ability to absorb ever-increasing amounts of goods.

Other factors

Foreign economic conditions, however, are not a sufficient explanation for slow U.S. export growth. Other industrial nation exporters faced the same economic conditions, yet their exports to foreign markets (excluding the U.S. market) were up substantially in the first nine months of 1977.

Composition of Exports.—The composition of U.S. exports has made them particularly sensitive to the business cycle, and this is an important reason for the slow growth in total U.S. exports. About one-third of our exports are capital goods, which expanded moderately from 1974 to 1976, but barely rose last year because fo the sluggish pace of investment spending in foreign industrial countries as well as cutbacks in capital expenditures in many LDCs. Capital goods have been the key source of U.S. export strength in the past and have the potential for continuing to be so in the future. At the present, however, they are a definite source of weakness. Such traditional growth products as aircraft and construction machinery, for example, experienced absolute declines in 1977. (See Table 1.)

TABLE 1.—U.S. EXPORTS OF MAJOR COMMODITIES, 1974–77

[Billions of Dollars, f.a.s. transaction value]

Commodity	1974	1975	1976	1977
Exports, total [1]	$97.9	$107.1	$114.8	$120.1
Nonagricultural products	76.2	85.5	91.7	95.9
Total of which manufactured goods	63.5	71.0	77.2	80.5
Machinery, total	24.3	29.1	32.0	33.3
Construction, excavating, and mining machinery	4.1	6.1	6.2	5.6
Power-generating machinery	2.8	3.4	3.6	3.5
Computers and parts	2.2	2.2	2.6	3.3
Agricultural machinery and parts	1.0	1.5	1.6	1.6
Heating and cooling machinery	1.2	1.4	1.6	1.8
Electric power machinery and switchgear	1.5	1.7	2.1	2.3
Telecommunications apparatus	1.4	1.6	2.0	2.1
Tubes, transistors and semiconductors	1.4	1.3	1.7	1.8
Transport equipment, total	12.7	15.0	16.2	16.2
Road motor vehicles and parts	7.2	9.1	10.0	10.7
To Canada	5.0	5.7	6.4	7.1
To other countries	2.3	3.4	3.5	3.5
Civilian aircraft and parts	4.7	4.8	5.1	4.7
Chemicals, total	8.8	8.7	10.0	10.8
Organic chemicals	2.6	2.4	2.9	3.2
Inorganic chemicals	.8	.9	1.0	1.0
Plastic materials	1.6	1.2	1.7	1.7
Medicinals and pharmaceuticals	.8	.9	1.0	1.1
Other nonagricultural products, total	30.4	32.7	33.5	35.6
Coal	2.4	3.3	2.9	2.7
Iron and steel	2.5	2.4	1.8	1.6
Textiles, excluding clothing	1.8	1.6	2.0	2.0
Paper and manufactures	1.5	1.4	1.6	1.5
Scientific instruments	1.6	1.8	1.9	2.2
Special category (military goods)	2.1	3.0	2.6	3.2
Agricultural products, total	22.3	22.1	23.3	24.2
Wheat	4.4	5.2	3.9	2.7
Corn	3.8	4.4	5.2	4.1
Soybeans	3.5	2.9	3.3	4.4
Fruits and vegetables	1.1	1.1	1.3	1.4
Animal feed	1.3	1.0	1.4	1.6

[1] Totals exclude—commodities include—grant-aid shipments.

Another important component of U.S. exports, comprising nearly one-fourth of the total value, is industrial supplies—that is, crude materials, such as lumber and coal and intermediate manufactured products including chemicals, paper, and steel. Our sales of these products have increased slowly since 1974, paralleling the slow economic growth abroad.

The fastest growing U.S. export group, though the smallest in value, has been consumer goods. Sales of such products rose twice as fast as total exports from 1974 to 1977. A significant part of that expansion stemmed from rising shipments of autos and parts to Canada and other countries. Shipments of pharmaceuticals, textile products, and other consumer goods have also advanced sharply.

Such expansion as there has been in the last two years in major foreign countries' economies has largely been the result of growth in personal consumption rather than from the investment sector. That fact helps to explain the considerably faster rise in our exports of consumer goods than of capital equipment. Nevertheless, when one considers the volume of consumer goods produced for our domestic market, it appears that the U.S. productive base could support far greater sales of these types of products in foreign markets.

Finally, agricultural exports, although soaring in 1973 and again in 1974, have risen only modestly in value since then. Foreign demand for U.S. grains,

after peaking in value in 1975 when world shortages were acute, has turned down in the last two years as a result of growing worldwide production and falling prices. Exports of other farm products, notably soybeans and cotton, have increased rapidly in value in the last two years.

Market Growth.—The country composition of U.S. exports has also served to hold down U.S. export growth. The large traditional markets for U.S. products grew more slowly in 1977 than did the major markets for other countries.

The Canadian import market (accounting for one-fourth of our exports), for example, grew only 4.1 percent in 1977. The 6.6 percent increase in U.S. exports to Canada thus represented a strong performance in the Canadian market.

Japan, our second-largest market, also grew slowly, as did the non-oil LDC markets which account for one-fifth of our exports. Exports to two of our major LDC markets—Mexico, and Brazil, and India—which together normally account for about 30 percent of our shipments to non-oil exporting LDCs have declined in the last two years—in 1977 by about $500 million. (See Table 2.)

Thus, even if the U.S. had held its share level in every country market (which it did not), U.S. exports would have grown more slowly than the exports of the other industrial nations in 1977. Preliminary analysis by Industry and Trade Administration economists indicates, for example, that about two-thirds of the difference between U.S. export growth to the industrial nations and other major exporters' growth to the same markets in 1977 may have been due simply to the market composition of U.S. exports. The United States, in other words, did not successfully expand its sales efforts in the faster-growing industrial nation markets.

The slower U.S. exports, coupled with rising U.S. imports, have led to growing trade deficits with particular countries.

TABLE 2.—U.S. EXPORTS BY AREA, 1974–77

[In billions of dollars]

Area and country	1974	1975	1976	1977
Exports, total [1]	97.9	107.1	114.8	120.1
Developed countries	63.0	64.8	70.6	73.8
OPEC and other oil exporting LDC's	8.1	12.6	14.8	16.5
Other developing countries	24.6	26.6	25.6	26.8
Canada	19.9	21.7	24.1	25.7
Japan	10.7	9.6	10.1	10.5
Western Europe	28.6	29.9	32.4	33.8
European Community	22.1	22.9	25.4	26.5
Belgium-Luxembourg	2.3	2.4	3.0	3.1
France	2.9	3.0	3.4	3.5
Germany, Federal Republic of	5.0	5.2	5.7	6.0
Italy	2.8	2.9	3.1	2.8
Netherlands	3.1	4.2	4.6	4.8
United Kingdom	4.6	4.5	4.8	5.4
Other Western Europe	6.5	7.0	7.0	7.3
Australia	2.2	1.8	2.2	2.4
Other Western Hemisphere	15.8	17.1	17.0	17.9
Brazil	3.1	3.1	2.8	2.5
Mexico	4.9	5.1	5.0	4.8
Venezuela	1.8	2.2	2.6	3.2
Other Western Hemisphere	6.0	6.7	6.5	7.5
Near East	5.6	8.9	10.0	11.0
Israel	1.2	1.6	1.4	1.4
Iran	1.7	3.2	2.8	2.7
Saudi Arabia	.8	1.5	2.8	3.6
East and south Asia	9.2	10.1	10.2	10.7
Hong Kong	.9	.8	1.1	1.3
India	.8	.3	1.1	.8
Korea	1.5	1.8	2.0	2.4
Philippines	.7	.8	.8	.9
Singapore	1.0	1.0	1.0	1.2
Taiwan	1.4	1.7	1.6	1.8

See footnote at end of table.

TABLE 2.—U.S. EXPORTS BY AREA, 1974-77—Continued

[In billions of dollars]

Area and country	1974	1975	1976	1977
Africa	3.2	4.3	4.4	4.6
Communist countries in Europe and Asia	2.2	3.1	3.6	2.7
U.S.S.R.	.6	1.8	2.3	1.6
East Europe	.8	1.0	1.2	.9
Other and unspecified countries	1.1	1.0	.9	.8

[1] Totals exclude, but area and country data include, military grant-aid shipments.

Especially notable in Table 3 are the deficits with the oil-exporting countries and with Japan.

U.S. COMPETITIVENESS

I have so far discussed our present export position and have addressed the question of how it has been affected by world economic developments. I should now like to turn to the question of U.S. competitiveness and how well this country's exports have performed relative to those of other exporting nations.

Most of the slowness of U.S. export growth in 1977 and the decline in the U.S. share is attributable to economic conditions abroad, the particularly slow foreign demand for capital goods, and the fact that our major country markets were the ones that grew most slowly. These factors, however, do not explain all our loss of position in world markets. Even after considering all these factors, I believe that an earlier loss in the competitiveness of U.S. products was a factor in our slow export growth.

TABLE 3.—U.S. BALANCE OF TRADE BY AREA, 1974-77

[In billions of dollars]

Area and country	1974	1975	1976	1977
Total[1]	−2.3	11.0	−5.9	−26.7
Developed countries	3.2	8.8	3.6	−4.4
OPEC and other oil exporting LDC's	−12.3	−8.9	−14.6	−21.9
Other developing countries	5.6	8.8	2.4	−2.3
Canada	−2.0	(1)	−2.1	−3.6
Japan	−1.7	−1.7	−5.4	−8.1
Western Europe	5.1	9.2	9.6	6.3
European Community	3.0	6.3	7.6	4.4
Belgium-Luxembourg	.6	1.2	1.9	1.7
France	.7	.9	.9	.5
Germany, Federal Republic of	−1.3	−.2	.1	−1.2
Italy	.2	.5	.5	−.2
Netherlands	1.6	3.1	3.6	3.3
United Kingdom	.5	.7	.5	.3
Other Western Europe	2.1	2.9	2.0	1.9
Australia	1.1	.7	1.0	1.2
Other Western Hemisphere	−2.6	1.1	−.1	−3.0
Brazil	1.4	1.6	1.1	.2
Mexico	1.5	2.1	1.4	.1
Venezuela	−2.9	−1.4	−.9	−.9
Other Western Hemisphere	−2.6	−1.2	1.6	−.6
Near East[3]	.8	3.5	.9	−2.0
Israel	.9	1.2	1.0	.9
Iran	−.4	1.8	1.3	−.1
Saudi Arabia	−.8	−1.1	−2.4	−2.8
East and south Asia	−1.0	−.1	−4.4	−7.1

See footnote at end of table.

TABLE 3.—U.S. BALANCE OF TRADE BY AREA, 1974-77—Continued

[In billions of dollars]

Area and country	1974	1975	1976	1977
Hong Kong	−.8	−.8	−1.3	−1.6
India	.2	.7	.4	(2)
Korea	.1	.3	−.4	−.5
Philippines	−.3	.1	−.1	−.2
Singapore	.4	.5	.3	.3
Taiwan	−.7	−.3	−1.4	−1.9
Africa	−3.3	−4.0	−8.2	−12.3
Communist countries in Europe and Asia	1.2	2.2	2.6	1.6
U.S.S.R.	.3	1.6	2.1	1.4
East Europe	.3	.5	.6	.2
Other and unspecified countries[4]	.6	.7	.4	.3

[1] Totals exclude, but area and country data include, military grant-aid shipments.
[2] Less than $50,000,000.
[3] Including Egypt.
[4] Includes transshipments of certain grains and oilseeds through Canada.

While U.S. exports grew 4.6 percent last year, the exports of our major competitors grew three to five times as fast when measured in dollars. Changes in currency values were responsible for some of this growth, but our competitors' exports grew impressively even when measured in local currencies. Measured in dollars, Germany's exports grew over 15 percent last year (7 percent in local currency), French exports grew nearly 15 percent (18 percent in local currency), Japanese exports were up 20 percent (9 percent in local currency), and British exports increased over 22 percent (27 percent in local currency).

A similar picture exists when we examine trade in manufactured goods. U.S. manufactured goods exports grew 6 percent in the first three quarters of 1977 compared to the same period of 1976. Overall, the U.S. share of 11 major industrial nation exports of manufactures in dollars fell from 17.7 percent in the first three quarters of 1976 to 16.3 percent in the first three quarters of 1977.

Since 1974 our share of total industrial nation exports has dropped in all of our key markets, especially in Japan and in the non-oil LDCs. Share declines in 1977 have been particularly significant in our exports to Japan, Italy, the Netherlands, several Latin American countries, India, and Korea. Our share has declined in the important OPEC market as well. While U.S. exports to OPEC rose 12 percent in 1977, those of several of our major competitors rose two to three times as rapidly.

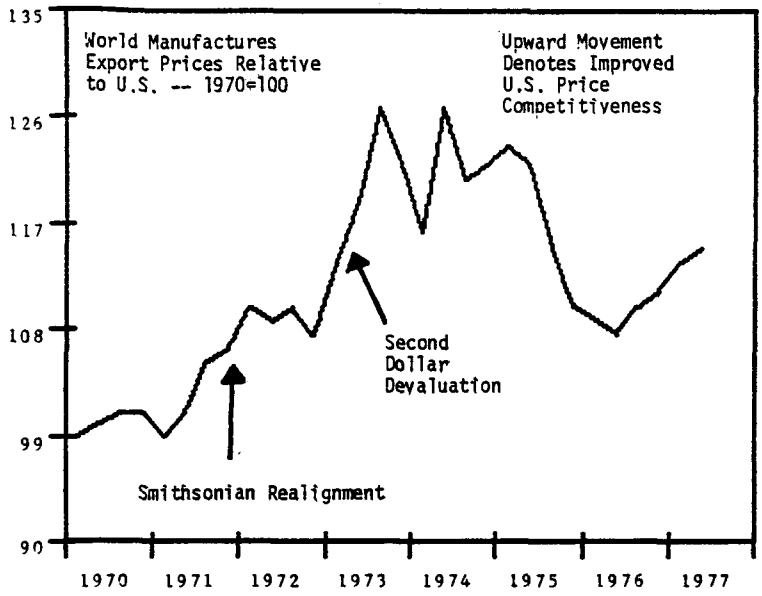
Although part of the explanation for this difference may lie in the product composition of our exports to these markets, there is evidence that some of the recent loss in manufactured goods share was related to 1975–76 changes in price competitiveness. Additionally—and this is probably the most important factor for the longer run—part of our share losses are undoubtedly due to our failure to cultivate those markets as extensively as exporters in other countries.

Price competitiveness

Price is only one factor in the competitive equation, but it is an important one. In recent years there has been considerable variation in the relative price of U.S. manufactured goods in world markets, as is evident in Figure 1 using unit value indexes as price measures. The two dollar devaluations had significantly reduced the price of U.S. manufactures relative to dollar competitor nation prices by the second quarter of 1973—thereby improving U.S. price competitiveness. While fluctuating somewhat, U.S. price competitiveness showed basically a flat trend from mid-1973 to the second quarter of 1975. From then until the second quarter of 1976, however, U.S. price competitiveness deteriorated rapidly.

U.S. EXPORT PRICE COMPETITIVENESS IN MANUFACTURED GOODS

IMPROVED IN FIRST HALF OF 1977



- Foreign manufactures export prices rose more rapidly than U.S. manufactures export prices over past year.
- This recently improved U.S. price competitiveness is a reversal of weakening U.S. price competitiveness experienced in 1975 to mid-1976 period.
- Despite improvement, U.S. price competitiveness still not as good as in 1973 to 1974 period.

Office of International Economic Research
Industry and Trade Administration
U.S. Department of Commerce

FIGURE 1

By the second quarter of 1976 U.S. manufactured goods export prices adjusted for exchange rate changes, had risen 13 percent more than competitor prices, and the price edge gained by U.S. exports in the 1973 exchange rate changes had been eradicated. A shift in price competitiveness of this magnitude is no small matter, and doubtless was part of the reason for the subsequent loss of U.S. market position.

Economic analysis has indicated that a considerable time lag occurs between a change in relative prices and a change in exports. Generally speaking, the lag would be expected to be in the order of one to two years. Taking this lag into consideration, a compelling case is made that the 1975–76 deterioration in U.S.

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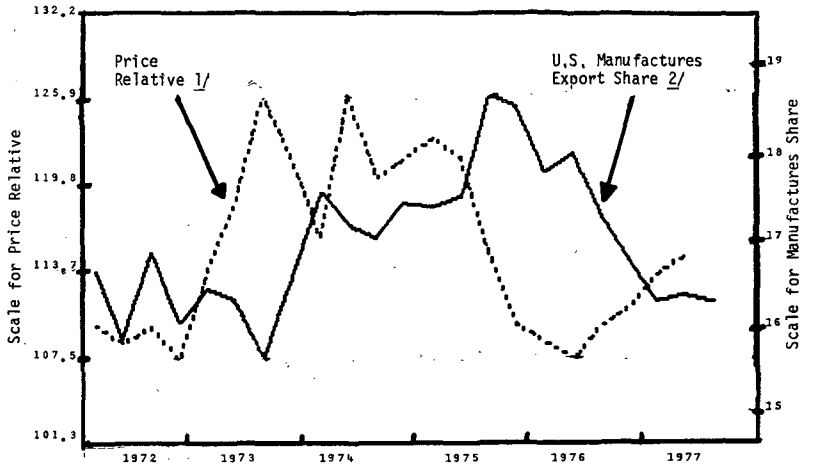
price competitiveness was a factor in the loss of U.S. share in 1976–77. (See Figure 2, which shows the U.S. share of 11 major industrial country exports of manufactured goods, and the relative price of U.S. versus foreign manufactured goods exports).

U.S. SHARE OF MANUFACTURES EXPORTS

FOLLOWS CHANGES IN PRICE COMPETITIVENESS



- Changes in U.S. price competitiveness generally precede changes in U.S. manufactures share by four to five quarters.
- Recent improvement in U.S. price competitiveness suggests U.S. manufactures share may stabilize or improve in the near future.

1/ World Manufactures Export Price Relative to U.S. -- 1970=100. (Not available for third quarter of 1977.)

2/ U.S. Share of Manufactures Exports of 11 Major Industrial Countries, Seasonally Adjusted.

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FIGURE 2

I should emphasize, however, that while price competitiveness developments in 1975–76 appear to have been a factor in our 1977 export performance, this was not a major cause of our trade deficit. Our huge trade deficit stems principally from our oil imports and the faster economic growth in the United States than abroad.

There is, additionally, also some basis here for looking for some improvement in the near-term future. Relative U.S. price competitiveness began to improve in mid-1976 (as is evident in Figure 2), and continued to gain through mid-1977 (the most recent data available). The depreciation of the dollar over the last year makes it probable that the fourth quarter has shown a further gain in U.S. price competitiveness.

Thus, given the lags involved, it is likely that relative prices will be a factor in some improvement in the U.S. share over the next year or so. The behavior of the U.S. share in the second and third quarters of 1977, in fact, indicates that

there may already have been a reaction to the 1976–77 improvement in price competitiveness. A U.S. share improvement, however, should not necessarily be anticipated for the fourth quarter because of the dock strike.

Two components have gone into the improving U.S. price competitiveness. First, our domestic price performance has improved relative to prices in other countries. Second, the dollar has depreciated vis-a-vis currencies of major competitors. In this regard, it is extremely important that over the longer-term we take those steps necessary to ensure a superior domestic price performance. This entails policies to control inflation, and obtaining adequate rates of investment in new and more efficient capital equipment, additional gains in technology, and more favorable growth in U.S. productivity.

We should not rely upon exchange rates as the only mechanism to ensure that U.S. exports are price competitive. Although I fully endorse exchange rate changes that correspond to market forces, it must be noted that erratic exchange rate movements can have a discouraging impact on exporters. Additionally, erratic behavior of the dollar can have serious repercussions on foreign economies, on the price of oil, and on the world economy in general.

Moreover, we must keep clearly in mind the fact that when the dollar depreciates we all experience a definite economic loss. After a depreciation of the dollar, it commands a reduced level of foreign products in exchange—thus reducing our standard of living. It is in our clear and direct interest, therefore, to be as effective a competitor in world markets as we can.

Nonprice factors

Price competitiveness clearly plays an important role in determining our trade performance. However, as a former businessman, I am also well aware of the critical importance of non-price factors. The competitiveness of U.S. products in international trade is also significantly affected by a variety of non-price factors—salesmanship, market knowledge, reliable delivery schedules, after-sales service, product quality, credit term, etc. These non-price factors concern me more at this time than relative price competitiveness, because they are harder to measure, and because they may have a greater impact than is generally realized on long-term U.S. export growth.

For instance, an improvement in U.S. price competitiveness from exchange rate changes will do little to expand exports unless the U.S. price advantage is effectively communicated to foreign buyers. This communication process must work in both directions. We must first let U.S. exporters know that they have an enhanced competitive position. We then need to help them press their advantage in foreign markets. This is a primary objective of the Department of Commerce's program to promote U.S. exports.

It is necessary to realize that export growth is not just a short-term concern for the United States which will disappear when the deficit is reduced. Oil prices, a continuing increase in global interdependence, the emergence of LDCs as manufacturing competitors, and the real possibility of slower world economic growth in the future all point to a likely increase in global competition and to an increased need for the United States to export.

Exports have always been more important to most other nations than to the United States, which for decades could content itself with its huge domestic market with few economic consequences. Other nations have developed their economies by taking full cognizance of the need to export and the need to avoid policies that disadvantaged exports. We need to make sure we are doing the same. In 1976, U.S. exports accounted for only 6.6 percent of our gross national product, while in Japan the figure was 2.1 percent; in Germany, 22.8 percent; in the United Kingdom, 21.1 percent; and in the Netherlands, 44.8 percent. In the long-run as the share of imports in our GNP grows so must the share of our exports grow to pay for these imports.

Increased competition

U.S. exporters are facing increasing competition in many of their traditional markets and also in some of their most successfully marketed products. The dominant U.S. position in high technology products is being challenged by European and Japanese firms which, in some cases, offer comparable products at competitive terms with more attractive financing and after-sales service arrangements. Part of these more advantageous arrangements have been made possible by foreign government policies which allow consortiums of firms to bid on projects. For example, this type of arrangement has contributed to the failure of U.S.

companies to secure some large development projects, particularly in the Middle East oil countries. Further, an increasing number of large construction projects, which are labor intensive, are being awarded in that region to such low-cost countries as South Korea, India, Thailand, Taiwan, and the Philippines.

In Latin America, inroads have been made in some areas in which the United States has traditionally done well—automotive products, energy systems, and construction equipment—by Japanese, Spanish, and Italian suppliers, in part due to more attractive financing.

Some of the developing countries which represent a large export market have encouraged local production as a substitute for imported products and as a source of export earnings. Once local production for a particular product has been established, both tariff and non-tariff barriers are erected to keep out imported goods. For example, Andean Common Market countries have put forth a plan of this nature in the automotive area, which is expected to reduce U.S. exports there.

In Africa, traditional post-colonial ties, particularly with the United Kingdom and France, as well as new preferential trading agreements with the EC and limited efforts by American firms to enter those markets, have hindered the penetration of that area by U.S. exporters. In addition, the small size of many African import markets, unfamiliarity with their needs, and the unwillingness of U.S. companies—compared to European suppliers—to accept the risks in waiting for payment have been factors in the relatively poor U.S. export showing in that area.

With regard to new markets, the United States has long been an exporter to almost every country in the world so, in a sense, there are no new country markets. There are, however, areas where U.S. exports have traditionally been small that are now offering, or beginning to offer, good potential for growth.

The obvious countries are the OPEC members and other major oil exporting LDCs whose huge earnings from oil sales and extensive development plans offer new opportunities for our exports. Some of the smaller countries in Africa, where traditional ties to Europe are loosening, also offer new sales opportunities for American exporters. Further, the Communist countries, most of which now purchase only a small share of their imports from the United States, are potentially much larger markets for U.S. goods, even though such sales are often limited by political constraints.

In the longer run, the ability to export succcessfully becomes not only a question of price but of adaptation to change. The central factor guiding our economic policy decisions must be how the United States will respond to the very different world we now face and to the additional changes which will occur over the next decade.

There are approximately 20,000 U.S. companies that export, but perhaps twice that number could be successfully exporting. More revealing is that one percent of the U.S. companies that export account for 85 percent of U.S. foreign sales. While there are government actions which must be taken to improve the exporting environment, the government cannot export. Only U.S. companies can make the sales, and there must be a change in attitude toward exporting on the part of the U.S. business community.

Policy actions

To facilitate adaptation to his changing competitive environment we—both the government and the private sector—have to initiate those actions now which require a long time to achieve desired results. Moreover, we need to act while we still have the latitude and discretion to select the most positive and beneficial courses and are not forced into a position in which we have no choices.

I should like to draw attention to the influential role that government policies play with regard to the export environment, particularly in influencing the nonprice factors I mentioned earlier. A determined effort is being made to include the international as well as the domestic implications of government actions in the economic policy formulation process.

We cannot exclusively rely on exchange rate changes as the primary force behind export growth. Growth in exports can be expected from a cheaper dollar, but neither the United States nor other countries can obtain full benefits from trade unless world markets begin to grow more rapidly. For this reason, we continue to encourage other nations to step up their domestic economic growth consistent with their need to combat inflation.

The United States must continue to play a leadership role in pursuing international economic policies that will not only benefit the United States but the world economy in general. The recent negotiations between U.S. and Japanese trade officials are a case in point. Japan and the United States have a common interest in achieving improved markets for manufactured products, and this requires equal competitive opportunities in both markets. In addition, a more rapidly growing Japanese economy will ease the burden on the United States as the driving force in the world economic recovery.

The Trade Facilitation Committee established last fall by the U.S. and Japanese governments represents progress in creating a more open Japanese market for imported U.S. goods. In addition, the Committee's activities will complement work on tariff and nontariff barriers being pursued in Multilaterial Trade Negotiations and will support work going forward in other areas of U.S.-Japan trade relations. The formulation of the Committee is an example of the legitimate role government should play in improving the export environment. However, these increased opportunities will be meaningless if U.S. companies do not fully exploit them.

Fundamentally, our ability to compete is a matter of national awareness of economic structure. We are going to have to export to pay for our imports, and to do this we have to be competitive—both with respect to price and nonprice factors—in world markets. There are a number of steps needed now to maximize the way that U.S. companies can exploit potential new export opportunities. Specifically:

We need to continue strong efforts in the Multilateral Trade Negotiations to achieve successful results, especially in the area of non-tariff barriers which will put all suppliers—domestic and foreign—on a more equal footing.

We need bilateral negotiations to work out particularly thorny problems, especially where U.S. exporters are hindered in obtaining access to foreign markets. The recent discussions with the Japanese are an example of this type of effort.

We need to insure that U.S. exporters have credit facilities on competitive terms, both because of the rising importance of financing in making export sales and because of accelerated competition.

We need to examine our existing domestic policies as they affect our international competitiveness. Taxation, investment, anti-trust, transportation, and many other policies affect our competitiveness—even though their proponents may not have intended that result. We may need to change those laws that have serious adverse effects on our competitiveness. We also need to ensure that new laws and policies do not unduly hamper our competitiveness. Before implementing new policies, we should examine their effect on our trade. We need to be more systematic about such assessment. I hope that as we improve our overall economic evaluation process we can include provision for assessing the trade impact of all proposed laws and policies.

We need to facilitate the dynamic adjustment of the U.S. economy so that structural rigidities to capital and labor movement are reduced. Energy prices, the likelihood of increased foreign competition, and changed markets imply a need for a more rapid rate of change in our technology, capital formation and industrial structure than in the past.

Finally, we need to increase our export promotion efforts, and to restructure these to the needs of tomorrow. There are a number of possible changes in our present export promotion program which I want to examine. Some of these could be fundamental in terms of their effect on U.S. export capabilities. Potential changes might focus on providing domestic producers with more complete foreign country economic and market knowledge and a targeting on OPEC, Japanese, and other markets most promising for export growth.

None of these needs are new. They have often been discussed before, but little has been done to meet most of them. What has been lacking is the determination and the priority to act.

If I had to identify an encouraging aspect of our current trade situation, it would be that our national concern and the determination to act in corrective ways is much greater than it has been in the past. I hope these hearings become a focal point of this interest and a driving force for progress in the fundamental actions which I feel are necessary for the United States at this time.

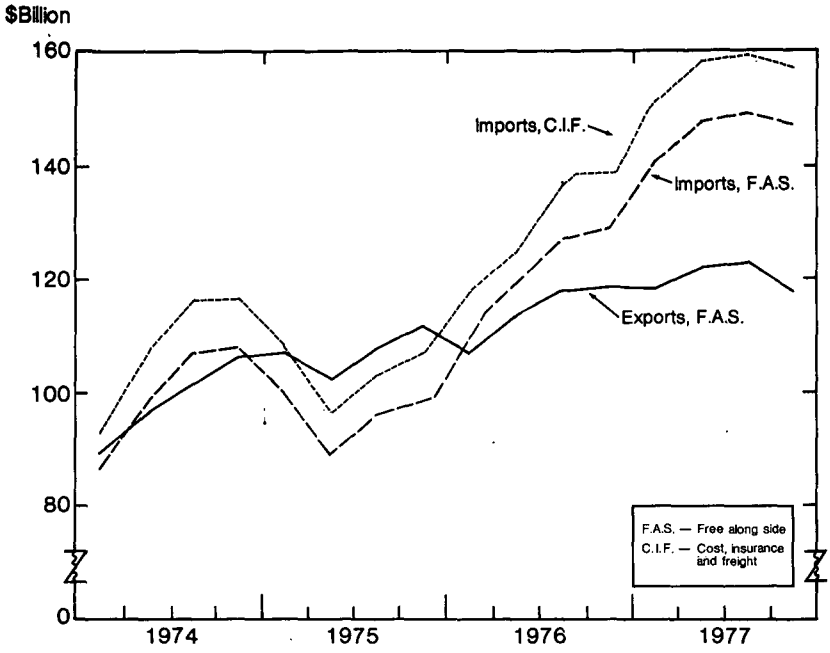
U.S. FOREIGN TRADE IN 1977: SUMMARY CHARTS

U.S. DEPARTMENT OF COMMERCE
Industry and Trade Administration

FEBRUARY 1978

CHART 1

IMPORTS CONTINUED TO GROW FASTER THAN EXPORTS IN 1977

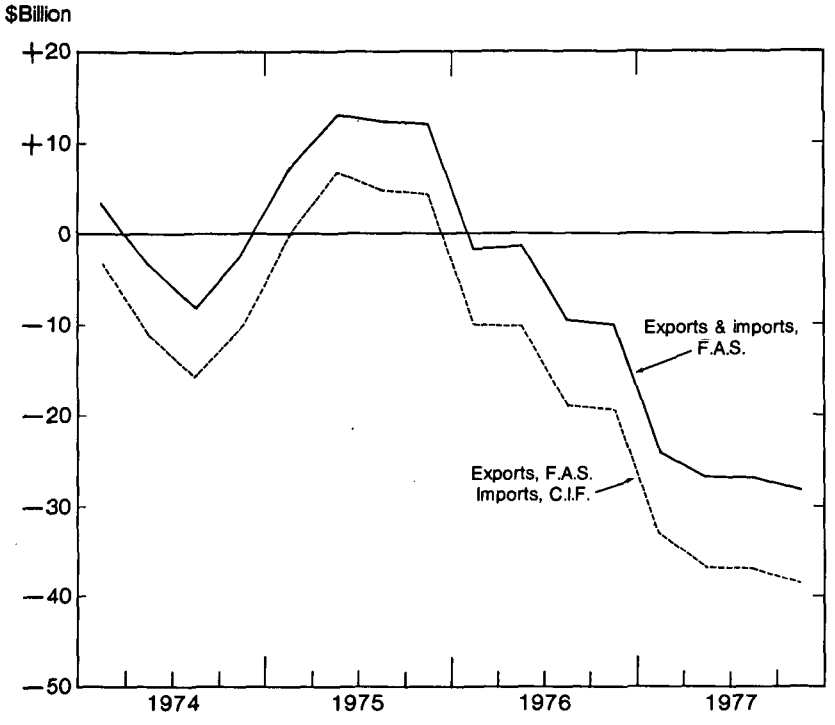


Data are seasonally adjusted at annual rates.

- Following 26% rise in 1976, imports advanced 22% last year to $146.8 billion, valued f.a.s..
- Import growth was concentrated in first half of 1977; imports levelled during second half.
- Exports rose 5% in 1977 to $120.1 billion; export growth was 7% in 1976.

CHART 2

U.S. DEFICIT AT RECORD LEVEL IN 1977

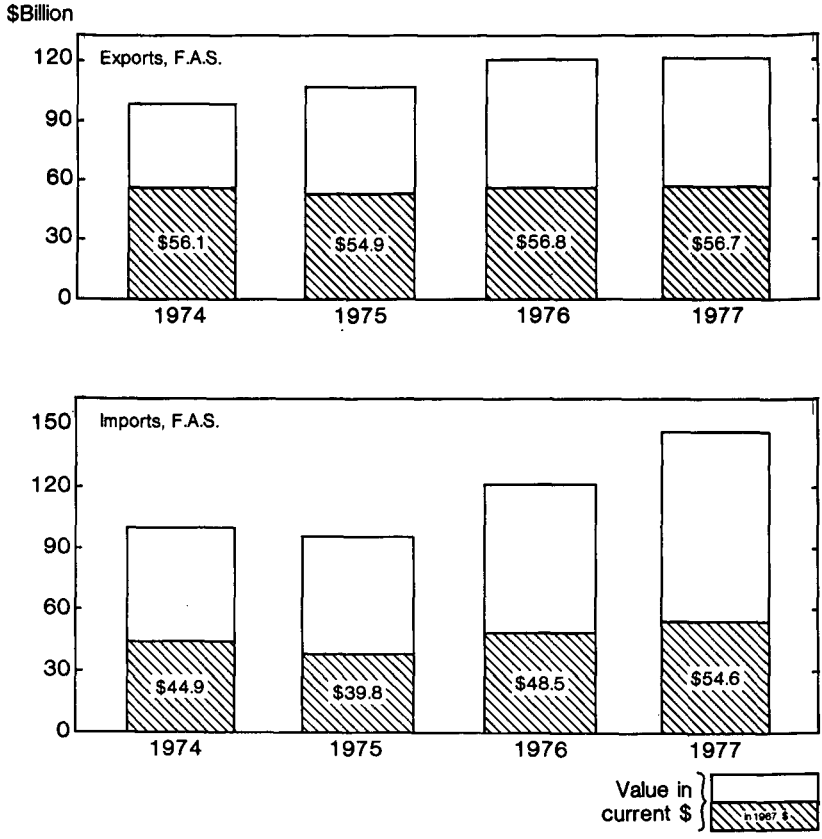


Data are seasonally adjusted at annual rates.

- Last year's deficit of $26.7 billion (valued f.a.s.) was more than four times as large as the $5.9 billion deficit in 1976.

CHART 3

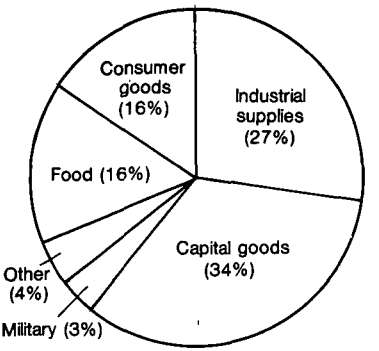
VOLUME OF EXPORTS UNCHANGED FROM 1974 AS IMPORT VOLUME ROSE



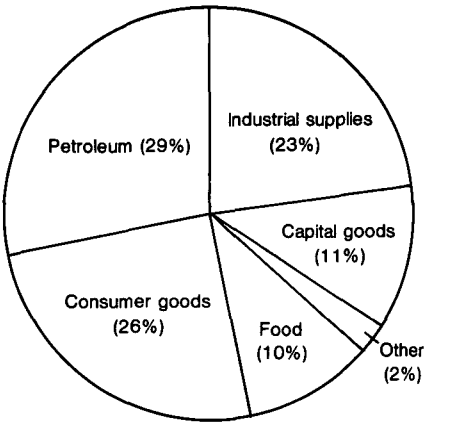
- Exports almost level in volume in past four years.
- Import volume rose 12½ percent in 1977, slower than 1976 rise of almost 22 percent.

CHART 4

COMMODITY COMPOSITION OF EXPORTS & IMPORTS IN 1977



Exports
$120.1 Billion (F.A.S.)

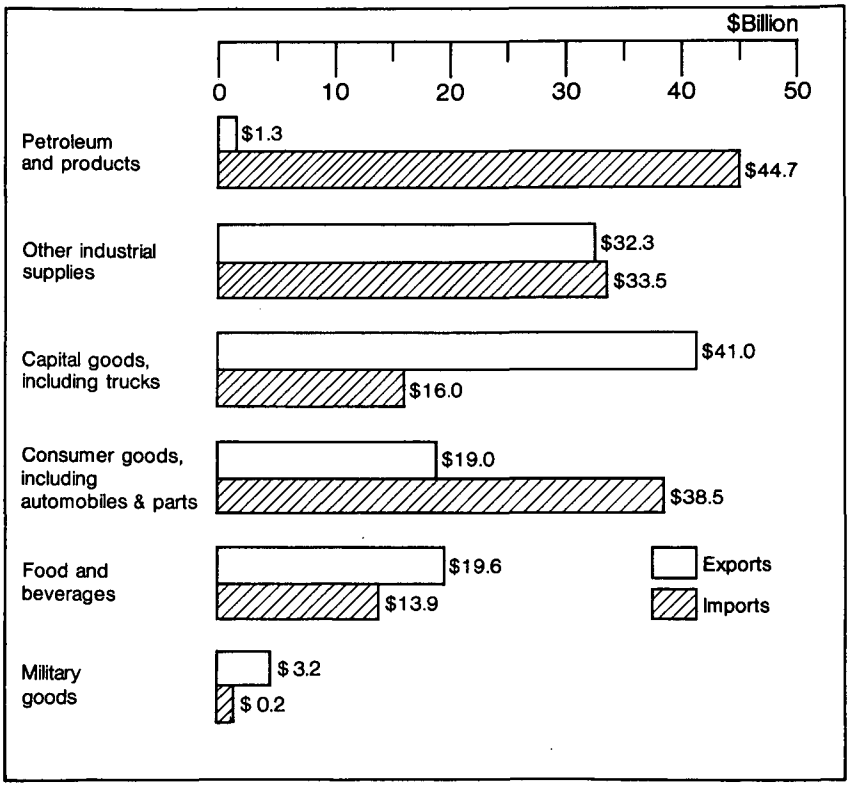


Imports
$146.8 Billion (F.A.S.)

- Capital goods, industrial supplies — products sensitive to business cycle fluctuations — predominate in U.S. exports.
- Petroleum, consumer goods, comprise over half of U.S. imports.

CHART 5

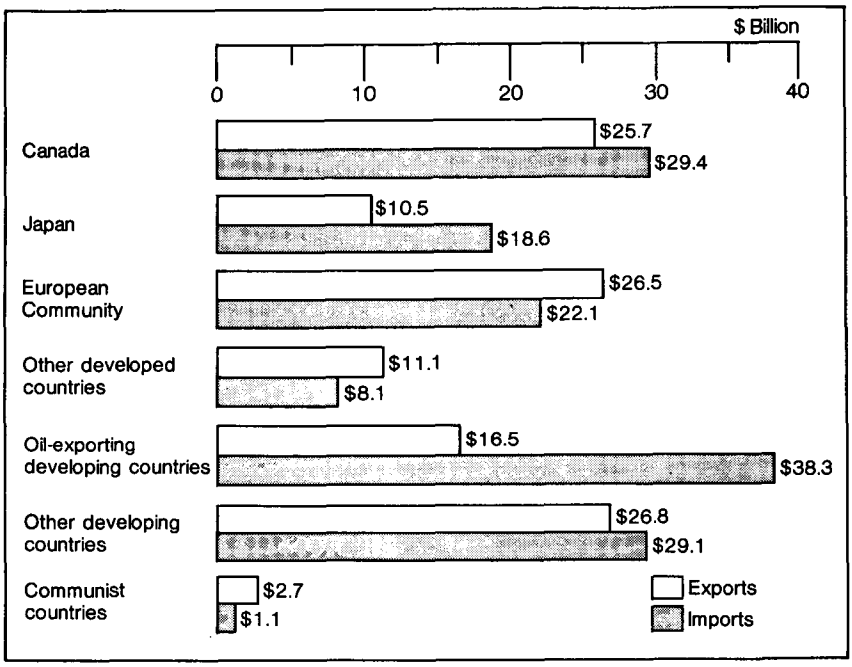
U.S. TRADE WAS IN SURPLUS IN CAPITAL GOODS AND FOOD IN 1977



- Capital goods showed surplus of $25 billion; food, beverages, $5.7 billion; and military goods, $3 billion.
- But oil, consumer goods deficits exceeded surpluses by large amount.

CHART 6

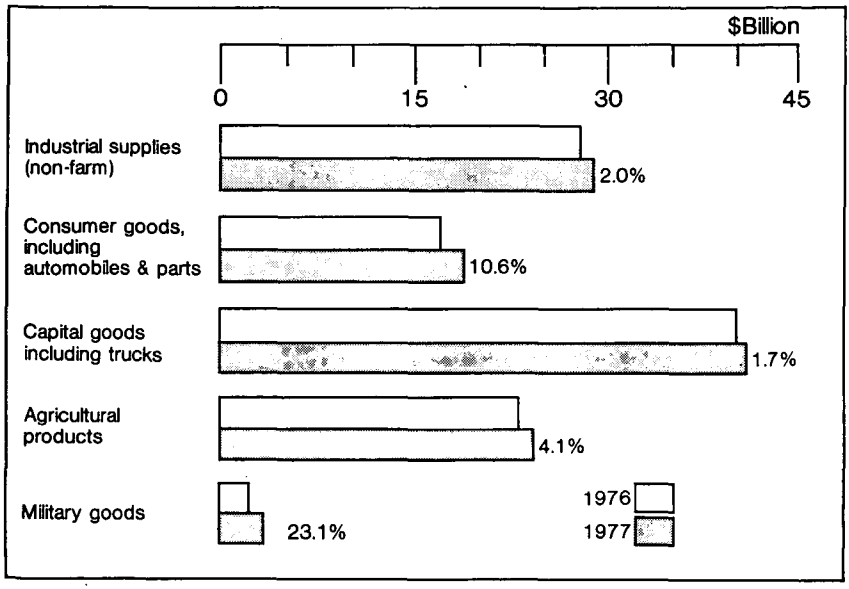
U.S. TRADE WAS IN DEFICIT WITH ALL REGIONS EXCEPT EUROPEAN COMMUNITY, OTHER DEVELOPED COUNTRIES, AND COMMUNIST COUNTRIES IN 1977



- Deficit with oil-exporting countries grew to $21.9 billion, imbalance with Japan to $8.1 billion, and with Canada to $3.6 billion.
- Trade with other developing countries shifted to deficit.
- Smaller surpluses than in 1976 with all other areas.

CHART 7

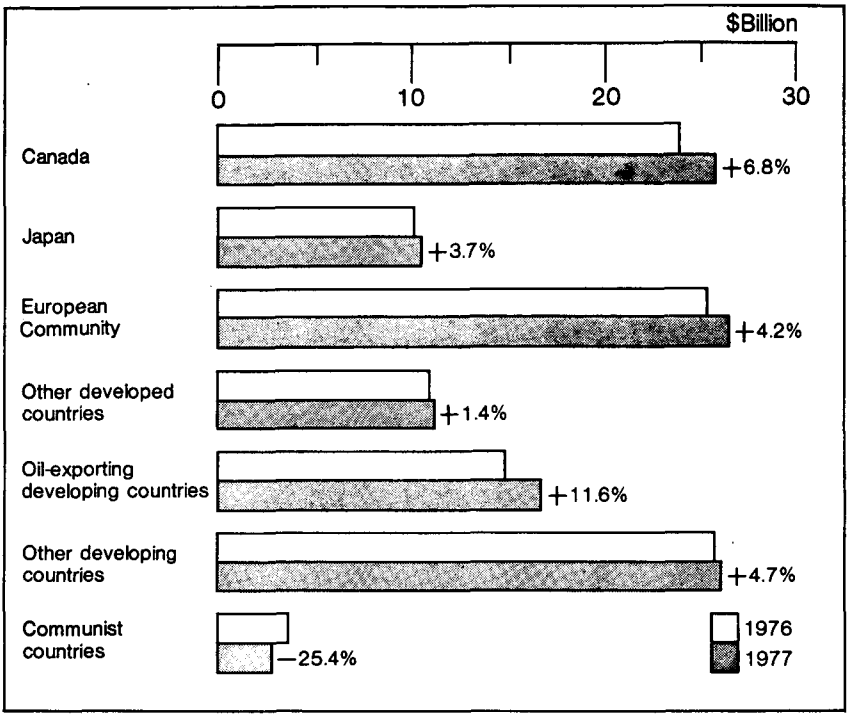
CONSUMER PRODUCTS LED EXPORT RISE LAST YEAR



- Growth in automotive exports contributed about half of rise in consumer goods sales.
- Capital goods — largest U.S. export category — rose by less than three-quarters of a billion dollars.

CHART 8

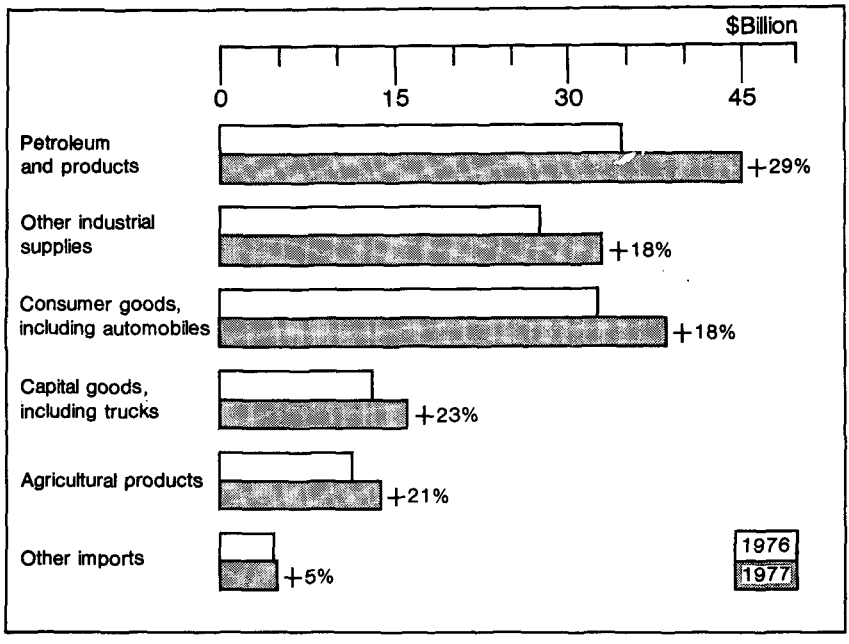
EXPANSION IN EXPORTS GREATEST TO OIL-EXPORTING LDCs AND CANADA IN 1977



- Oil LDCs' revenues spurred large growth in purchases of U.S. products.
- Exports to Canada grew moderately, but sales to other areas showed little expansion.

CHART 9

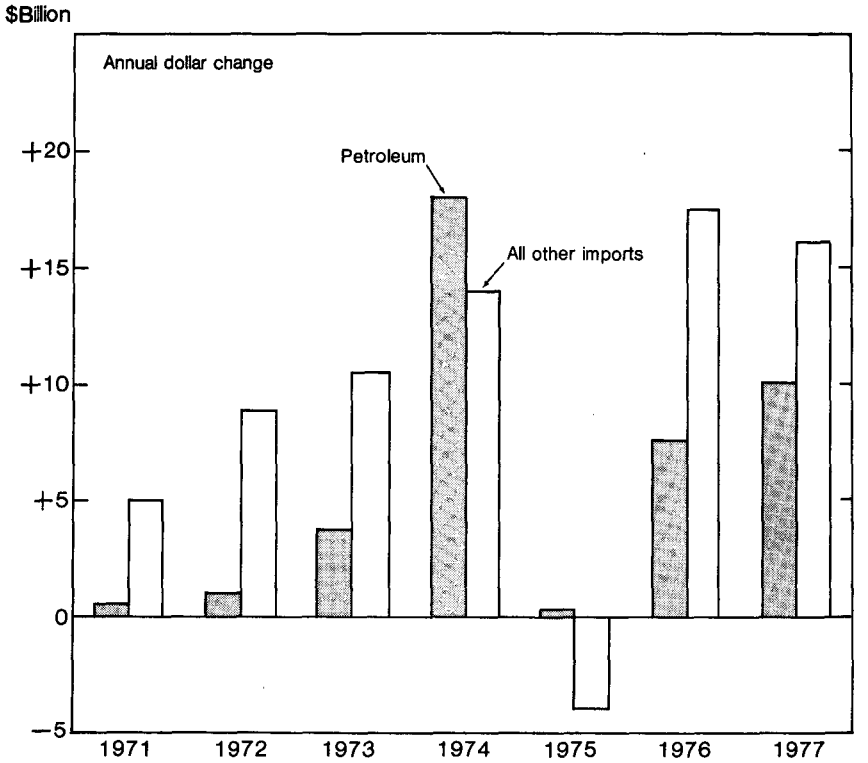
PETROLEUM, CAPITAL EQUIPMENT, AND FARM PRODUCTS LED IMPORT EXPANSION IN 1977



- $10 billion growth in oil imports caused by 18% volume increase, 9% price rise.
- Increased purchases of coffee, fruits, and vegetables paced agricultural advance.

CHART 10

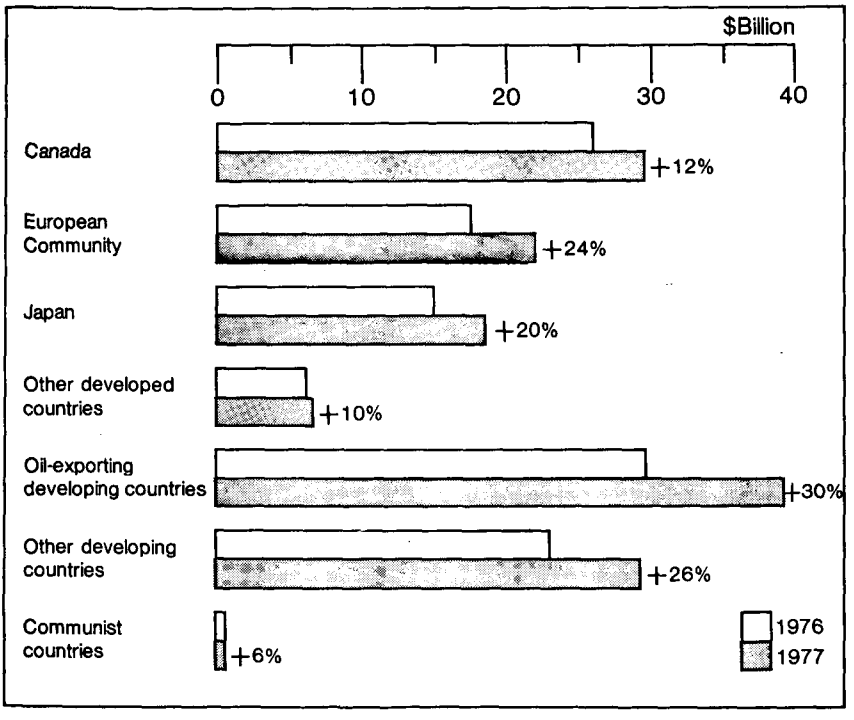
PETROLEUM CONTINUED TO ACCOUNT FOR LARGE PART OF TOTAL IMPORT GROWTH



- Petroleum imports accounted for 29% of total 1976 import growth, 38% of 1977 growth.
- 1977 imports other than petroleum grew less in 1977 than in 1976.

CHART 11

IMPORTS GREW MOST RAPIDLY FROM DEVELOPING COUNTRIES IN 1977



- Higher prices and quantities of petroleum boosted imports from oil LDCs.
- Increased manufactures from Far East, higher coffee prices, spurred imports from other LDCs.
- Substantial growth also recorded in U.S. purchases from EC and Japan.

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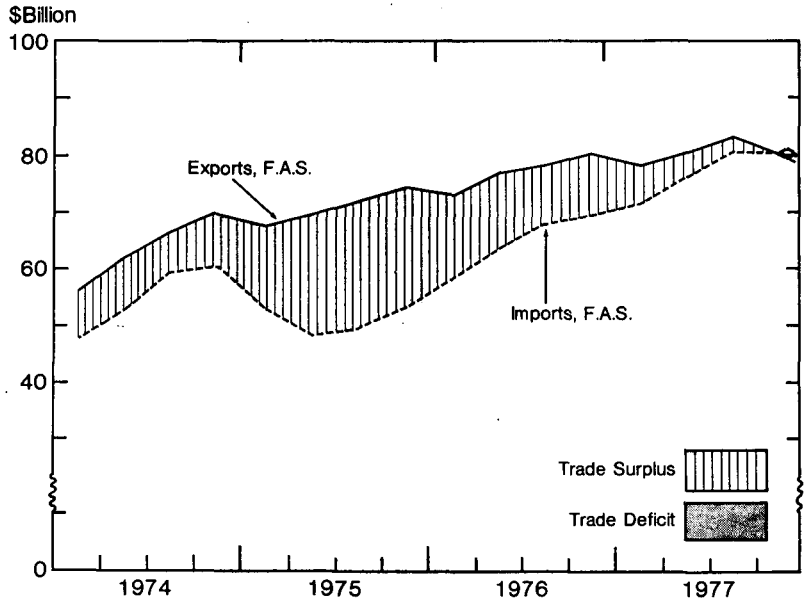
CHART 12

U.S. TRADE BALANCE IN MANUFACTURED GOODS DROPPED SHARPLY IN 1976-77

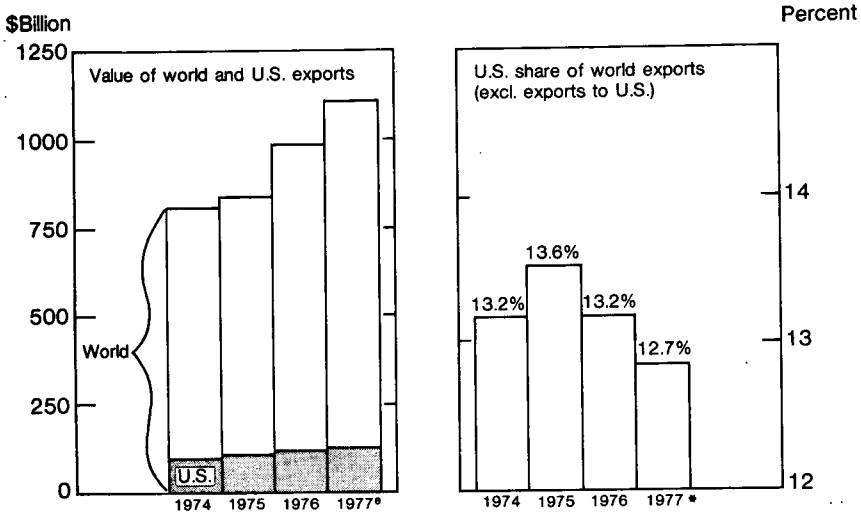


DATA ARE SEASONALLY ADJUSTED AT ANNUAL RATES

- Balance in manufactured goods moved to slight deficit in fourth quarter 1977.
- Manufactured imports — led by motor vehicles, machinery, consumer products — rose rapidly after mid-1975 to $77.2 billion in 1977.
- Exports showed only moderate growth in 1976-77 to $80.5 billion last year.

CHART 13

ALTHOUGH U.S. EXPORTS HAVE EXPANDED SINCE 1974, WORLD TRADE GREW FASTER AND THE U.S. SHARE OF WORLD TRADE FELL



e = estimate
* Based on six months' data.

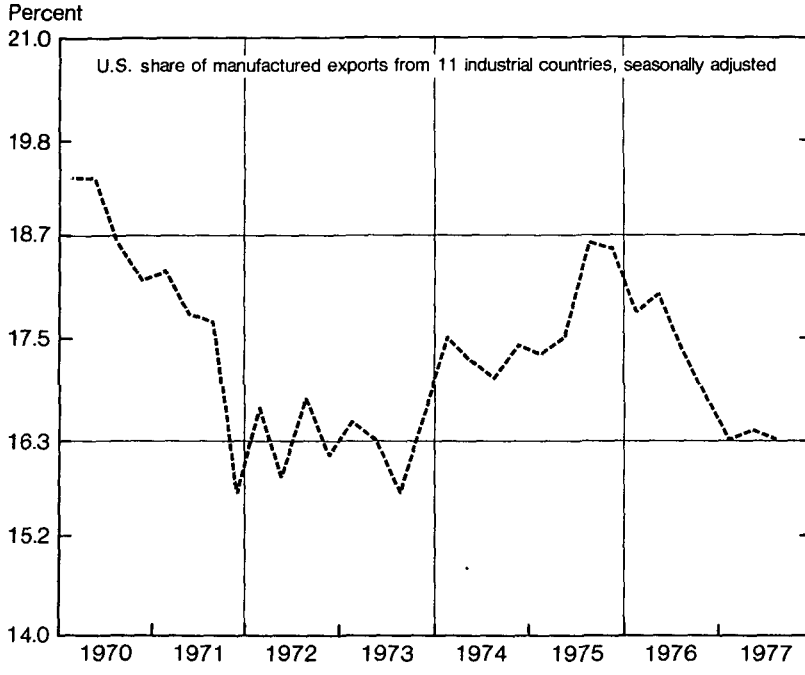
- U.S. share of key markets, other than Canada, has declined:

	1974	1977**
	(Percent)	
Japan	20.4	17.5
European Commmunity	8.1	7.9
Canada	67.4	70.3
Other developed countries	9.2	8.3
OPEC	18.4	17.8
Other developing countries	18.8	17.2
Communist countries	3.1	3.0

** Japan and Canada, full year 1977; EC, 9 months; all others, 6 months.

CHART 14

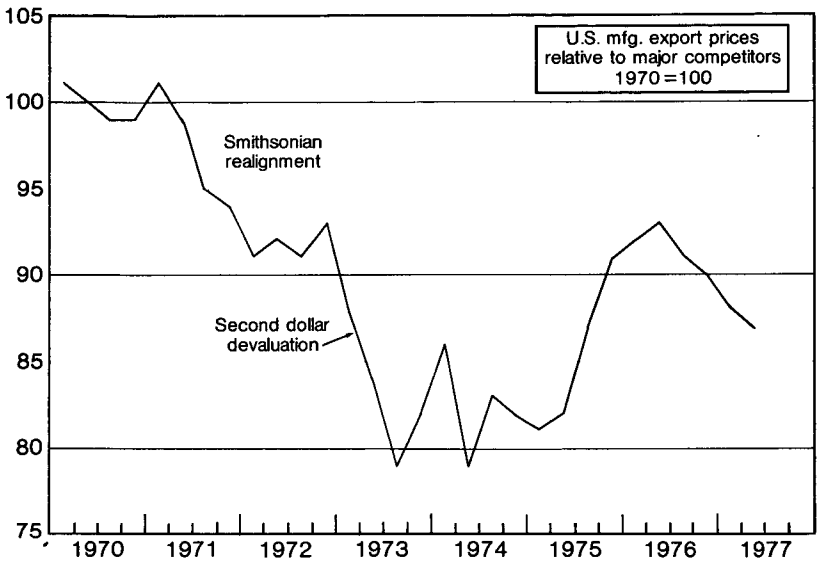
U. S. SHARE OF MANUFACTURED EXPORTS STEADIED IN 1977 AFTER SHARP DECLINE



- U.S. share steadied during first three quarters of 1977, but was lower than in first three quarters of 1976.
- Historically, U.S. share declined until Smithsonian Agreement in late 1971, then rose until mid-1975. It dropped sharply thereafter to first quarter 1977 when it levelled off slightly above share in final 1971 quarter.

CHART 15

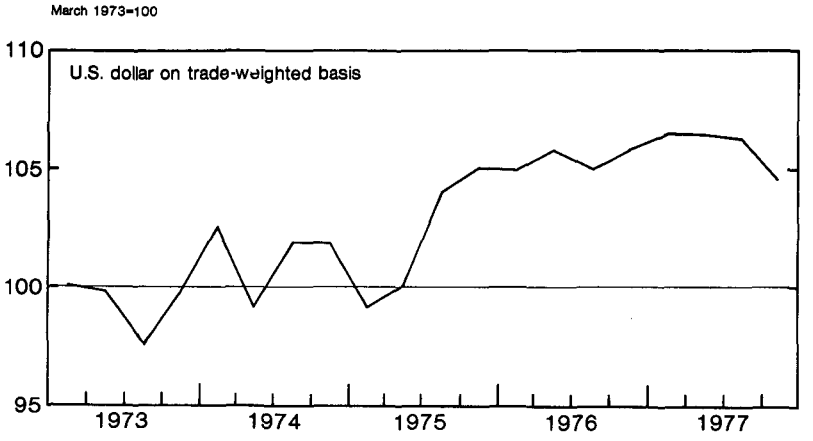
U.S. EXPORT PRICE COMPETITIVENESS IN MANUFACTURING DETERIORATED FROM 1975 TO MID-1976, THEN SHOWED IMPROVEMENT



- U.S. export prices for manufactures rose less rapidly than foreign manufactures' prices over the past year.
- Dollar devaluation part of reason for improvement of price competitiveness in 1977.
- Despite improvement, U.S. price competitiveness in 1977 still not as good as in 1973-1974 period.

CHART 16

U.S. DOLLAR FELL IN 1977 RELATIVE TO MAJOR CURRENCIES . . .

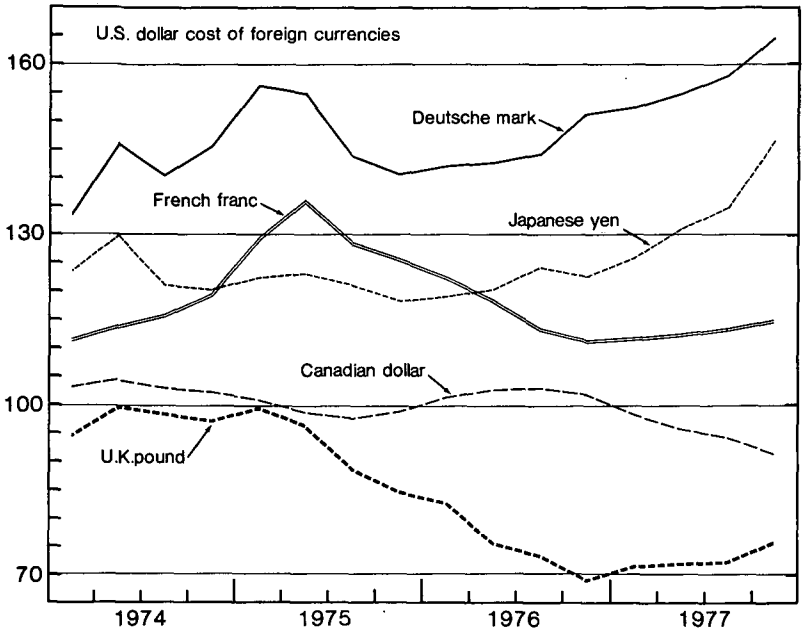


- After first quarter 1977 rise, the dollar lost ground.
- Large U.S. trade deficit key reason for decline in dollar last year.

CHART 17

. . . AS MOST MAJOR FOREIGN CURRENCIES APPRECIATED IN 1977

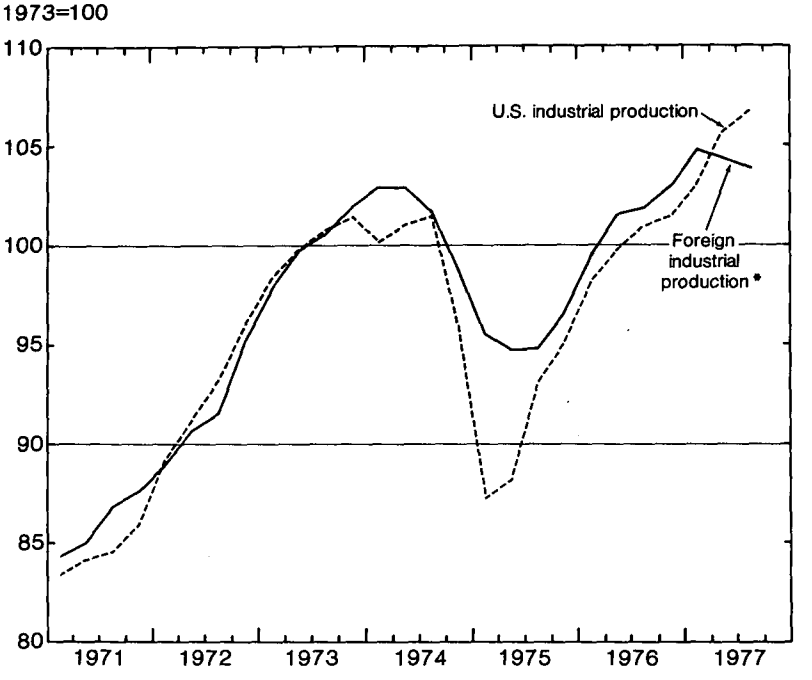
April 1971=100



- Rise in deutsche mark and yen especially rapid.
- Canadian dollar only major foreign currency which depreciated against the dollar.

CHART 18

U.S. ECONOMIC GROWTH WAS STRONGER THAN FOREIGN GROWTH IN 1977. . .

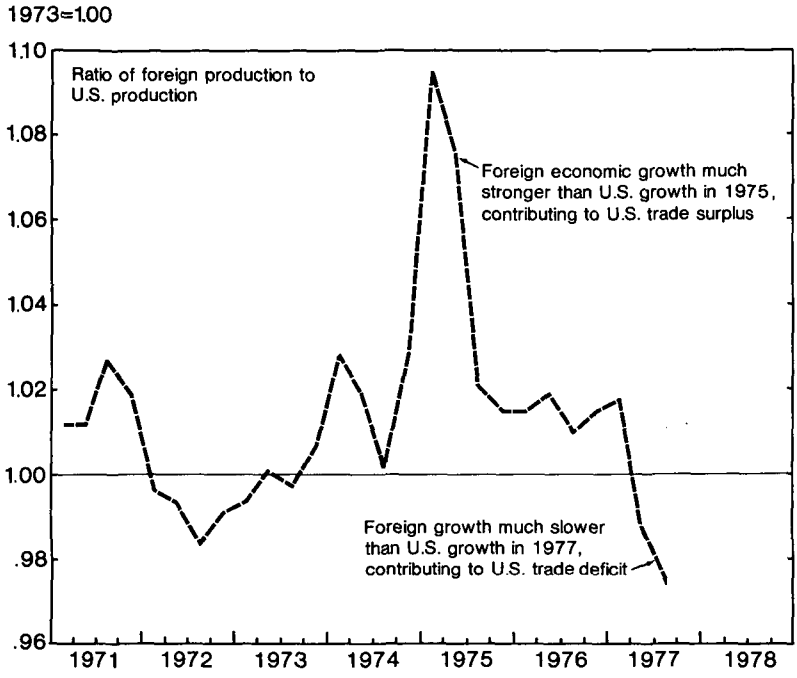


*Trade-weighted composite industrial production of Canada, France, Germany, Italy, Japan, and the United Kingdom.

- Foreign production dropped after first quarter; strong U.S. production continued.

CHART 19

. . . AND SLOWER FOREIGN ECONOMIC GROWTH



- Ratio of foreign industrial production to U.S. industrial production dropped in 1977, indicative of downward pressure on the U.S. trade balance.
- 1975 ratio shows cyclical factors contributed strongly to U.S. trade surplus in that year.

Mr. WEIL. Let me say at the outset, Mr. Chairman, that I am not an economist, and the subject of this discussion is one that professional economists have dealt with very well and very extensively. By the time I'm finished with my Government experience, I suspect I will be a little bit of a half-baked economist, and I therefore apologize at the outset for what could be viewed by some professional economists as too simplistic a view on some of my positions. I approach these problems from the point of view of the practitioner on the investment banker side.

Let's first look briefly at the problem. I'd like to start by making the observation that I have always felt we are a crisis-oriented people, and the very fact that the problem is so clear now may itself contain the seeds of a solution.

The problem has been with us a long time. It's been growing. Many of the policy measures that can deal with the problem have been known for a long time, but they have only been dealt with in a half-hearted way, because the problem has been lingering in the wings.

The problem is well illustrated by the fact that this past year we had a $26.7 billion trade deficit. Our total exports grew from about 5 percent in 1977, and at the same time our imports grew by 22 percent. However, in the last few years, our price competitiveness as measured by technical economists has somewhat improved. Hence, by the end of this year there should be some improvement in our manufactured goods trade balance.

I think everybody in the world knows by this point that the largest part of our trade imbalance stems from the fact that our oil imports, on a census basis, went from $7.6 billion in 1973 to $41.5 billion in 1977, almost 30 percent of all our imports. That, I think, is the essence of the problem. The fact is that only in the last 5 years has the U.S. become an importing Nation of such consequence that it had to be concerned with exports as an important national priority.

The United States today still only exports between 6 and 7 percent of its gross national product. For most other industrial nations in the world, that figure ranges from 12 to 44 percent. The average of England, France, Germany, and Japan is 19 percent, This shows where exports have been in our national economy priorities.

It's also true that since the 1974–75 world economic slump—caused in part by OPEC price increases—our economic growth has been faster than that of other industrial nations. Consequently, we have a greater growth in demand for foreign goods than they have had for ours. At the same time, slower growth in other industrialized nations' economies has caused them to feel a need to look to export markets to sustain their industrial growth.

There are really only four ways, in fundamental terms, to approach this situation. The first is to deal with the oil import problem. It's the largest part of it. The energy program is now before Congress. Even if we got an ideal energy program by anybody's standards, however, the effect of that program on the trade balance problem would only be minimal in the short term, and over the longer run would not solve it entirely, in my opinion.

The second general approach is to deal with the growth rates of our major trading partners and to try to bring them into more harmonious relationships over a period of time. This is difficult, however,

because we do not control the politics and the economies of those countries. Moreover, there are some people who have begun to doubt that such action would produce similar growth rates abroad, or that the effects of that upon our trade balance would be as large as some economists suggest.

The third general policy approach is to insure that the exchange rate mechanism works effectively, so that we do have price competitiveness in the literal economic sense. The fourth, for want of a better phrase, I will describe as a structural problem, and it seems to me that maybe the best way to describe the structural problem is to tell an anecdote. I should say at the outset that I don't want to leave the impression that even if we could solve all our structural problems, that would solve the whole problem, any more than any one of the first three would solve the whole thing. It's going to take a combination of solutions over a period of time within a coherent national policy to resolve this problem.

But let me tell the anecdote to illustrate what I regard as the problem, which is the situation here at home. I heard this story in Brussels about 3 weeks ago. A Belgian sales representative about 4 years ago heard about a product made by a Minneapolis-based machine tool company. The product was an attachment to American-made tools which made them work faster and more efficiently. This man was interested in getting the right to sell this product in Western Europe. He wrote to the company four times over a period of time. He received no response. He thought that this product had significant potential, so he bought hmself an airplane ticket, flew to Minneapolis, and set up an appointment to see the president of what turned out to be a $12 million company. He opened the conversation with this man by saying, "Why don't you answer your mail?" And the man said, "Because I have a policy against exporting."

The Belgian sales representative finally talked his way into getting the rights to sales in Western Europe. This was 4 years ago. As of 3 weeks ago he is doing 40 percent of that company's business. Furthermore, the company's domestic business has also grown.

The part of the story that I think is particularly instructive is why. Why did he have that policy? I pieced together some of the surrounding facts as follows: Let's assume that this man owned his own business, that he was making on the order of half a million dollars after taxes, that he was growing at 20 percent a year; that he had only two or three service people he could really trust; that he probably hadn't started to tap the market even as far as California, and he had heard about problems of credit, shipping of goods, language, and other problems that relate to exporting.

He may even have had business school professors tell him that he should control his growth. He probably was enjoying his new wealth and may not have wanted to own the whole world.

The fact is, we have thousands of companies in this country like the one in this story.

We can't exhort businessmen to do something for the sake of the country if it wouldn't be in their self-interest. There is a potential self-interest there. But, we have to overcome the fact that for many years we have been the world's largest, most attractive market and

that the rest of the world has been coming to sell to us. Foreign companies hardly get into business before they have to look across one border, and having looked across one border, the others were easy.

Conversely, we are a very large and satisfying market to all but we have a very small number of exporting companies. Around 85 percent of the manufactures' exports in this country come from about 300 firms and that leaves thousands of firms like this firm in Minneapolis that have exportable products but are not attempting to get them out in the world.

There are presently no estimates of the dollar value of exports lost by this attitude. But it has to be in the range of several billions of dollars. Take this in conjunction with the other three factors I mentioned, and we have the makings of a problem.

What do we do? Our national export policy will obviously come to be a composite of various policy measures. We need to get our foreign partners to stimulate their economies and have fair exchange rates. In addition, however, we need an appropriate credit program, competitive with the world, for exports.

The Export-Import Bank has assumed an appropriate posture, but we have been working with the Export-Import Bank in an effort to see if they could improve their ability to extend credit to the small- and medium-sized exporters.

You brought up earlier, in connection with agriculture, the problems of research and development. I believe that over the last 15 years, U.S. share of world research and development expenditures has gone down from about 50 percent to about 30 percent. That portends to me—again I am not aware of any statistical models on this—grave consequences in 10, 15, or 20 years, because our ability to export in manufactures and in agriculture has largely been due to our technological superiority. The large shift in our share of the world's research and development expenditures suggests that our relative advantage—not necessarily comparative, but our technological advantage—must be beginning to change for the worse.

We have to examine all of our tax policies as they affect our export position. There has been considerable discussion about the effect of section 911 on American nonresidents. If, for example, an American electrical engineer is the key decisionmaker in the building of a series of hospitals in the Middle East, there is a good chance the electrical systems that go into those institutions will be made to American standards. If, however, that man had to be replaced by a Frenchman or a German because of our present tax laws, there is a high probability those hospitals would be built to the electrical standards of Western Europe, which, as you know, are quite different from ours. This obviously precludes important sales of supplies by American electrical contracting firms.

There are many other tax issues that relate to exports, where we have ignored the consequences on exports, because the effect upon our export posture has not been the subject of great national consciousness. While we have considered the impact of other issues, we have not looked at the effect on competitiveness in the same way. We do not have an industrial policy in this country, as Japan, for example, does. Japan announced a number of years ago that they were going

to shift from exporting textiles to exporting television sets. They have told the world now that they are going to export computers. I don't know how far we should or can go in this. We have a different kind of economic and political system. But we should be looking at those issues. The fact that those governments in those countries have exports in the vicinity of the order I described indicates the effectiveness of those industrial policies.

Ambassador Strauss and his staff are working hard in the multilateral trade negotiations to get some kind of coherence with respect to subsidies. We are trying to get a new code which will affect the ability of other countries and ours to subsidize their exports, since many different ways have been discovered in the last 20 years for governments to support their export programs.

I think we have to recognize as well that foreign direct investment by the United States is very important to our export success. There is a so-called "pull through" effect. A large firm in America builds a plant in another part of the world, and it is perceived by some as an export of American jobs. But in fact on analysis—we are doing some work on this, I don't have it completed yet—it creates additional exports. One of the reasons we are lagging so badly in imports into Japan is because for a long time Japan precluded substantial investments by American firms there.

We need a much better information exchange system, because of the size of the American market. The Minneapolis Machine Tool Co. for example illustrates that we need to make it easier for that type of firm to get information out to the world. Others come here because it is difficult for that small firm to go there.

There is technology in existence today for the exchange of product information, and there are telecommunications systems. However, Only the U.S. Government has the critical mass to put such a system into existence.

We have in certain instances, particularly in the case of Japan, begun a specific series of efforts to address ourselves to those markets where we have substantial trade imbalances. We have formed a Trade Facilitation Committee to try to overcome trade barriers on the Japanese side, and to encourage American firms to make the effort to sell to Japan, which they have not done because of historical perception that Japan is impossible to sell to. So, I end on the point that I began, which is with the fact that the trade deficit has become a serious problem, as illustrated by your wisdom in calling these hearings. I think we have come to the point, finally, when this Government, both on the executive and the legislative side, will have to address these problems in a collective, coherent way.

We in the Department of Commerce are primarily in the business of trying to deal with the structural problems that I addressed today. I will be glad to answer your questions.

Senator STEVENSON. Thank you, Mr. Weil. You have addressed more problems than you have offered solutions to.

But I was pleased to hear you place some emphasis on the structural deficiencies in the economy and on our flagging investment in R. & D. But much of the rest sounds familiar. If we didn't have to import and if foreign countries would only stimulate their economies,

if we only would provide American industry with more export subsidies, Eximbank, for example, or if the dollar was only stabilized at lower rates, the trade would be in balance.

Most of those things just aren't going to happen. And some of them wouldn't help if they did happen.

The dollar has been sinking, the yen and the West German mark have been steadily appreciating, and so have their trade surpluses.

It looks to me to be pretty obvious that there are nonprice factors that are dominant in the global marketplace.

I was also pleased to hear you refer to yourself as a half-baked economist. We would have been more pleased if it hadn't been half baked, unbaked, or baked.

Economic doctrine, macro economic thinking still makes us a prisoner. It is increasingly irrelevant. In my humble judgment, as a noneconomist, I think history is bearing this out.

Now let me get to some specifics. You mentioned the Export-Import Bank and you also mentioned that in the first three quarters of 1977, U.S. exports to the Communist nations fell 25 percent. Why was this? And do you think the Eximbank credits should be made available to the Communist countries, that are not now eligible?

Mr. WEIL. That is, as you know, a complex and delicate question.

Senator STEVENSON. It is hotter than it is complex.

Mr. WEIL. Complexity and heat, I think, go together. In the first place, our exports of agricultural commodities to those countries have declined for a variety of reasons. There are obviously constraints due to the availability of credit for the nonagricultural goods that those countries would be inclined to import——

Senator STEVENSON. Excuse me. Could you get the microphone a little closer?

Mr. WEIL. Excuse me. Those constraints are related to certain other political considerations, which don't directly bear on trade. Until those political considerations are resolved in one way or another, it is going to be difficult to expand the base for a great deal more trade with those countries.

As to those political considerations, I would have to yield to a higher and more wise authority.

Senator STEVENSON. You are suggesting by implication that the emigration issue is a political issue that you don't feel you can address?

Mr. WEIL. Yes.

Senator STEVENSON. So is the question of the export of high technology products to certain countries. Is that something you can address? That is within the Commerce Department.

Mr. WEIL. We, as you know, are responsible for the Export Administration Act. However, when it comes to matters of technology and national security, we are much more of a clearing house than we are a decision point. We participate in the decisions, and we do have a point of view on these issues, but if certain other agencies in this town take a very strong position, which they do from time to time on such issues, we do not have the power, because we don't see ourselves as experts in all of these technological issues.

I will concede that it is easier for somebody whose sole concern is national security to say no to almost anything than to say yes, even in a measured way, to almost anything.

Senator STEVENSON. Do you think this procedure should be changed?

Mr. WEIL. No; I think the procedure is appropriate. It is being worked on, reviewed, and we hope—Mr. Marcuss, as you know, is very much involved in that process and he might like to comment—that we can rationalize it and get the national security oriented people to look at it in a more balanced way.

Senator STEVENSON. How can it be expedited?

Mr. WEIL. We are expediting the run-of-the-mill problems. Those cases, which are irritants in some instances, are the ones which come within the consciousness of people in your position, for example. They are not being expedited for two reasons. One, because that is one way to deal with them—and of course we don't have control over that—and the other is because they are complex scientific issues.

Mr. Marcuss might like to comment.

Mr. MARCUSS. Well, the problem of expediting export license applications, as you know, is very significant. One of the factors in the process at the moment is that the system that we have is one that does not lend itself to accountability very well.

It does not lend itself to responsible decisionmaking. It does not focus decisionmaking in any single official, who can take responsibility for export licensing decisions.

As you know, it is an interagency process. Part of the interagency process is mandated by statute. The consequences of that is, in many circumstances, that decisions are made at the lowest common denominator, the lowest level. Significant policy issues are not identified or not addressed. We have spent some time, and will spend much more time in the months ahead, on an attempt to focus on policy issues, to raise policy issues to the level where they can be addressed by those who make policy, and to hold people accountable for the decisions which they make.

Now that addresses a general problem in export licenses. As far as timing is concerned, specifically, the easiest thing in the world is to say no. Congress mandated 90 days to process export license applications. We could process 100 percent of all export licenses within 90 days by denying every export license that reaches day 89, and the data would show we are processing everything within 90 days.

The fact of the matter is that well over 95 percent of all export license applications are completed within the 90-day period. It is the remaining percentage that raises difficult problems.

Our predisposition is not to say no. On the other hand, as Frank Weil points out, we do not have in the Commerce Department the technical expertise to make all of the national security judgments that are necessary to reach an intelligent conclusion.

What we are trying to do, recognizing that this inevitably produces some extended time period for the processing of the license applications, is to force the other agencies of Government that are involved in this decision to come out in the open with their policies, with their problems, to communicate their problems to the export license applicant, and to stand behind the positions which they take.

That, I have to say, is not a neat and tidy process, but we are working on it.

Senator STEVENSON. Senator Heinz.

Senator HEINZ. I would just like to bring up, as long as we are on this subject, a problem which may be typical of some of the problems that you, Mr. Chairman, and Mr. Marcuss, are discussing.

One of my constituents is a gentleman named Mr. Imre Kerenyi, and perhaps Mr. Marcuss and his staff are familiar with his case.

Without going into the details of his case, or any of the aspects of the voluminous correspondence he has had with you, I am concerned that in this instance he was promised a specific reply, which would be, and I quote, "the result of a very careful investigation," according to the Deputy Assistant Secretary for East West Trade, Allan Reich. And that was in Mr. Reich's letter of December 2, responding to Mr. Kerenyi's October 18 letter.

It is now February 23. And without trying in any way to weigh the merits or demerits of a particular decision, it seems to me that here we are 2 months later, and to my knowledge no response has been received. And my staff has been informed orally that it is not even being prepared, despite the promise of December 2.

My general question is: If these things are true, what do we tell our constituents, the people of this country that in fact are interested in helping solve the problem that Mr. Weil so correctly pointed out regarding the relative lack of enthusiasm of many American businessmen to involve themselves with the intracacies of exporting?

Mr. WEIL. I am not familiar with that case, Senator, but since it involves two of my deputies, Mr. Reich and Mr. Marcuss, I had better respond.

Periodically, details of that sort come to my attention, and without even knowing anything about the case, I start out with the attitude that there is something the matter, because it shouldn't take that long to get an answer.

If one promises an answer and needs more time, one ought to write a letter of explanation. That is just common courtesy when you do business with somebody, whether it is the Department of Commerce or another business. I am not familiar with this case. I don't know what Mr. Reich promised, or if he promised Mr. Marcuss was going to provide the study. We will look into it and give you a report.

Senator HEINZ. Please do. I am not asking you to personally involve yourself in the complexities of decisionmaking. My point is when the Federal Government promises that a decision will be made, as Mr. Reich did, it is counterproductive for everything that you stand for and that we stand for, when the promise is not kept.

And if we can get an appropriate response to this individual, and not only to this individual, but to all others as well that may be in the same straits, then we will be doing all of ourselves, including our constituents, a favor.

I thank you, Mr. Chairman, for yielding to me. I had not wished to interrupt your line of questioning, but I felt this was quite pertinent to it.

Senator STEVENSON. Let me just finish this line and turn it back to you, Senator Heinz.

What should we be doing to change the law, if anything, to centralize the authority that Mr. Marcuss mentioned, in order to have

a focal point for responsibility and accountability? And to make sure that whatever technical resources the Department needs it has?

You have discussed the problem. What should we do to solve it?

Mr. WEIL. Well, I would ask Mr. Marcuss to comment as well. From the broadest policy perspective, my own view currently is that I wouldn't suggest any material changes in the process. I don't think it would be a wise expenditure of the taxpayers' money to build a technical staff at the Department of Commerce which would have superior powers on those issues over the technical staffs in other parts of Government.

I think that we are unleashing forces into the system that will tend to drive these agencies toward making prompter decisions.

I think that that should do it. I think that can be done from an administrative point of view. It won't be perfect, it never will, because the system is not perfect by definition from the beginning. I think we should also point out that in aggregate dollar terms the value of those licenses we deny or delay is a small number, and thus from the point of view of our trade balance, it is one that I think is only marginal.

Mr. MARCUSS. I haven't given any thought to specific statutory changes at this point, and I am not, therefore, in a position to comment on that. There may be some things that can be done, and I suspect that will be the subject of some hearings before this committee at some appropriate time. In fact, I think the statute expires next year.

But a large part of the problem is in fact administrative. And the extent to which changes can be made through the administrative process, we will make them. I hope, Mr. Chairman, before the year is out to be able to form an intelligent judgment as to whether it's possible to make the necessary changes through administration, or whether changes in legislation are necessary.

But one thing that is absolutely clear is what the system now lacks is predictability. It is unpredictable. It lacks certainty, it lacks a system of precedents, it lacks adequate technical resources, and those need not be governmental. It lacks accountability, it lacks clear statements of policy. And it lacks sufficient high level government attention to the policy issues which are constantly being raised.

Now many of those, not most, not all, can be addressed administratively. To the extent to which we cannot, to the extent to which change in the statute is necessary, we will be prepared, after we have made our best efforts administratively, to come back to the committee, to you, and indicate our thoughts.

Senator STEVENSON. When will we get the reports on technology exports mandated by the Export Administration Act?

Mr. MARCUSS. There are a variety of studies mandated by the statute. We will meet the deadlines that are set forth in the statute.

Senator STEVENSON. Senator Heinz.

Senator HEINZ. Thank you, Mr. Chairman. First, Mr. Weil, I was delighted at your candor in recognizing what the energy bill is. While it will improve our situation, it won't eliminate, by any means, the problem. I appreciate your willingness to make the committee

and the American people aware that this energy bill, regardless of what kind we get, is just our first step in a very difficult battle.

Second, with respect to your discussion of the disparity in the growth rates between ourselves and some of our major trading partners, Germany and Japan, while that is a perfectly valid observation, and it is one we have had frequently made before this committee, it obscures a fundamental difference of economic philosophy between the United States and Japan and Germany, namely, that they traditionally rely on using exports and the very agressive promotion of exports to lead in their recovery. And as such they engage in a variety of tactics, some of which we have seen in the steel industry, involving dumping and deep subsidies of a variety of kinds, to promote that policy.

It strikes me, therefore, and I would like your comment on this, that one of the ways that we can, as a matter of practical leverage on those countries, encourage them to reflate, as we would like them to do, is to much more aggressively enforce our so-called unfair trade laws which deny to those countries the ability to sell below cost in this very large market in the United States.

Is that something that we are considering as part of our overall trade strategy and in particular as part of our strategy to get the Germans and Japanese to reflate?

Mr. WEIL. Just like Senator Stevenson's question with respect to the exports to the Communist countries, that, too, is a sensitive and hot question.

Let me start by saying that I deplore the present world trend of moving toward defensive mechanisms to deal with trade problems. Yet realistically, given the worldwide slump due to the OPEC problem, I suppose to some extent it is inevitable. I commend to you, if you didn't see it a couple of days ago, a piece on free trade in the New York Times by a man named Lincoln, which aptly called for a more flexible and intelligent look at the definition of these terms.

But I personally think that to the extent we can maintain our posture of dealing with the problem overall, from the aggressive as opposed to the defensive point of view, we will all be healthier in the long run. As trade doors begin to slam shut around the world, a series of domino effects is started, and it will be difficult to correct.

On the other hand, we have to be realistic, and I think that the trigger pricing plan with respect to steel effected in the last few days is a very intelligent and sound way to deal with the problem. We can not sit back and allow major trading partners to take undue advantage of us. Yet I would hope, as in the case of Japan, that we would be able to deal with the problem not of denying entrance to their exports to us, but rather of gaining increased accessibility for our exports to them.

Senator HEINZ. Well, I appreciate that statement, and I think it is quite accurate. But my concern, and I am not entirely sure you have addressed it, is whether we are making the necessary linkages between prices for steel, or the taking of antidumping cases by Treasury on steel, or the making of Presidential decisions regarding 201 escape clause cases, and either the relative willingness or unwillingness of individual countries to reflate.

Mr. WEIL. You correctly perceived the fact that I didn't address that, because I think it is a very dangerous linkage. I agree with you that in relative terms pressure points cause people to do things of that sort, but from what I have learned in this past year of working in the Government, saying to the Germans, "We will keep your steel out unless you reflate," would not necessarily be a productive course to follow.

These things occur; we take the actions we do with respect to foreign steel because we need to on the merits of those issues. At the same time, we encourage the Germans to reflate because we believe, rightly or wrongly, that their reflation would tend to increase their appetite for our goods.

I must respectfully differ from the implication of your observation that the linkage would be a helpful thing.

Senator HEINZ. The Special Committee for U.S. Exports stated that: "U.S. policy for export stimulation has been characterized in recent years by incompleteness, inconsistency, and restriction."

It especially pointed out that the Department of Commerce export assistance programs have been inconsistent, stating that: "Over the last 5 years, funding for these programs has declined in real terms, and the programs have from time to time been threatened by discontinuance, shifting priorities, and budget constraints."

Would you like to comment on that statement?

Mr. WEIL. I think you might get me fired.

Senator HEINZ. Well, you haven't been there that long.

Mr. WEIL. I didn't mean from that point of view. I am not familiar with the source of that quote, but I would have to say that there is a lot of truth in those observations.

The reasons for them are many. First, the leadership in these Department of Commerce programs has undergone many changes in the last 5 or 10 years. Second, it has only been in the last year or two—since our trade balance moved from record surplus to record deficit—that these programs have come to the forefront in the minds of the policymakers.

We hope that the combination of recognition of the seriousness of these issues, coupled with what we hope is a new quality of leadership, will cause observers 5 years from now to have a different set of observations than those you have quoted.

We have been doing a lot of thinking and studying on the way to deal with the problem from the point of view of structural assistance. We have no firm new programs at this time, but as my earlier comments suggested, we have reached the conclusion that a large part of our problems are right here at home in the United States. Consequently, we need to develop a variety of measures designed to overcome the problems at home, to "push" on the export side, as distinguished from our programs over the last 12 years, which I would characterize as export "pull."

A lot of our present resources abroad are designed to "pull" the American exporter out. Those programs have not been all bad; they were positive. However, they may not have been the most cost effective programs, on balance. There is no question that you get more exports with a lot of linear extensions—that is, more trade centers

and trade shows—but I am not sure that is the most cost effective way of doing it.

We have been working on some ideas that will build a better bridge. We have 43 ITA field offices of the Department of Commerce dealing with this issue in the United States, and we have qualified personnel around the world, in our Embassies as well.

Now we need to build an intelligent bridge between those two superstructures. We are working on these programs in the hopes that we can, as I say, have a better evaluation 5 years from now.

Senator HEINZ. For the record, Mr. Chairman, the Special Committee for U.S. Exports, chaired by John R. Babson, presented its report to the 95th Congress, the House Ways and Means Committee, November 3 and 4, 1977. The report does have some interesting findings. On page 325 of the report, table 8, it indicates that there are very definite tax incentives which can either be reflected in aftertax profits or can be reflected in even larger price reductions made possible by those tax incentives, ranging, in the case of price reductions, on a $10,000 sale from a high of $330 in Belgium, to a low of zero in the United States. With France, $300 per $10,000 sale. The Netherlands, $320; Brazil, $223; and Spain, $90.

Now, in the President's tax message to the Congress, are there any tax incentives, or export promotions, or are there any tax disincentives, in your judgment?

Mr. WEIL. As to the first part of your question, the comparative posture in the other parts of the world, that is a question we will address in the hearing on March 9. We will be presenting extensive comparative information on that date. I am not fully briefed at the moment on our comparative posture.

However, I think your general observation is on target. We do far less with subsidies, taxes, and otherwise, than our major trading competitors.

As to the second part of your question, the President has sent up his tax bill, and has recommended the elimination of DISC, and has recommended substantial changes and a deferral on income. These issues are complex, and much debated——

Senator HEINZ. Complex the same way nonmarket country exports are complex?

Mr. WEIL. There are some of the same characteristics, yes. But they are complex. I would tell you, as a businessman, that there is room for reasonable men to differ as to the effectiveness of this in terms of stimulating exports.

Senator HEINZ. Let me ask you for your judgment. Do the President's proposals on DISC provide a greater or lesser incentive for exports?

Mr. WEIL. Let me put it in terms of simple logic——

Senator HEINZ. I am more interested in terms of simple judgment than I am in terms of simple logic.

Mr. WEIL. If I might start with a little logic, sir, you are removing something that is perceived by a constituency—in this case the business community—as a plus, but which is bound to be perceived as a minus in the real world. If you remove DISC, whether or not many businesses will make less of an effort to export is something one won't

know until it happens. Logic, however, says that the removal of an incentive is likely to be a disincentive, and that is one view.

On the other hand, I think we have to be careful in analysing the DISC in distinguishing between the original DISC and the DISC as it exists today. The original DISC was invented in 1971, prior to the decision to float the dollar. It was a last gasp effort to avoid a float, and, probably in a perfect world, when the decision to float was made, if it had been possible to have reversed the decision on DISC, it should have been reversed.

Subsequent to the float, the DISC and the float work together and there is not a man alive who can tell you which had more of an effect in stimulating exports in that period.

The DISC was amended around 1974 and is currently an incremental DISC. It only benefits sales over the 1974–75 base period. That is important to look at, too. The President's judgment, after weighing all of the points of view, including the point of view we expressed in the Department of Commerce, is a political judgment. As President, he is in the best position to make the final judgment, and as I said at the time I was stating my own position last year, if he made the decision, I would support it.

I think we should pull up our socks and not use the President's judgment as an excuse not to export.

Senator HEINZ. Well, if I understand you, you are saying that while you support the President's decision, and he has a responsibility, you did not recommend to him the provision that he subsequently sent down to the Congress. Would that be a fair way of stating it.

Mr. WEIL. Yes. We recommended the retention of DISC.

Senator HEINZ. Would it therefore be a logical inference—I am not saying this is what you say—that you don't think his proposal necessarily does much for exports?

Your best course, when someone poses a logical inference, is probably silence.

But what about the rest of his program? Will it help or hurt?

Mr. WEIL. Well, there is nothing in the tax bill that I am familiar with that would, other than the point you just raised, be either a significant plus or a minus with respect to exports at the present time.

Senator HEINZ. Did I understand you correctly when you indicated you were going to have some further proposals, tax proposals, that might provide greater incentives for exports? Or did I mishear you?

Mr. WEIL. I think you slightly misheard me. I meant two things. One, I think that as tax issues are reviewed from time to time, they should be examined carefully from the point of view of how they will impact upon our competitive position.

Two, we intend to be examining various ideas to create additional incentives. We have not reached a point where I would want to discuss them now. Obviously before I could officially discuss them, we would have to go through quite an elaborate clearance process.

Senator HEINZ. The document to which I referred from the Committee on Export Promotion, may or may not be the final word. It does appear to indicate that there are foreign export practices that

would appear, particularly if translated into price reductions, to be of considerable significance.

I would hope that you would find the opportunity in the near future to evaluate those findings, tell us what you think of their validity, and address the issue of whether we should do nothing about them, or something about them.

Mr. WEIL. Well, we will do that, we will address that on March 9.

Senator HEINZ. Thank you, Mr. Chairman.

Senator STEVENSON. Senator Schmitt.

Senator SCHMITT. Thank you, Mr. Chairman. I am sorry, Mr. Weil, that I missed your statement, but I have just read it hurriedly.

Mr. WEIL. Is this the summary or the longer one?

Senator SCHMITT. I guess it is the summary. At any rate, I will read the statement. You say: "We are specifically concerned today, however, with the sluggish growth of exports over the past 3 years," and then you go on to discuss for a number of pages a variety of problems related to that sluggish growth.

It seems to me you have discussed primarily the symptoms and how to treat the symptoms of the problem, without possibly getting into the basic disease.

I would like to have your comment on three or four general areas.

First, the role of technology or the lack of technological growth over the last decade, and the possibility that that is a major cause of this sluggish growth in the past few years.

There are really no major areas of technology expansion right now that this country is leading the world in, at least I can't think of any. Although we still have a strong technology base, we are not out on the leading edge of technology as we have traditionally been at various times in our history.

Would you care to comment on that?

Mr. WEIL. To add to your confusion, Senator, I gave oral remarks different from what you have read there. And I did address R. & D. in talking to Senator Stevenson. The view I expressed in summary form was that there is reason for concern with respect to R. & D.'s posture, though I would have to say, broadly and generally, that I don't think, at least in the recent past, that our trade problems could be attributed to what has occurred so far, with respect to the decline, in our R. & D. posture in the world.

I think the problem lies ahead of us, and I share what I sense from your question is your concern with our posture. That is a widely shared concern in this administration.

Senator SCHMITT. Do you think the administration's budget reflects that concern?

Mr. WEIL. Another part of the Department of Commerce, the Office of Science and Technology, is responsible for this area. I am not familiar with this in detail, and I would want to defer to my colleague Jordan Baraul who is the Assistant Secretary in that office on this issue.

If I recall correctly, however, he had good support in his budget for a number of programs in that area.

Senator SCHMITT. That is what everybody has been saying, that there is good support. But as I analyze the budget, the real growth is almost nil in terms of basic technology stimulation by the Federal

Government, and in the area of tax policy, which is what is determining a large part of the private sector's investment in new technologies, still there is no real stimulation of this growth of technology base.

Senator STEVENSON. If the Senator will yield, the only real growth is for basic research. I don't quarrel with that. But it is not going to produce product innovations in the near future, that will have any economic consequences.

The largest increase in basic research is for DOD.

Senator SCHMITT. Yes. The Senator is entirely correct. And I would commend you to go back and work with Mr. Baruch, and really look into this. Because I think either there is a basic misunderstanding in the administration of what technology growth is all about, and the role the Federal Government plays in it, or there are other priorities which right now are going to mitigate, I think, against any real turnaround in this situation.

Mr. WEIL. There are really only two ways for the Federal Government to be involved. One is all expenditures for R. & D. are fully expensable, and in many instances they are expensed currently. So there is as much of a tax incentive from that point of view, short of credits, or short of direct subsidies for research and development, which other nations have engaged in. These are complex issues. I find instructive a case which occurred in this country about 15 years ago. The Minnesota Mining Co. was a company built on innovation. In the midsixties, the management of that company began to be concerned with what they saw as a declining flow of innovative products.

They carefully examined the causes and concluded it was largely due to the fact that its middle managers had become bureaucratic—like the Government may be—and that they were not taking the same risks they had taken in the earlier days when the company was smaller. Having examined that, the management did an intelligent thing. They changed the structure of the decisionmaking process. Up to that point, the middle managers had to get higher authority and justification for making expenditures for development. They turned it around, so that within the parameters of levels of management, middle managers were instructed to expend money for innovation without having to get higher authority. If they opted not to spend the money, they had to justify that, and get higher authority. It caused a significant change in the willingness to take risks.

Senator SCHMITT. I think that is very important. I think many corporations may find themselves in that situation today. I know some Government agencies find themselves in that situation today. But in part it is created by the numbers of areas in which there is intensive competition between corporations, or intensive motivation within an agency.

NASA, right now, the agency I am most familiar with, has not gotten as bureaucratic as most agencies, but you can see a hardening of the arteries internally, because there is nothing to do except to redistribute a constant level budget.

I mention that only because of my familiarity with that agency. I think the critical area for development in new technology now is advanced energy systems. And the DOE budget in terms of advance energy systems is abysmal. There is no energy policy at all. That is where

we have an opportunity to start, to turn at least the technological balance of payments around very rapidly, within the developing world, as well as in much of the developed world.

But our policies, including our nuclear policies abroad, are mitigating against that very rapidly. That is what concerns me, that we have fallen off the leading edge.

Mr. Chairman, I can't think of one area of technology right now where we are not at least being equaled by other countries, or in fact are behind them in terms of innovation. And that is completely contrary to the history of this country.

If you go back 200 or 300 years, you will find when we pulled out of an economic slump, we have generally done it as a consequence of having come back on the leading edge of technology, in developing a whole new area of exports that nobody else in the world had, nobody else in the world was capable of developing, like specialty steels, aircraft, railroads, mass production techniques, electronics, computers, and so forth.

In the last 10 years we have allowed ourselves to slip back and there still seems to be no coherent Government policy on how we get back onto that leading edge.

And the area of general tax policy is an important part of that. When you have limited resources which you can use for risk, that will tend to engender bureaucratic responses to challenge.

And I think American corporations are seeing that now. Imaginative leadership within a corporation can turn it around, as in the example you have given. But the pressures are still there, I believe, that cause that bureaucracy to develop, that conservatism to develop, that is hurting not only industry, corporate entities, but also the Government itself.

Mr. WEIL. It ties into the whole capital formation process. If you are looking for an argument, Senator, it is pretty hard to get one from this table.

Senator SCHMITT. I hope you will carry back and keep this, as I know you will, in the back of your mind. A related area, of course, are costs. We are bearing costs in this country because I think of a very good and wise moral commitment to environmental preservation. And we have not yet fully utilized the technology base we have in order to find an economic balance between growth and environmental preservation.

I hope that that will start to materialize, although again I don't see that within the budgets related to it.

A major area where I see no progress whatsoever is in accelerating the usefulness of our agricultural surpluses within the balance of payments. It is obviously there already by a large degree, but it could be so much more.

And we are still, I think, in the position where we look at agricultural surpluses as an instrument of foreign policy, rather than an instrument of export policy. And we wouldn't have our farming community up in arms today, literally would not have them up in arms, if we had been using agricultural surpluses as exports, rather than as an instrument of foreign policy.

And the State Department, I think, is primarily to blame there. I don't blame Commerce or Agriculture necessarily. It has just been traditional that food and fiber surpluses are for use in foreign policy, not to balance our balance of payments.

Would you agree with that?

Mr. WEIL. Well, there was an interesting colloquy on that with Secretary Hathaway of the Department of Agriculture. It really relates to the financing mechanism. I think the constraint on our exporting of agricultural products is more related to the ability to finance the purchase of that surplus than our ability to sell it. It is a subject I am not an expert on, but there seem to be problems in the way in which we extend loans to allow other countries to buy our agricultural products.

Senator SCHMITT. I would say that is true of some countries, but not with others. The Soviet Union was perfectly capable of paying the market price for wheat, one way or the other. We also seem to be reluctant in my mind to accept barter of raw materials for food and fiber. I think there are a lot of areas of policy that we have yet to address on how to accelerate the availability of our surpluses at a fair market price to people in the world who are starving and unclothed.

At any rate, I hope Commerce will enter that debate with vigor, and will try to at least balance the scales. I am not saying that in certain considerations, particularly where we are dealing with a potential adversary, like the Soviet Union or the People's Republic of China, that food and fiber aren't an instrument of foreign policy, they definitely are. I think we haven't been using them in the right way, but they are.

But in many, many areas it is primarily an export item, and we have yet to realize a fair market price for much of what we are exporting, and we still sit here with surpluses year after year.

At any rate, I do hope that debate will continue, I am sure it will, in this subcommittee and also in other committees.

Finally, the President's energy program, you say on page 2 of the text I have, "The President's energy program in this regard is a trade balance improvement program."

Do you honestly believe that the bills in the conference committee and before the Congress at this time will assist in balancing the trade between this country and particularly the Middle Eastern oil producing nations?

Mr. WEIL. Well, I said that the energy program is essential; but I also said that one cannot assume it is going to solve the whole trade problem.

The program that is up now is certainly a strong move in the right direction. It will tend to reduce our dependence on foreign sources for energy and to increase, hopefully over time, the willingness and ability of our domestic energy producers to increase the domestic supplies.

That is bound to have a positive effect in the longer term on our balance of trade.

Senator SCHMITT. I couldn't agree with you more. If domestic production increases, it will help our balance of payments. But I am asking you do you see anything in the bills before Congress that are seriously going to increase domestic production in any accelerated way?

Mr. WEIL. To answer that in short form, yes. Now whether they do it as much as some people would like is another question.

Senator SCHMITT. Well, I think we have a basic disagreement on that issue.

Mr. Chairman, I won't pursue it at this point, but I think it is clear that the incentives for domestic production, which would break the back of the OPEC cartel, I think within 5 years, just by the threat if nothing else, are just nonexistent within the energy program being advocated by the President and supported by the House of Representatives.

Thank you, Mr. Chairman.

Senator STEVENSON. Thank you. Mr. Weil, you said that U.S. exports to the Middle East grew 12 percent in the first three quarters of 1977. Exports to other industrial nations grew by much more. Why aren't we doing better?

Mr. WEIL. There are several reasons. I think we are being outsold on a nonprice basis by a lot of our major trading competitors, for many of the reasons we have touched on earlier.

The Germans, Japanese, French, and English have needed to rely much more on their export industries, and they have been very vigorous competitors in the Middle East. There may also be some other factors that have had a bearing on it.

There is uncertainty on how to deal in the Middle East, at least in certain parts of the Middle East. The Export Administration Act has had a dampening effect on trade there; but I would not want to say it was material, or measurable.

Senator STEVENSON. It is what?

Mr. WEIL. I don't think it has ever been measurable.

Senator STEVENSON. It will be measurable in some countries. How about Iraq?

Mr. WEIL. In certain countries it is not a problem at all; and I don't think it will be a problem. Where we have lost ground—I don't want to speak specifically to that, because I am not familiar with the detail—I would attribute it to the fact that we are not as competitive in Third World countries. I don't want to cast aspersions on the business community, but we have not been as competitive on a nonprice basis, on a nonboycott related basis——

Senator STEVENSON. Because we are not selling, and that is partly because we are intimidated by regulations, all of the mysteries and risks of selling abroad, exporting?

Mr. WEIL. That is correct. There are some firms that have made a specialty of it, like Bechtel, for example.

Senator STEVENSON. You said there are probably as many companies that don't export as do, 20,000, as I recall.

Mr. WEIL. That is correct. But the big numbers, Senator, are coming from a handful of countries, particularly in that part of the world.

Senator STEVENSON. So you don't attribute our relatively poor performance to the Export Administration Act?

Mr. WEIL. No.

Senator STEVENSON. But primarily to lack of effort?

Mr. WEIL. I wouldn't call it lack of effort. I would say that our competitors, for example Germany, are entirely committed to foreign sources of oil; we are not. They have balanced their trade with the

Middle East, and we have not. They have done it by being exceptionally aggressive salesmen.

Senator STEVENSON. Well, that brings me to I guess what will have to be my last question.

We have all seen this phenomenon everywhere in the world. It is not just the Middle East. And I think you are probably right, it is largely because other countries have had to, they haven't had a choice, they are dependent on export markets. We have been in a luxurious position historically of not having to do that. However, there are also institutional distinctions to be made between those countries and the United States. Some of them in the antitrust laws. The Japanese, as you well know, have great trading companies, which are unimpeded by antitrust laws, and they can overcome the rigmarole, the mysteries, and assume the risks that are both political and financial, the exchange rate fluctuations, and do the marketing, buying internally, and selling externally.

I don't know about the other countries. I think we are all familiar with the Japanese trading companies. Do you know, do other countries have similar institutional means of getting their products abroad?

Mr. WEIL. The great Japanese trading companies don't have any similar concept in the rest of the world that I am aware of. Yet there are consortia of other companies within certain countries and between them in the Common Market, for example, which have been very effective competitors, with even our largest companies and our largest companies are, I believe, more constrained in their ability to combine their efforts with other large companies in this country.

Senator STEVENSON. Well, isn't that something we should be taking a hard look at?

Mr. WEIL. Yes. In fact, to my satisfaction, Attorney General Bell of the Justice Department made reference to this in his speech in December in New York. I believe the Justice Department has underway a review of this issue, in effect of the antitrust laws. We hope to participate in that evaluation. These are very amorphous issues, they are very hard to pin down. There is a lot of mythology on both sides. I think we all ought to be careful we don't fall into a trap. Businessmen often use problems like this as an excuse for their own shortcomings. But I would say as a matter of judgment that in this case, where there is smoke, there is fire.

I think it is an issue we should look at.

Senator STEVENSON. Well, I would then express the hope to you, and will independently to the Justice Department, that if there is a conclusion that something needs to be done, and that something includes congressional action, amendment to the antitrust laws or some other action, that the one body of the Government that can make such changes be informed.

Perhaps we ought to be included in this process before it reaches a conclusion.

My own tentative feeling is something needs to be done to enable us to compete effectively in the market, and we need new institutions that can do it on behalf of the little businessmen, as well as the big businessmen who can frequently do it on their own now.

Well, we have run too long. Are there further questions? Senator Heinz?

Senator HEINZ. The only other question I would just place on the record at this point, Mr. Chairman, and it is one that perhaps Mr. Weil or the Department could respond to at a later date, is the issue of whether we are making it more difficult to export our products than we are our technology, and what the implications of that may be. In view of the time that is involved, I don't seek to prolong the very helpful comment and discussion period we have had today.

Mr. WEIL. We will respond as you requested, and we can also cover some of that on March 9.

Senator STEVENSON. Yes; we will be having another hearing at that time. Senator Schmitt?

Senator SCHMITT. No; thank you.

Senator STEVENSON. Thank you very much. It was helpful, and we appreciate it, and stay in touch.

The next witnesses will testify as a panel. Dr. Michael Aho, from George Washington University; F. John Mathis, vice president and international economist, Continental Illinois National Bank & Trust Co. of Chicago; and George J. Stathakis, vice president, and general manager, International Trading Services, General Electric Co.

Gentlemen, I will ask you to summarize your statements, if you can, and your prepared statements will be placed in the record.

May we start with you, Dr. Aho.

STATEMENT OF C. MICHAEL AHO, DEPARTMENT OF ECONOMICS, GEORGE WASHINGTON UNIVERSITY, WASHINGTON, D.C.

Dr. AHO. Mr. Chairman, I appreciate the opportunity to be here today. I believe that the committee is performing an important function in focusing on the competitiveness of U.S. exports.

In the past, U.S. exports have not received the attention that imports have, even though export policy may be more important in the longer run.

[The statement read by Dr. Aho follows:]

STATEMENT BY C. MICHAEL AHO, ASSISTANT PROFESSOR OF ECONOMICS, GEORGE WASHINGTON UNIVERSITY

When the U.S. balance of trade deteriorated in the latter 1960s and early 1970s there was a good deal of discussion whether the U.S. was undergoing a secular decline in its comparative advantage. The technological lead which the U.S. enjoyed after WW II had narrowed. What had begun as imitation overseas gave way to the development of new products and processes Some analysis claimed that the U.S. secular decline would continue.

In the wake of the dollar devaluations that debate has been forgotten and U.S. deficits are explained as being cyclical or as being the result of large oil imports. From an historical perspective, however, it appears that the deficits may reflect a structural change in the pattern of U.S. exports.

The paper that a colleague, Richard Carney, and I have submitted for the record investigates whether U.S. comparative advantage is continuing its secular decline. It contains an analysis of recent changes in the structure of exports on a disaggregated level for nine countries. We conducted a constant market share analysis of changes in the structure and competitiveness at a disaggregated level, because only at that level can emerging changes in comparative advantage be identified. Since the U.S. has traditionally exported commodities

high in research and development intensity, the effects of a structural deterioration in those areas may not be realized nor could it be corrected in fewer than five to ten years.

Our empirical analysis reveals that price factors through changes in exchange rates and relative export prices cannot completely explain recent shifts in the pattern of trade. Structural, non-price factors must be advanced. This is consistent with the hypothesis of a secular decline and implies that exchange rate changes may not correct the underlying causes of recent shifts in trade.

Since the exchange rate realignments, the secular decline in U.S. export performance observed during the latter 1960s has tapered off when the U.S. is compared with the OECD as a whole. Even though the U.S. decline has been slowed, it has not been reversed. The U.S. has not regained its 1970 share of exports in most categories and over the 1970–76 period had the third worst record among the major OECD countries, behind the United Kingdom and Canada. Japan continues to outperform the U.S. despite the 17.1% appreciation of the yen on a trade-weighted basis and the 21.4% appreciation vis a vis the dollar. Germany maintained its 1970 share in spite of the 32.3% appreciation of the mark on a trade-weighted basis. However, the increases in share Germany achieved between 1970–73 have eroded since then. The country which has consistently had the worst performance, the United Kingdom, continued to lose ground even though the pound fell in value and her export prices adjusted for the depreciation were increasing less quickly than those of her competitors.

That is a capsule summary of the recent changes in trade patterns. The tables provided in the paper contain a significant amount of data but they are combersome and can overwhelm the reader. Let me take the opportunity to summarize some of the more important changes in the structure of exports in recent years and to point to the causes, as I see them.

One measure of the competitiveness of U.S. exports is to compare how well they fare relative to the exports of other countries in a given market overseas. Our analysis examined the exports of nine OECD countries to fourteen different partner regions.

Tables 1 and 2 compare the U.S. export performance of manufactured goods with that of Japan in the European Common Market, and with that of both Japan and Germany in the Middle East. The tables show, in millions of dollars, the deviations from constant share norms. The dollar figure represents the extent to which exports in a category exceeded (+) or fell short of (—) the amount needed to maintain a constant market share.

Manufacturing exports are broken down to the one-digit level to show chemicals, manufactured materials, machinery and transport equipment, and miscellaneous manufactures. The analysis covered three periods: 1965–70, 1970–73, and 1973–76. During each time period, the United States lost shares relative to Japan. The decline was most significant between 1970 and 1973 when the U.S. deviation was —$3.9 billion while Japan improved its share by $1 billion. For the whole period from 1970–76 the U.S. decline in share represented over $6 billion while the increase in Japan's share represented $2.2 billion. The decline in the U.S. share was smaller between 1973 and 1976, but the depreciation of the dollar did not enable the U.S. to recover its earlier share of total manufacturers exports. Over the whole period from 1970 to 1976 the largest losses for the United States were in exports to the European Common Market.

Table 2 compares the manufacturing exports of the U.S., Japan and Germany to the Middle East, which was by far the fastest growing import region between 1970 and 1976. OECD exports to the Middle East increased more than six-fold over the period. All three countries increased their shares of total manufacturing exports over the period but again the largest gains were made by Japan. Between 1973 and 1976, the increase in Japan's share represented over $2 billion. The increases were largest in the manufactured materials (steel) and the machinery and transport categories. Meanwhile, the United States expanded its share by approximately $1 billion which was larger than Germany's increase of $253 million. For the whole period from 1970 to 1976, U.S. exports registered their largest gains in the Middle East.

TABLE 1.—UNITED STATES AND JAPANESE MANUFACTURING EXPORTS TO THE COMMON MARKET: DEVIATIONS FROM CONSTANT-SHARE NORMS

[In millions of dollars]

Period and country	Chemicals (5)	Manufactured materials (6)	Machinery and transport (7)	Miscellaneous manufactured (8)	Total
1965–70:					
United States	−304	43	−99	−204	−564
Japan	29	77	402	16	524
1970–73:					
United States	−766	−985	−1,850	−302	−3,903
Japan	−85	−8	908	191	1,005
1973–76:					
United States	273	77	−554	96	−108
Japan	−75	−13	704	115	731
1970–76:					
United States	−1,020	−1,324	−3,320	−361	−6,025
Japan	−219	−23	2,060	404	2,224

Note: The dollar figure represents the extent to which exports in a category exceeded (+) or fell short (−) of the amount needed to maintain a constant share of the market over the period. A positive figure indicates that market share was increasing.

TABLE 2.—UNITED STATES, JAPANESE, AND GERMAN MANUFACTURING EXPORTS TO THE MIDDLE EAST: DEVIATIONS FROM CONSTANT-SHARE NORMS

[In millions of dollars]

Period and country	Chemicals	Manufactured materials	Machinery and transport	Miscellaneous manufactured	Total deviations
1965–70:					
United States	−6	−11	−136	6	−136
Japan	6	32	35	11	84
Germany	26	29	33	8	96
1970–73:					
United States	−29	−225	10	−42	−286
Japan	0	173	202	16	381
Germany	−6	20	64	14	92
1973–76:					
United States	−33	275	771	46	1,059
Japan	68	642	1,202	65	1,977
Germany	7	−51	367	−70	253
1970–76:					
United States	−29	148	585	−27	674
Japan	68	1,096	1,987	116	3,267
Germany	−4	3	616	−27	587

Note: The dollar figure represents the extent to which exports in a category exceeded (+) or fell short (−) of the amounts needed to maintain a constant share of the market. A positive figure indicates that market share was increasing.

One reason often given for the lagging performance of U.S. exports is increased protectionism overseas. Increased protectionism does not explain the superior performance of Japanese exports of manufactured goods to the European Common Market and the Middle East. In both of these markets, U.S. and Japanese exporters are on an equal footing, although the Arab boycott could hamper some U.S. exports to the Middle East.

These tables also suggest that cyclical factors cannot explain the superior performance of Japan's exports. In the period from 1973 to 1976 Japan outperformed the U.S. in manufacturing exports in 7 of the 12 partner countries our groups covered in our analysis.

Changes in the commodity structure of trade reveal more important results. According to theory, the commodity composition of a country's exports is determined by differences in factor endowments, defined broadly to include different skill categories of labor, and by international differences in technology.

Historically, both the United States' and the United Kingdom's exports have been characterized by their capital, skill and R&D intensity. However, both the United States and the United Kingdom allocate a smaller proportion of their respective GNP's to investment expenditure than Germany and Japan, for example. In the past ten to fifteen years they have also exhibited lower growth rates

of real investment. It is important to note that recent discussions on the decline of the U.K. industrial structure have focused on the outdated capital stock. Similar comments are heard today in the U.S. with respect to the steel industry.

At the same time their real investment expenditures have been lagging, research and development effort as a percentage of GNP has leveled off in the case of the United Kingdom and fallen in the case of the United States. All other leading OECD countries have increased the proportion of GNP spent on R&D. Since a nation's comparative advantage does not remain constant over time, these changes can be expected to affect trade patterns in the future.

In order to summarize recent trends in the commodity distribution of trade in R&D intensive commodities, we have constructed an aggregate of the R&D intensive commodities which include chemicals (SITC 5), machinery and transport equipment (SITC 7), scientific instruments (SITC 86), and miscellaneous manufactures (SITC 89). Combining the exports of these categories, we obtain a measure of technology-intensive exports. Although these categories are heterogenous, the level of research effort is higher in them than in other manufacturing industries, such as paper and pulp, leather, footwear and the metallurgic industries.

Figures 1 and 2 summarize two measures of recent changes in the pattern of technology-intensive exports for the U.S., the U.K., Japan and Germany. Figure 1 contains a plot of each country's share of total OECD exports of these commodities. The trends are striking. Between 1962 and 1970 the U.S. share declined from 27.6% to 21.7% and stood at 20.5% in 1976. Although the U.S. decline has slowed since the devaluation of the dollar, the U.K. has not been as fortunate. Between 1962 and 1970 the U.K.'s share decreased from 15.2% to 10%. The decline continued steadily after 1970 reaching a low of 8.3% in 1976.

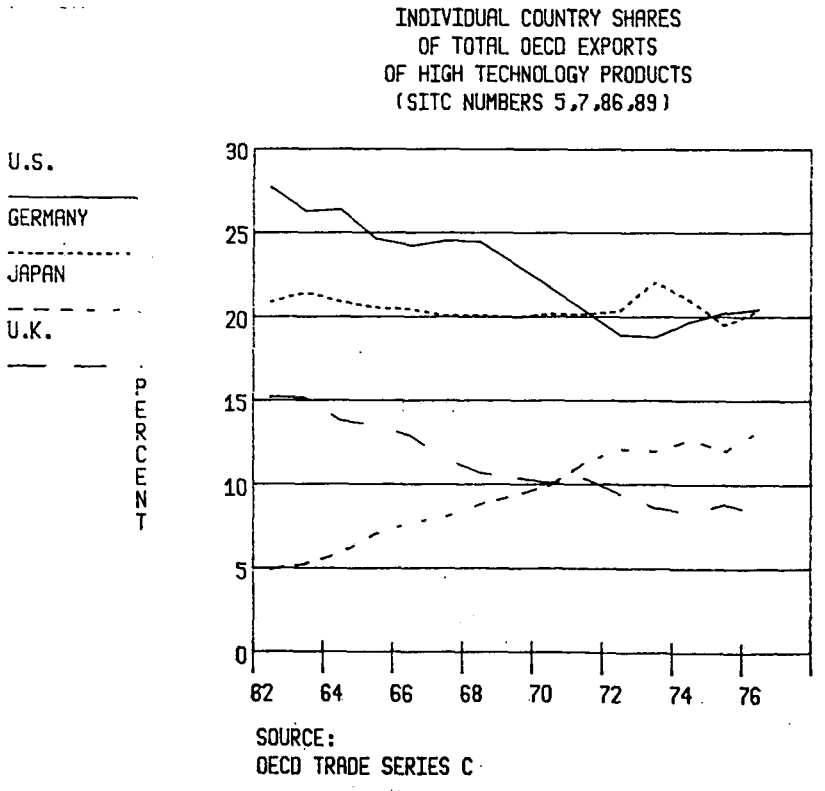


FIGURE 1

Meanwhile, the German share of technically sophisticated products has been remarkably stable. Japan's share, on the other hand, has gained steadily since 1962. Even with the price and cost changes that have been wrought by the exchange rate realignments, Japan increased its share from 9.9% in 1970 to 13.2% in 1976.

An alternative measure of export performance is to examine net exports in the R&D intensive industries. Figure 2 contains a plot of the ratio of exports to imports in the R&D intensive commodities for the same four countries.

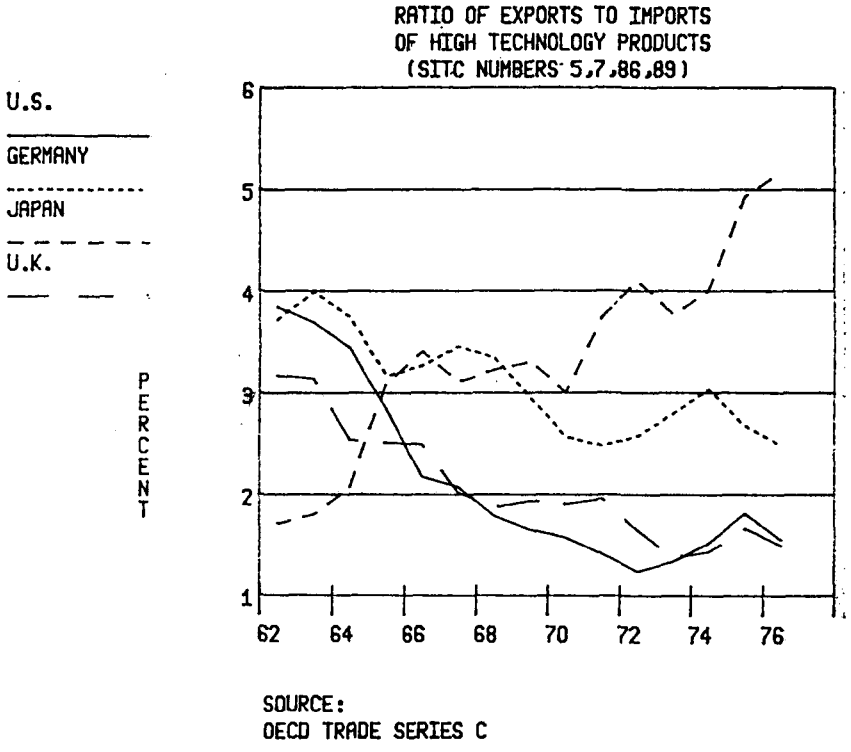


FIGURE 4

The U.S. ratio of exports to imports declined precipitously during the 1960s, falling from 3.84 in 1962 to 1.58 in 1970. Since 1970 the ratio fell and then rose again, suggesting that the U.S. is maintaining a net export surplus in R&D intensive commodities.

The depreciation of the dollar appears to have halted the deterioration in U.S. net exports of these commodities but it has not reversed the decline. The devaluation of the dollar should cause U.S. exports to rise while imports should look less attractive. Since the ratio was virtually the same in 1976 as in 1970 this implies that both exports and imports have continued to increase at the same rate.

Japan again exhibits the most dramatic change, as Japan's exports of R&D intensive commodities in 1976 were 5 times as large as her imports. In 1970 they were only 3 times as large. This suggests that Japan has been very successful in expanding her exports of these commodities relative to her imports. Germany's ratio is largely unchanged, while the decline in the U.K.'s ratio is consistent with the decline in her market share.

These changes in the pattern of technology-intensive exports cannot be explained on the basis of changes in relative prices. In many cases the price changes

would have implied the opposite. Take the case of the United Kingdom and Germany. A unit of exports from both countries costing $1 in 1970 could have been purchased in 1976 from the United Kingdom for $1.80 and for $1.94 from Germany. (These dollar figures account for the exchange rate changes and changes in export unit values.) As Figure 1 demonstrates this change in relative prices has not increased the U.K. share relative to that of Germany.

A unit of exports from Japan in 1976 would have cost $1.78. Although it is slightly less than the adjusted price for the U.K., it cannot account for the dramatic changes in shares since 1970. Factors other than price changes must have been involved.

The pattern is less pronounced for the U.S. but similar nonetheless. U.S. exports costing $1.00 in 1970 sold for $1.82 in 1976. During that period of time the U.S. share of technology-intensive commodities declined by 1.2% while the Japanese share increased by 3.3%. These results also hold for many of the more important subcategories of manufactures.

This analysis suggests that structural factors are, in part, responsible for the lagging U.S. export performance. Price and cyclical factors cannot explain recent changes in the pattern of U.S. exports. Our statistical analysis revealed that productivity factors were important in explaining changes in the pattern of exports, but we could not identify with certainty the factors contributing to differences in productivity increases. Differences in research and development effort, differences in real capital formation and the foreign investment activity of multinational corporations are all possibilities. Multinational corporations are a possibility because those firms which do the bulk of the U.S. direct investment abroad come from the R&D intensive industries.

If our results are correct, we can expect the U.S. export position to continue to deteriorate in the future. The causes of the secular decline are still present. R&D expenditures by U.S. firms have declined. U.S. productivity increases and the rate of growth of investment are below those overseas. The depreciation of the dollar has not significantly altered the volume or patern of U.S. foreign direct investment.

The smaller investment growth and declining R&D expenditures are important over the longer run because comparative advantage does not remain constant. Over time larger capital expenditures overseas in newer facilities will enhance the competitiveness of foreign firms. Increased R&D will enable them to develop newer products and processes with which U.S. firms will have to compete. Although depreciation of the dollar will make U.S. products look more attractive in world markets, not doing enough to lower costs and develop newer, higher quality products will sustain the decline and necessitate further depreciations. If the U.S. export performance is the result of a smaller volume of investment in capital and R&D, and these trends continue, the full effects will not be felt for a number of years.

There are lessons to be learned from the British experience. The decline of the United Kingdom as a manufacturing exporter is proof that exchange rate changes alone may not be sufficient to prevent such a decline. The U.S. must act now.

Policies need to be designed to enhance the compeitiveness of U.S. exports but export subsides are not the answer. American taxpayers do not want to subsidize corporations so that they can sell products overseas at lower prices or enjoy larger profits. Instead those subsidies should be directed toward increasing the productivity of American workers and enhancing the competitiveness of domestic industry. Increased productivity will enable U.S. industry to compete more effectively with foreign firms in the U.S. market and in foreign markets. Rather than only a relatively few corporations benefitting, as under the DISC export promotion program, the entire economy would benefit from subsidies for research and development by domestic industries. Through research U.S. firms can develop not only new and better products for domestic sale and export, but new processes as well. Process development may be even more important than product development in that the cost reductions realized by the innovating industry soon spillover to related industries and enhance the competitiveness and productivity of U.S. manufacturing as a whole.

In conclusion, I would like to add that the United States must start to pay more attention to the longer-term factors which affect comparative advantage as well as the vitality and resiliency of the economy. Unlike other countries, responsibility for international trade policy in the U.S. government is decentral-

ized. U.S. trade policy has almost always focused upon short-term problems with high visibility. Under these circumstances, longer-term assessments of the nation's comparative advantage are overlooked. The United States should begin to focus on these longer-term factors, particularly in the area of research and development.

TABLE 4.—DEVIATIONS FROM CONSTANT SHARE NORMS AT THE ONE-DIGIT SITC LEVEL 1965–75, 1965–77, AND 1970–75

[In millions of dollars]

1-digit SITC categories and period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada
Food (0):									
1965–70	−1,690	396	129	−57	239	−232	288	−346	−562
1970–73	3,301	561	−433	70	832	−446	179	−209	−312
1973–76	−2,258	−27	−411	−8	−920	89	−83	430	−264
1970–76	2,617	801	−1,050	96	307	−571	181	122	−724
Beverages and tobacco (1):									
1965–70	−93	11	−1	20	47	44	−8	26	19
1970–73	−222	66	−9	−224	421	120	42	56	−129
1973–76	164	104	45	−21	−356	19	14	34	−72
1970–76	−132	192	33	−320	207	180	70	108	−244
Materials (except fuels) (2):									
1965–70	−53	−23	−37	−27	−208	−95	−151	−31	44
1970–73	1,078	311	159	18	338	−1	27	209	−3
1973–76	−1,418	−100	−119	−175	−290	−39	−184	−135	−541
1970–76	155	354	114	−149	204	−40	−144	170	−546
Fuels (3):									
1965–70	−106	−297	−6	−185	−209	−35	−61	255	260
1970–73	−1,232	−123	5	4	72	44	71	818	642
1973–76	404	−976	−93	186	−116	−806	125	−589	−298
1970–76	−2,395	−1,255	−80	194	48	−706	287	1,270	1,159
Fats and oils (4):									
1965–70	−179	25	−15	−5	16	9	14	45	3
1970–73	−151	101	−7	4	50	11	18	31	−12
1973–76	6	42	−1	−3	7	4	26	0	12
1970–76	−205	184	−11	8	77	20	51	43	−5
Chemicals (5):									
1965–70	−613	254	223	−386	−103	−211	247	310	29
1970–73	−1,165	546	−92	−290	323	13	533	670	−270
1973–76	158	−1,088	−4	108	−514	20	91	195	170
1970–76	−1,803	−169	−158	−380	29	43	989	1,324	−285
Materials manufactured (6):									
1965–70	−514	657	616	−1,029	−390	−219	6	−38	−88
1970–73	−1,431	2,048	−366	−111	302	421	461	553	−1,746
1973–76	440	−1,390	2,687	−1,582	239	822	−2,489	−142	−313
1970–76	−1,682	1,646	2,144	−1,747	208	1,447	−1,805	678	−2,901
Machinery and transport (7):									
1965–70	−2,257	−729	2,519	−3,257	552	489	−117	−413	2,988
1970–73	−4,193	3,020	4,074	−2,497	918	−1,013	359	313	−1,739
1973–76	1,019	−4,791	5,179	−1,790	1,372	−383	43	−55	−1,171
1970–76	−5,979	250	11,977	−5,957	2,903	−2,073	642	468	−4,072
Miscellaneous manufactured articles (8):									
1965–70	−586	77	268	−218	−174	401	−11	78	91
1970–73	−650	442	−703	−294	614	−388	216	213	−41
1973–76	491	−360	90	−42	−537	708	−327	−43	−16
1970–76	−494	310	−975	−488	394	120	−1	280	−78
Not classified (9):									
1965–70	−6	131	79	−124	−36	102	24	−18	37
1970–73	−246	62	169	25	−49	2	80	−20	−64
1973–76	490	177	6	−338	−25	84	361	−19	30
1970–76	−914	283	299	−295	−110	88	499	−54	−81
Total exports:									
1965–70	−7,123	1,246	3,757	−5,091	−772	−25	−1,412	−5	1,734
1970–73	−4,933	7,087	2,673	−3,461	4,066	−1,056	1,780	3,075	−4,045
1973–76	−1,723	−6,997	7,280	−2,499	−2,379	−1,056	−3,006	874	−1,933
1970–76	−9,601	4,319	11,526	−9,025	4,113	−878	−164	5,785	−8,392

Note: Derivation as described in the text.

TABLE 5.—DEVIATIONS FROM CONSTANT-SHARE NORMS FOR MANUFACTURING EXPORTS, BY TRADING PARTNERS: 1970–73, 1973–76 AND 1970–76

[In millions of dollars]

Partner and period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada
United States:									
1970–73		475	−7	296	132	−209	168	84	−1,325
1973–76		−2,356	2,945	−614	177	−120	−555	−163	928
1970–76		−1,663	2,996	−219	364	−386	−323	−24	−1,003
Canada:									
1970–73	46	29	11	−149	37	1	23	−26	-------
1973–76	582	−103	55	−387	−42	11	−34	−37	-------
1970–76	649	−59	74	−609	14	12	0	−76	-------
Japan:									
1970–73	−157	121	-------	−31	89	51	32	4	−76
1973–76	88	−152	-------	−66	−32	1	−65	−18	−11
1970–76	−97	−19	-------	−105	68	59	−32	−15	−91
Australia, New Zealand, South Africa:									
1970–73	−36	237	560	−361	−20	15	47	−4	−152
1973–76	340	−333	311	−720	106	−91	−21	−60	50
1970–76	261	41	1,189	−1,293	70	−69	46	−68	−175
EEC–9:									
1970–73	−3,902	1,943	1,006	−670	1,180	−612	549	850	−941
1973–76	−108	−1,733	732	1,050	−835	988	−541	−940	−305
1970–76	−6,025	1,141	2,224	53	948	37	338	375	−1,676
Other developed Europe:									
1970–73	−550	304	204	−192	181	−71	16	198	−34
1973–76	188	−399	330	−302	−143	167	41	−177	−13
1970–76	−625	61	635	−623	133	60	72	118	−62
Developing Europe:									
1970–73	−462	129	−9	−293	209	40	35	78	−39
1973–76	169	24	333	−125	−122	80	−68	−128	−13
1970–76	−498	212	318	−547	179	140	−16	−13	−71
Eastern Europe:									
1970–73	36	1,154	−40	−386	−55	−480	114	62	−12
1973–76	310	−1,236	1,202	−411	111	−289	−152	−132	−1
1970–76	379	864	1,144	−1,102	3	−1,244	41	−23	−24
Africa:									
1970–73	−237	122	428	−422	5	−68	−55	27	6
1973–76	171	−41	−176	230	407	14	−26	79	43
1970–76	−268	183	636	−555	403	−114	−130	125	53
Caribbean:									
1970–73	−43	76	450	−173	−109	−123	5	−26	−68
1973 76	19	−260	229	−108	23	−45	−28	−72	22
1970–76	−65	−127	1,055	−416	−182	−263	−26	−123	−94
South America:									
1970–73	−559	126	479	−119	139	−37	47	57	−191
1973–76	704	−496	18	−113	−137	51	−112	−193	222
1970–76	−239	−274	796	−317	120	−7	−35	−98	−96
Middle East:									
1970–73	−117	92	391	−248	−392	125	51	37	35
1973–76	1,058	255	1,977	−1,319	−1,468	−244	−570	−167	59
1970–76	677	587	3,267	−2,171	−2,624	117	−464	−65	185
Central Asia and Far East:									
1970–73	−287	54	931	−298	70	−128	−19	12	−94
1973–76	164	−203	−10	−649	439	−93	118	−108	−27
1970–76	−234	−142	1,418	−1,122	548	−299	90	−94	−177
Other:									
1970–73	128	−5	−210	175	21	8	4	−1	0
1973–76	−1,580	789	−100	−1,904	−387	−93	−11	2,482	−3
1970–76	−1,355	788	−805	−866	−181	−34	3	2,485	−1

TABLE 6.—CONSTANT-MARKET-SHARE ANALYSIS OF TOTAL EXPORTS OF SELECTED OECD COUNTRIES: 1965-70 1970-73, 1973-76 AND 1970-76

[Percentage]

Country and period	Change in exports due to:			
	Increase in World Trade	Commodity Composition	Market Distribution	Increased Competitiveness (Residuals)
United States:				
1965-70	145.7	−6.6	−6.0	−33.1
1970-73	177.8	−.1	−7.6	−10.1
1973-76	104.3	−.6	2.2	−5.9
1970-76	114.2	1.8	−5.4	−10.6
Germany:				
1965-70	92.4	4.5	3.2	−.1
1970-73	78.7	.2	4.8	16.3
1973-76	121.0	4.3	−4.0	−21.3
1970-76	93.5	2.6	1.9	2.0
Japan:				
1965-70	65.4	.1	−1.4	35.8
1970-73	84.7	−.7	−7.2	23.2
1973-76	75.1	−.4	.2	25.0
1970-76	75.3	−1.6	−4.5	30.8
United Kingdom:				
1965-70	184.3	2.9	−19.2	−68.1
1970-73	130.7	−1.5	−5.4	−23.8
1973-76	123.8	1.1	13.8	−38.6
1970-76	134.7	0	2.8	−37.6
France:				
1965-70	109.9	−6.5	−3.0	−.5
1970-73	76.9	1.4	4.6	17.0
1973-76	112.7	−4.1	11.2	−19.9
1970-76	88.7	−.4	11.0	.8
Italy:				
1965-70	100.3	−1.2	2.2	−1.3
1970-73	111.7	2.0	7.3	−21.0
1973-76	94.3	2.1	5.5	−1.9
1970-76	103.8	2.6	7.2	−13.6
Belgium-Luxembourg:				
1965-70	102.7	1.9	−1.4	−3.2
1970-73	83.3	−1.9	6.0	12.6
1973-76	129.2	−5.7	−5.3	−18.3
1970-76	100.8	−4.4	2.5	1.2
Netherlands:				
1965-70	100.1	−10.4	6.6	3.7
1970-73	74.5	3.6	4.1	17.7
1973-76	94.2	7.9	−2.6	.4
1970-76	78.7	5.1	1.8	14.4
Canada:				
1965-70	80.1	−12.4	11.2	21.2
1970-73	146.9	−4.3	−6.1	−36.5
1973-76	114.8	4.0	−24.2	5.4
1970-76	138.6	−2.8	−19.5	−16.3

Source: Export data taken from "OECD Trade Series C." Derivation as described in the text. The various effects are normalized by the actual increase in the country's exports over the period.

TABLE 7.—CONSTANT-MARKET-SHARE ANALYSIS OF MANUFACTURING (SITC 5, 6, 7, 8) EXPORTS OF SELECTED OECD COUNTRIES: 1965–70, 1970–76, 1970–73, AND 1973–76

[Percentage]

Country and period	Change in exports due to:			
	Increase in world trade	Commodity composition	Market distribution	Increased competitiveness (residual)
United States:				
1965–70	127.1	5.7	−16.5	−16.4
1970–73	145.9	2.5	−8.5	−39.9
1973–76	88.8	4.2	0	7.0
1970–76	117.3	4.5	−5.5	−16.3
Germany:				
1965–70	95.8	2.4	5.3	−3.5
1970–73	79.0	.6	4.0	16.4
1973–76	123.9	2.3	−4.8	−21.4
1970–76	94.9	1.6	.8	2.7
Japan:				
1965–70	66.9	−2.0	−1.9	37.0
1970–73	83.2	−.7	−7.7	25.2
1973–76	72.6	−.4	.4	27.3
1970–76	72.8	−1.5	4.3	33.0
United Kingdom:				
1965–70	192.4	2.3	−16.3	−78.5
1970–73	132.2	.2	−3.5	−30.9
1973–76	128.3	−.7	17.8	−45.4
1970–76	139.8	.5	6.2	−46.5
France:				
1965–70	104.0	−2.1	−2.1	.3
1970–73	83.0	−.2	5.4	11.9
1973–76	100.0	.5	11.7	−12.2
1970–76	87.9	−.5	13.1	−.5
Italy:				
1965–70	91.0	.6	3.8	4.7
1970–73	112.4	.4	6.9	−19.8
1973–76	92.5	−2.1	7.7	2.0
1970–76	103.0	−.6	7.8	−10.2
Belgium-Luxembourg:				
1965–70	105.0	−8.1	9.5	−6.5
1970–73	84.5	−2.6	6.4	11.7
1973–76	144.8	−9.4	−8.6	−26.8
1970–76	107.6	−6.6	1.5	−2.6
Netherlands:				
1965–70	103.6	−1.6	7.0	−9.1
1970–73	74.7	0	5.7	19.5
1973–76	100.8	−.3	−5.1	4.5
1970–76	81.9	−.1	1.6	16.6
Canada:				
1965–70	55.0	−4.0	15.2	33.9
1970–73	203.2	−1.7	−24.2	−77.3
1973–76	118.6	.7	−32.9	13.7
1970–76	170.0	−1.1	−38.6	−30.2

Source: Export data taken from OECD Trade Series C. Derivation as described in the text. The various effects are normalized by the actual increase in the country's manufactured exports over the period.

TABLE 8.—COMPETITIVE RESIDUALS FROM CONSTANT-MARKET-SHARE ANALYSIS, MANUFACTURING AND TOTAL EXPORTS

[In millions of dollars]

Period and category	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada
1965–70:									
Manufacturing exports	−1,977	−516	3,825	−4,051	19	255	−286	−284	2,083
Total exports	−5,163	−18	3,895	−4,107	−39	−81	−166	200	1,790
1970–73:									
Manufacturing exports	−6,140	4,857	4,192	−2,871	1,485	−1,487	1,016	1,354	−2,892
Total exports	−2,805	5,431	4,050	−2,686	3,004	−1,897	1,345	2,137	−3,150
1973–76:									
Manufacturing exports	2,104	−6,245	7,847	−5,439	−1,903	236	−2,028	368	949
Total exports	−2,387	−7,066	7,312	−5,690	−3,719	−265	−1,879	64	710
1970–76:									
Manufacturing eports	−7,440	1,575	14,948	−9,890	−139	−1,991	−426	2,506	−3,223
Total exports	−7,190	1,320	14,374	−9,769	0	−3,155	252	3,916	−3,539

TABLE 1.—OECD COUNTRY EXPORT TRADE SHARES[1] BY 1-DIGIT SITC CATEGORIES, 1965, 1970, 1973, AND 1976

[In percentage shares]

SITC category and year	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada	Other OECD
Food (0):										
1965	30.14	2.80	2.51	3.26	9.74	5.77	2.92	11.22	10.78	20.86
1970	21.71	4.77	3.15	2.98	10.94	4.61	4.36	12.95	7.99	26.54
1973	30.02	6.18	2.06	3.16	13.03	3.49	4.81	12.42	7.20	17.63
1976	26.17	6.13	1.36	3.15	11.46	3.64	4.67	13.15	6.75	23.52
Beverages and tobacco (1):										
1965	24.58	3.05	.53	19.06	14.57	3.98	2.02	3.72	6.91	21.58
1970	21.71	3.40	.49	19.68	16.02	5.34	1.79	4.33	7.51	19.73
1973	17.80	4.56	.32	15.73	23.46	7.47	2.53	5.31	5.23	17.59
1976	19.97	5.93	.92	15.46	18.76	7.72	2.71	5.76	4.29	18.48
Materials (except fuels) (6):										
1965	26.41	4.79	2.06	3.74	6.63	2.19	3.69	4.60	20.87	25.02
1970	26.11	4.66	1.85	3.59	5.44	1.66	2.83	4.43	20.62	28.81
1973	29.97	5.77	2.42	3.65	6.65	1.65	2.93	5.17	20.67	21.12
1976	26.49	5.53	2.13	3.22	5.94	1.56	2.48	4.84	19.28	28.53
Fuels (3):										
1965	22.63	17.41	.75	8.93	7.79	9.38	4.95	13.33	9.86	5.00
1970	21.23	13.46	.63	6.61	5.01	8.91	4.12	16.72	13.33	9.98
1973	12.22	12.56	.67	6.64	5.54	9.23	4.65	22.71	18.02	7.76
1976	13.52	9.42	.37	7.23	5.16	6.64	5.05	20.81	17.06	14.74
Fats and oils (4):										
1965	54.07	6.92	3.28	2.15	3.33	1.60	1.85	6.44	2.37	17.99
1970	39.67	8.94	2.07	1.79	4.66	2.28	2.95	10.10	2.59	24.95
1973	32.51	13.75	1.72	1.99	7.03	2.83	3.78	11.56	2.02	22.81
1976	32.72	15.16	1.69	2.08	7.28	2.95	4.67	11.56	2.43	19.46

Chemicals (5):										
1965	22.91	19.82	5.22	11.73	9.67	5.77	3.76	6.23	2.77	12.12
1970	19.75	21.13	6.37	9.74	9.14	4.68	5.08	7.83	2.92	13.36
1973	16.42	22.69	6.11	8.91	10.06	4.72	6.61	9.75	2.15	12.58
1976	15.69	20.84	6.10	9.09	9.19	4.75	6.76	10.08	2.44	14.06
Materials manufactured (6):										
1965	11.08	13.56	11.64	11.53	9.48	5.85	10.37	4.28	7.57	14.64
1970	10.06	14.87	12.87	9.49	8.71	5.41	10.38	4.20	7.40	16.61
1973	8.39	17.27	12.44	9.36	9.06	5.91	10.92	4.85	5.35	16.45
1976	8.74	16.17	14.56	8.11	8.87	6.56	8.95	4.74	5.11	18.19
Machinery and transport (7):										
1965	25.64	21.17	6.77	14.24	6.77	5.58	3.29	3.46	3.04	10.40
1970	22.77	20.24	9.97	10.09	7.47	6.20	3.14	2.94	6.85	10.33
1973	19.79	22.39	12.87	8.32	8.12	5.48	3.40	3.16	5.61	10.86
1976	20.23	20.35	15.07	7.55	8.70	5.32	3.41	3.14	5.11	11.12
Miscellaneous manufactured articles (8):										
1965	16.22	15.82	11.74	10.05	8.86	11.13	4.80	3.91	.99	16.48
1970	13.23	16.21	13.11	8.94	7.97	13.18	4.74	4.30	1.45	16.87
1973	11.37	17.48	11.09	8.09	9.74	12.07	5.36	4.92	1.33	18.55
1976	12.30	16.80	11.26	8.01	8.72	13.41	4.74	4.83	1.30	18.63
Not classified (9):										
1965	43.87	11.61	2.28	19.78	2.50	4.12	5.93	2.96	1.87	5.08
1970	43.67	15.51	4.59	15.96	1.43	1.90	6.64	2.44	2.96	5.72
1973	38.49	16.80	8.15	16.48	.40	1.12	8.33	2.01	1.62	6.60
1976	32.53	18.96	8.23	12.37	.09	2.15	12.72	1.78	1.98	9.19
Total exports:										
1965	22.50	14.91	7.04	11.02	8.37	5.99	5.32	5.32	6.76	12.77
1970	19.28	15.48	8.74	8.72	8.03	5.98	5.26	5.33	7.50	16.58
1973	18.01	17.29	9.43	7.83	9.07	5.71	5.71	6.11	6.46	14.38
1976	17.74	16.17	10.60	7.27	8.69	5.84	5.23	6.26	6.15	16.05

[1] Country share of OECD exports of the commodity to the world.

Source: Derived from OECD Trade Series C

TABLE 10.—EXPORT TRADE SHARES SELECTED MANUFACTURING INDUSTRIES: 1965, 1970, 1973, AND 1976 [1]

[Percentage shares]

SITC category and year	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada	Other OECD
Chemical elements (51):										
1965	27.81	18.76	6.97	8.56	9.44	6.33	2.55	5.39	3.59	10.60
1970	25.00	18.63	8.14	6.85	9.35	4.64	5.25	7.52	3.53	11.09
1973	20.18	20.17	7.31	7.72	10.23	4.29	7.15	10.09	2.58	10.28
1976	19.81	18.78	7.60	8.39	8.22	4.26	6.52	10.44	2.97	13.02
Medical and pharmaceutical (54):										
1965	20.65	15.45	2.18	15.10	11.11	4.91	2.35	5.47	1.21	21.56
1970	16.86	19.69	2.46	13.45	9.22	6.07	3.31	5.65	1.37	21.81
1973	14.60	19.95	2.33	12.65	10.16	6.11	4.66	6.18	1.13	22.23
1976	15.23	18.32	2.21	12.39	9.35	6.39	5.09	6.19	.90	23.93
Plastic materials (58):										
1965	23.88	22.38	6.65	12.75	7.14	8.52	3.03	6.63	1.20	7.81
1970	16.72	24.49	10.92	8.84	7.32	6.35	5.73	10.86	.80	7.98
1973	13.23	26.33	8.32	7.11	8.65	7.16	7.62	12.80	.69	8.09
1976	12.78	24.38	8.20	7.19	8.85	7.10	8.26	13.19	.54	9.52
Miscellaneous chemicals (59):										
1965	26.47	21.50	1.80	16.06	9.52	2.89	2.27	8.07	1.43	9.99
1970	23.52	23.17	2.44	11.92	9.31	3.31	3.25	8.12	1.67	13.29
1973	19.09	24.55	3.06	11.78	9.92	3.23	5.37	9.81	1.19	12.00
1976	20.31	23.21	3.95	10.89	9.75	3.44	5.64	9.41	1.01	12.38
Iron and steel (67):										
1965	8.16	18.42	16.65	8.51	12.49	4.75	14.83	3.15	2.76	10.28
1970	9.09	18.12	20.37	5.98	11.15	3.23	13.97	3.45	3.01	11.62
1973	5.49	20.98	22.32	4.49	10.36	4.28	14.69	4.18	2.07	11.14
1976	5.11	17.95	28.00	3.96	10.15	5.77	10.56	3.51	2.35	12.63
Nonferrous metals (68):										
1965	13.97	9.81	3.08	11.89	6.04	2.72	12.79	3.26	21.96	14.48
1970	12.74	9.62	3.27	11.12	5.02	1.82	12.97	2.62	20.71	20.12
1973	10.37	13.14	3.02	12.94	5.96	1.90	13.62	3.98	16.26	18.81
1976	8.65	13.91	4.72	9.59	6.01	2.35	10.73	5.38	14.75	23.91

Miscellaneous metal manufacturers (69):										
1965	17.13	21.77	9.26	13.49	7.56	7.00	5.21	3.79	2.19	12.60
1970	12.87	20.96	12.34	10.81	8.17	7.73	5.03	4.10	2.84	15.16
1973	11.46	22.68	12.42	8.57	8.65	7.22	5.76	4.95	2.60	15.69
1976	12.20	19.91	11.84	8.22	10.04	8.09	5.07	5.14	2.60	16.90
Machinery (nonelectrical) (71):										
1965	28.54	22.42	3.50	14.82	6.00	5.91	2.40	2.20	2.77	11.44
1970	25.01	22.87	6.02	11.82	6.75	7.49	2.29	2.42	3.74	11.60
1973	21.41	25.92	7.64	10.47	7.56	6.48	2.44	2.75	3.33	12.00
1976	23.35	23.58	8.09	9.51	8.22	6.37	2.46	2.70	3.29	12.44
Electrical machinery (72):										
1965	21.67	19.31	9.91	12.08	6.83	5.60	3.37	8.10	2.37	10.36
1970	19.18	18.84	15.25	8.89	6.98	6.38	3.03	6.21	3.49	11.76
1973	17.79	20.98	16.58	7.00	7.72	5.76	3.40	5.93	2.25	12.59
1976	18.43	18.86	19.33	7.20	7.96	5.19	3.29	5.35	1.71	12.69
Transport equipment (73):										
1965	21.98	21.41	9.16	15.17	7.77	5.30	4.39	2.48	5.67	8.68
1970	20.49	18.44	11.91	8.89	8.73	4.74	4.16	1.79	12.39	8.46
1973	19.17	19.54	16.27	6.81	8.89	4.32	4.36	2.17	9.61	8.86
1976	18.07	17.93	19.76	5.80	9.58	4.33	4.43	2.40	8.72	8.98
Scientific and instruments (86):										
1965	23.21	20.15	9.21	10.33	5.79	3.51	3.86	2.11	.52	21.31
1970	21.61	19.86	12.85	9.52	6.27	3.81	3.29	3.60	.77	18.42
1973	18.40	20.56	14.80	9.08	6.74	3.35	3.29	5.03	.73	18.02
1976	19.67	18.39	18.69	7.57	6.70	3.04	3.40	5.47	.98	16.09
Miscellaneous manufactures (89):										
1965	18.70	16.05	13.28	12.62	9.09	7.97	3.89	4.69	1.17	12.53
1970	15.49	16.71	17.52	10.57	7.60	8.92	4.13	4.68	1.52	12.86
1973	13.97	17.57	15.88	10.28	9.25	8.14	4.18	4.74	1.41	14.58
1976	14.58	16.70	14.36	10.46	8.86	9.58	3.89	4.69	1.71	15.16

[1] Country share of OECD exports of the commodity to the world.

Source: Basic export data from "OECD Trade Series C."

APPENDIX TABLE 2.—DEVIATIONS FROM CONSTANT-SHARE NORMS FOR TOTAL EXPORTS, BY TRADING PARTNERS: 1970–73, 1973–76, AND 1970–76

[In millions of dollars]

Partner and period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada
United States:									
1970–73		534	105	236	206	−212	191	47	−1,208
1973–76		−2,405	2,746	−562	163	−284	−573	−212	971
1970–76		−1,620	2,970	−240	443	−563	−302	−159	−874
Canada:									
1970–73	101	32	29	−149	49	7	24	−20	-------
1973–76	412	−103	34	−376	−46	11	−34	−39	-------
1970–76	580	−55	84	−599	29	20	2	−68	-------
Japan:									
1970–73	741	125	-------	3	130	49	33	−18	520
1973–76	−2,766	−145	-------	−146	−106	−5	−52	−28	−727
1970–76	−1,514	−2	-------	−133	58	53	−17	−71	506
Australia, New Zealand, South Africa:									
1970–73	2	243	597	−373	−18	28	43	−3	−173
1973–76	176	−349	273	−670	104	−106	−27	−71	74
1970–76	265	50	1,205	−1,259	69	−45	32	−80	−181
EEC-9:									
1970–73	−3,985	2,351	903	508	2,103	−768	779	1,695	−1,521
1973–76	38	−2,301	655	1,660	−1,883	681	−378	−641	−35
1970–76	−6,281	909	2,005	912	1,168	−574	869	245	−2,244
Other developed Europe:									
1970–73	−680	403	216	−204	366	−100	19	185	−113
1973–76	165	−314	304	−313	−223	97	12	−188	−85
1970–76	−829	254	62	−654	333	−50	55	88	−242
Developing Europe:									
1970–73	−352	102	−17	−274	192	13	47	122	−68
1973–76	281	28	317	−141	−112	103	−93	−249	4
1970–76	−288	138	293	−514	176	131	−12	−31	−96
Eastern Europe:									
1970–73	968	1,105	−52	−411	9	−601	128	45	−79
1973–76	155	−1,611	1,258	−443	2	−400	−189	−255	137
1970–76	1,665	407	1,181	−1,174	−5	−1,445	37	−169	9
Africa:									
1970–73	−207	125	438	−429	91	−82	−41	24	7
1973–76	145	−18	−180	259	310	19	−40	98	36
1970–76	252	291	649	−526	441	−141	−123	146	48
Caribbean:									
1970–73	46	83	460	−182	−106	−128	12	−50	−120
1973–76	−37	−266	226	−112	21	−31	−42	−87	121
1970–76	−7	−124	1,064	−431	−179	−257	−30	−170	−61
South America:									
1970–73	−466	140	483	−136	130	−16	59	46	−236
1973–76	593	−480	22	−81	−131	16	−115	−190	353
1970–76	−277	−227	813	−307	117	−1	−21	−111	−17
Middle East:									
1970–73	−15	110	400	−255	−264	65	81	52	−81
1973–76	926	250	1,991	−1,151	−1,863	−257	−510	−263	43
1970–76	766	614	3,313	−2,015	−2,780	1	−348	−142	−76
Central Asia and Far East:									
1970–73	438	67	904	−338	108	−156	−25	−13	−76
1973–76	−690	−249	−253	−593	450	−89	110	−130	−175
Other:									
1970–76	−225	−167	1,214	−1,114	600	−332	63	−147	−302
1970–73	605	10	−415	335	9	5	−6	25	−2
1973–76	−1,784	898	−81	−3,020	−403	−18	51	2,319	−6
1970–76	−714	926	−1,045	−1,712	−20	49	47	2,377	−6

Senator STEVENSON. Thank you, Dr. Aho, for a very impressive statement. I would like to give it wider circulation. I might send it to Mr. Weil.

Senator SCHMITT. Mr. Chairman, I would say that is a very impressive statement.

Senator STEVENSON. We are both on the subcommittee I referred to earlier; as a matter of fact, the chairman and the ranking member of the Subcommittee on Science and Technology and Space, which is taking a hard look at industrial R. & D., the level of investment in the

United States in research and development of the technology. This will be useful to that subcommittee as well.

Mr. Mathis.

STATEMENT OF F. JOHN MATHIS, VICE PRESIDENT, CONTINENTAL ILLINOIS NATIONAL BANK, CHICAGO

Mr. MATHIS. I want to thank you for giving me the opportunity to address you today.

What I would like to do is very briefly summarize my presentation and emphasize several key points, as well as introducing an additional proposal that could contribute to improving the U.S. balance of payments.

I would like to emphasize my paper is taking a broader perspective of a dynamic problem. From this standpoint, the U.S. share of world output is shrinking and probably will continue to shrink. The U.S. share of world trade is also shrinking as measured from an export-import standpoint of goods in particular, and that probably also will continue.

Partly this is due to a more rapid growth in many of the other countries of the world, particularly the developing countries, and this is probably going to continue as they go through their industrialization period. They depend heavily on exports to grow, again, because of the underdeveloped nature of their domestic economies. They do not have a high-income middle class that can provide them with a large domestic market in which to sell their goods, and therefore, to produce efficiently, they must export.

The trade imbalance in the United States is partly due to foreign economies being at a different phase of the business cycle than the U.S. economy, and therefore it is very important for the United States to determine if it is more concerned with a short-term or a long-term perspective as to U.S. export growth.

Export growth will recover naturally as economic activity becomes stronger in foreign countries. The reason the United States has such a large deficit is because the United States has performed better in the recovery period since 1973, than other economies.

With foreign demand weak, price changes such as occur through devaluation may not be effective in stimulating export growth. From a longer term perspective, price changes can have a significant impact, but the impact varies significantly among commodities.

For example, since 1960, the United States has experienced a growing trade deficit in steel, textiles, clothing, footwear, consumer electronics, and to some extent motor vehicles. For these products, a slowdown in U.S. inflation and wage increases, expanding labor productivity and depreciation of the dollar, would have the greatest impact in terms of expanding exports.

Factors such as increasing the minimum wage rate, or comparatively larger Government tax burdens or more restrictive pollution regulations, tend to raise costs and prices which hit hardest these industries and therefore cuts into U.S. export growth.

Also, U.S. firms have raised their prices in line with the devaluation of the dollar, and this to some extent has offset the improved competitiveness that might have occurred.

In contrast, since 1960, the United States has experienced an improving trade surplus trend, for military goods, commercial aircraft and parts, computers and parts, and nonelectric machinery, as well as basic chemicals and compounds. Government tax incentives, particularly as they encourage investment in export industries, would be beneficial in expanding exports in this area. Price changes may not always be effective in expanding U.S. export earnings in these products. Certain high quality products, such as aircraft, computers, high technology machinery, can only be purchased from the United States, and therefore price changes do not have a significant impact in increasing export earnings, and in fact may actually decrease export earnings. An example of this might be the export of the Boeing 747. There is ony one Boeing 747; it is only produced in one place.

Agricultural exports is another area in which the United States has a comparative advantage. Here also, price may not be a key factor in expanding exports, but rather the reduction of trade barriers against U.S. agricultural exports by Japan and Europe.

Emphasis in trade negotiations has been on reducing tariff barriers to manufactured goods, but increased attention and leverage should be used to convince countries such as Europe and Japan to lower the barriers against agricultural goods.

Expanding financial support for increasing agricultural exports to developing countries, Eastern Europe, U.S.S.R., and China would be a beneficial avenue for the support or expansion of agricultural exports.

In this repect, because of Government trade barter arrangements that many countries in Europe are using, the United States should investigate the establishment of similar barter arrangements. I realize there is a great deal of difficulty in this regard because of the nature of our economy. In setting up such barter arrangements, perhaps it would have to be done on an action basis, with U.S. private industry bidding for certain parts of a barter deal arranged by the Government. This would be an exchange of U.S. food for foreign materials.

Focusing on geographical trade, there are several major market trends.

Briefly, the most promising area of growth for U.S. exports is the developing economies. Since most world trade is between major industrial countries, as developing economies become more industrialized, the goods they need are exactly the type of products the United States produces.

From that standpoint, any financial assistance that the United States can provide developing countries, to enhance their development process, whether the assistance be provided through Eximbank or through the World Bank or IMF, result in a significant expansion of U.S. exports to this area.

The United States is faced with a problem of prioritizing alternative methods of increasing exports. There are some categories that have grown very rapidly, military goods, but our priorities do not allow us to support military exports very strongly.

Another alernative would be to increase the financial aspects of encouraging exports, and perhaps this would have the second largest dollar impact.

A third alternative involves a broader perspective of U.S. exports. It is in this respect that the United States does have a very strong and growing technological advantage.

I mentioned that we need a broad perspective earlier. I don't think we should only focus on U.S. exports of goods, which we have done so far, but also on services and capital.

From that standpoint, historical data show that the United States has experienced a very rapid growth in export earnings from services as well as capital, faster than the average growth of export of goods.

As a mature economy, one that has gone through its industrialization process, we do have an advantage in having capital as one of our strongest resources, as well as having one of the most efficient and largest money and capital markets in the world.

To some extent, Government regulation and restrictions have pushed part of this market outside of the United States, and we have lost the benefits as a result. We are well aware of the Eurocurrency market, the capital markets in Nassau, the Bahamas, Singapore, and Hong Kong. A proposal which was not mentioned in my written statement would be to return these private capital money markets to the United States, and also benefit from the associated services, interest income, and employment effects that would result. There would also be some benefit in terms of export promotion incentive, as the cost of financing exports from the private sector might be reduced somewhat.

The establishment of a financial free trade area, similar to the free zones that exist for exports of goods and services, at the major ports in the United States, in the West, the South, Midwest, and East, may provide some additional support to exports by reducing banks' trade funding costs, but more importantly, would generate jobs and interest income or at least interest savings in the U.S. balance of payments.

These financial free trade facilities would operate free of taxes, Federal or State taxes, which is no different from the way they exist now in Nassau or in London. They would be free of Federal Reserve requirements, and again, this is no different from the way they exist right now. It would apply only to foreign deposits, and foreign loans, not domestic loans or deposits, and therefore it would not change the existing financial structure of domestic banking.

Potential sizable shifts of funds from the Eurodollar market or Nassau banks alone could have a very sizable impact immediately on capital account of the U.S. balance of payments.

Thank you.

[The complete statement of Mr. Mathis follows:]

STATEMENT BY F. JOHN MATHIS, VICE PRESIDENT, CONTINENTAL ILLINOIS NATIONAL BANK, CHICAGO

I am pleased to appear before this subcommittee to discuss U.S. export performance and competitiveness. The issue of export performance should be addressed within the context of the overall balance-of-payments position as well as from a long-term perspective. Policy decisions based on movements in specific categories of the balance-of-payments over a short period of time may not yield the results desired. The U.S. has been in a phase of the business cycle which normally results in a deterioration in the U.S. trade balance as import growth increases with the pace of economic activity. The deterioration in the U.S. trade position during the past year has been aggravated by the weaker economic growth experienced by our major trading partners. Thus, from a longer term

perspective improvements in the pace of economic activity in our major trading partners will, as a matter of course, result in increased purchases of U.S. products and a reduction in the U.S. trade deficit. Measures which restrict imports into the U.S. in order to reduce the trade deficit run the risk of further delaying the normal revival in foreign demand for U.S. products. In this respect, the U.S. efforts to encourage countries with low rates of inflation and without balance-of-payments deficit problems to stimulate their economies is most appropriate.

Within a broader balance-of-payments context the U.S. is an exporter not only of goods but also services and capital. More mature economies, which have passed through their industrial revolution, seem to experience a shift in competitive advantage from the export of specific products to the export of services and capital account income. In the case of the United States between 1960 and 1976, military sales rose three times faster than exports of goods and income receipts on U.S. private assets abroad rose almost twice as fast. The dollar value of both of these items, however, represented only about one-sixth of the value of merchandise exports in 1977. Export earnings from travel, passenger fares, fees and royalties from affiliated foreign companies, and other private services rose as fast as merchandise exports. All of these factors influence the current account balance.

In the capital account, revenues increased three times as fast as exports of goods and totalled almost $40 billion in 1977 or one third the value of merchandise exports. Under present policies it would take a substantial number of years for these items to equal in value merchandise exports. Since public reaction to increased foreign investment in the U.S. is not very positive, it may be difficult to adjust policies to promote a more rapid inflow. Nevertheless, the larger these foreign investments are the more willing foreign countries may be to pursue policies to protect these investments.

Focusing specifically on merchandise exports the competitiveness of U.S. products is a function of price, demand, and ability or willingness to produce for sales abroad. Some exports are more sensitive to price changes than others so that for these goods if prices could be lowered, revenues might grow depending on demand. Prices could be reduced by facilitating the financing of exports. This would mean maintaining the DISC and expanding the lending ability of the Export-Import Bank.

In this respect, a recent United States government survey showed that the United States is spending less to promote exports than most of its competitors. The report pointed out that in 1975 the United States spent a total of $23.7 million on direct export promotion compared with $91.8 million spent by Britain and the average of $35.3 million spent by its major industrialized competitors. Of the six major U.S. competitors only Canada and Germany spent less than the United States. The German $10.8 million may not be strictly comparable since Germany relies to a significant extent on non-government promotion of exports. Export promotion expenditures for the United States were determined by adding the cost of all services at home and abroad provided by the United States Department of Commerce consisting of overseas trade centers, trade missions and fairs, and the full range of assistance provided by the Department throughout America. It did not include the salaries of selected State Department employees who are involved in export promotion. Commerce Department officials in attempting to determine the effectiveness of these export activities estimated that in 1976 about $1 billion of the total $115 billion of U.S. exports could be directly attributed to these activities. This seems extremely small, examined from a different standpoint, promotional expenditures on $1 million of exports in 1975 were $338 in the United States, $592 in Japan, $642 in Canada, $680 in France, $1,405 in Italy, and $2,516 in the United Kingdom. Again only Germany was lower than the United States, spending $136 on export promotion per $1 million of exports.

Prices also can be lowered through the depreciation of the dollar against other currencies. But, even with the depreciation of the dollar, the impact on increasing exports differs greatly among products depending on the sensitivity of demand to price changes and the extent to which U.S. producers do not boost domestic prices to improve profit margins. However, in most cases since 1971 when the dollar was first devalued, there is some evidence that U.S. companies do tend to boost prices and at least partially offset the beneficial impact of the dollar's depreciation.

If we examine the U.S. trade balance by commodities, certain U.S. exports have a greater comparative advantage than others. Focusing on the period since 1960, the United States has experienced an improving trade surplus trend for aircrafts and parts, computers and parts, other non-electric machinery, and basic chemicals and compounds. In contrast, the United Sttes has experienced a deteriorating trade deficit trend in steel products, textiles, clothing, footwear, consumer electronics, and motor vehicles and parts—although there has been some improvement in motor vehicles in recent years. For the commodities in which the U.S. has a comparative advantage or an improving trade surplus trend, price reductions through a devaluation of the dollar may only result in a reduction in export earnings if demand is relatively insensitive to price changes. For example, certain types of aircraft, computers, and non-electric machinery can only be purchased from the United States so that demand is less sensitive to price changes.

However, for exports in which the United States has experienced a growing trade deficit, such as steel textiles and consumer electronics, price changes can help to restore our competitiveness if domestic producers do not push up prices. A breakdown of the cost of production for these items generally shows that labor cost is particularly important. Therefore, the more the hourly wage rate the less competitive these industries become with nations abroad that have massive amounts of less expensive labor. In this respect, continual raising of the minimum wage rate adds to pressures on United States competitiveness. Similarly, a larger U.S. government tax burden and more restrictive pollution regulation contrast with less regulation or even government subsidizing these industries overseas.

Even the exports that tend to be produced by a more capital intensive process may not retain their comparative advantage because of the international transfer of technology. The availability of advanced technology along with less expensive other factors of production gives a foreign country an advantage over the United States. Furthermore, to achieve economies of scale and greater efficiency as well as lower cost products for the domestic market, many developing countries must increase output beyond domestic needs which creates an export surplus. This development is particularly noticeable in the steel industry and is becoming increasingly evident in other industries. An additional point in this respect is the more aggressive marketing techniques that are often pursued by foerign producers. One need only to think of the successful marketing techniques of the Japanese and the Germans whose tactics are now being followed by many of the developing countries.

Another area in which the United States has a strong comparative advantage is agriculture. The U.S. share of world agricultural trade has increased from an average of 12.3% for the period 1951–1955 to 16.4% during the 1971–1975 period. During this same period, the United States share of total world trade declined from 18% to 12%. Today agricultural exports total $24 billion which is equivalent to 20% of total exports. U.S. agricultural exports, however, could be greatly increased which would have not only a significant beneficial impact on the U.S. trade position, but also would greatly improve the position of the farmer, and aid U.S. economic growth. There are two major barriers to increasing agricultural exports: agriculture import restrictions imposed by developed countries and the adequate financial arrangements to support increased agricultural exports to the developing countries, Eastern European nations, the USSR, and China.

Increased emphasis in trade negotiations should be placed on reducing trade barriers against the U.S. agricultural exports. In past trade negotiations, barriers to manufactured goods exports have received most consideration. The recent reduction in trade barriers against U.S. agricultural exports by Japan is encouraging, but may not be enough. Increasing the lending capabilities of the Export/Import Bank could have a significant impact on supporting U.S. agricultural exports particularly to developing and centrally planned economies.

The major markets for U.S. exports are changing. Canada is the largest market purchasing about 20% of total U.S. exports and Japan is the second largest importing country but here the percent has fallen from over 11% in 1960 to around 9% at present. The European Economic Community and non-oil developing countries' share of total purchases also have been declining from near 30% in the 1960s to 22% and 25%, respectively. OPEC and the USSR have substantially increased their share of total U.S. exports to 11% and 2%, respectively. The fastest growth areas for U.S. exports were the USSR, OPEC, and Eastern Europe.

U.S. exports to Japan, non-oil developing countries, and Canada rose at the slowest rates. Similarly, the U.S. has traditionally run a trade surplus against the centrally planned economies, the non-oil developing countries, and the European Economic Community and run deficits with Japan and Canada as well as OPEC since 1972. In terms of dollar value of exports, the largest and most promising markets are the non-oil developing countries and OPEC, but export growth to the developing countries has been disappointing.

Since the issuance of U.S. foreign aid is tied to the purchase of U.S. products, increasing foreign aid would boost exports. Similarly, any additional financial assistance which stimulates economic growth in these countries would aid U.S. exports. Given that most world trade is between developed countries, the quicker the non-oil developing countries industralize the greater will be the expansion in world trade and U.S. exports.

In trade with the USSR, special efforts should be made to establish longer-term grain export contracts. This would enable the USSR to pursue their livestock development program and at the same time benefit the U.S. farmer.

In trade with OPEC, several countries have successfully arranged barter deals supplying goods in return for oil. The U.S. government could be somewhat useful in making similar barter deals involving U.S. goods because of the monopoly problems involved if U.S. companies joined together in such arrangements.

The fact that the world is becoming increasingly interdependent and that the U.S. share of world GNP and trade is shrinking has not yet been fully appreciated in U.S. foreign economic policy. The vast resources of the U.S. economy have enabled it to remain very independent until recently, and now, the U.S. is faced with growing competition from other countries for resources which are primarily located in developing nations. Therefore, it is to our economic advantage to improve our relationship with developing countries.

One major difficulty with which the United States may be confronted if it pursues a policy of strong export promotion stems from the fact that the United States currently has a very large non-oil trade surplus. In fact, the United States non-oil trade position moved from a $3.2 billion deficit in 1972 to around a $15 billion surplus last year. This surplus was even larger but the sharp deterioration in the U.S. trade position with Japan last year caused a decline in the non-oil trade surplus from $25 billion in 1976. Given the limited import absorptive capacity of the OPEC countries, any substantial increase in U.S. exports would only increase our trade surplus position with most of the rest of the world or conversely sharply increase their trade deficits with the United States which may not be acceptable to them. In this respect, prospects for the greatest improvement again seems to lie with the less developed countries, in addition to Japan, since this is the only group of countries with which the United States has had a substantial current account deficit. Even within the developing countries, the U.S. deficit in recent years has been concentrated in the countries of Asia and Africa and these are areas of particular importance to U.S. agricultural exports.

In conclusion, my recommendation, in light of the current size of the United States trade deficit, is that the United States should not move too aggressively to initiate policies to correct the deficit since changing business conditions abroad will as a matter of course reduce the trade deficit. Second, the United States should make every effort to increase the pact of economic activity abroad. In this respect, increased financial support to the EXIM Bank, World Bank, and the IMF would be beneficial. Third, it is particularly important in trade negotiations that the U.S. focus on the opening of markets for goods in which the United States has a comparative advantage, specifically agricultural products, aircraft, and other high technology manufactured goods. Such negotiations should continue to be directed at Japan because of the recent sharp deterioration in the U.S. trade position with Japan. Fourth, the U.S. government could help to expand export opportunities to Eastern Europe and the U.S.S.R. Fifth, analysis of the United States trade position should focus on the current account and capital account position. This may require that the United States adopt a more open policy toward foreign capital inflows into the United States and remove any unequitable capital restrictions. Sixth, the United States government can increase its export promotion efforts without becoming subject to criticism by other developed countries. In this respect, any decision to remove DISC should be linked to leverage to convince other countries to reduce their import barriers against U.S. goods. Finally, the most important policy the United States can pursue to maintain its export competitiveness is to control inflation and achieve a stable full employment state of growth.

Senator STEVENSON. Thank you. We will come back to all of you for questions after we have completed your presentations.

Mr. Stathakis.

STATEMENT OF GEORGE J. STATHAKIS, VICE PRESIDENT, AND GENERAL MANAGER, INTERNATIONAL TRADING SERVICES OPERATIONS, GENERAL ELECTRIC CO.

Mr. STATHAKIS. Thank you, Mr. Chairman. In addition to my current position as vice president of General Electric and general manager of the International Trading Services, which position I just assumed this last December, I would like to point out that I had the management responsibility for General Electric's nuclear power business for many years, including the responsibility for all international operations, and nuclear reactor exports.

I should also point out that I am not even a half-baked economist, but I do have over 20 years of experience on the frontline of American exports, and maybe that will be helpful to your committee.

Senator STEVENSON. That is what we are looking for.

[The statement read by Mr. Stathakis follows:]

TESTIMONY BY GEORGE J. STATHAKIS, VICE PRESIDENT, GENERAL ELECTRIC CO., GENERAL MANAGER, INTERNATIONAL TRADING SERVICES OPERATIONS

My name is George J. Stathakis, and I am a Vice President of General Electric Company, and General Manager of International Trading Services, a position I assumed last December. Prior to that, for many years I had management responsibility for GE's nuclear power business, including its international operations.

It is a distinct pleasure to appear before this Subcommittee to testify as to GE's views on today's subject: the shifts in the composition of and the markets for U.S. exports. I bear in mind the overall purpose of these hearings which, as stated by Senator Stevenson, is "to examine the competitiveness of U.S. exports and to explore ways to close the trade gap through better U.S. export performance."

General Electric has been a world trader since its founding. GE is convinced that trade begets trade; restrictions and unwarranted barriers—whether imposed by private or governmental sectors—constrict the channels of trade, produce distortions, and over the long term work to the detriment of all trading partners.

But within this conviction we recognize that a number of realities must be reckoned with as we explore means of promoting U.S. exports and international trade: the world is made up of a mix of economies, each with its own drives and incentives; there are the haves and the have-nots—and here too there are infinite shadings of mix; each has its own complex of natural resources, manpower, technology and monetary standing; and there is an overlay of political considerations—the Middle East, East vs West, North vs South, official cartels such as OPEC, and more subtle conflicts—which contribute to the distortion of the economic processes.

In short, world trade is a very complex subject and not given to simplistic solutions.

We may, of course, differ as to the particulars of such a global view, but a global view of some sort is necessary to provide perspective and guidance for the actions which we—whether as a particular company or as a nation or group of nations—may propose to take in promoting sound and enduring international trade.

This brief introduction brings me to the specifics of GE. As I have stated, GE has a long history in international trade. We have sought to serve customers abroad through many ways, each adapted to the trading circumstance. Exports from the U.S. have, over time, been the principal means of meeting the overseas

demands. Indeed, our exports have surged in recent years from $606 million in 1970 to $2.3 billion in 1976. (Detailed figures on our 1977 operations are not yet available.) The ratio of GE exports to GE domestic sales has more than doubled during that period from 8.4% in 1970 to 19.3% in 1976. Although the U.S. trade deficit was $9 billion in 1976 and $27 billion in 1977, GE had a trade surplus of $1.9 billion in 1976 and a balance of payments surplus of better than $2 billion. We fully expect our 1977 figures will be comparable to our 1976 surplus.

Exports are increasingly important to the U.S. economy, not only because of the growing trade deficit but also because of their very favorable effect on domestic employment. In 1976, GE exports of goods and services required over 91,000 U.S. jobs—over 47,000 in GE itself and over 44,000 in our suppliers and subcontractors. These GE export-related jobs amounted to 18% of our total U.S. employment.

The job importance of exports was underlined during the recent recession. During that period of economic turn-down, export-related jobs were a major stabilizing factor for GE's U.S. employment. The jobs of several thousand employees would otherwise have been in jeopardy.

Our economists have tried to estimate the overall effect of exports on U.S. employment by extrapolating from our own experience. While overall estimates may vary from analyst to analyst, the calculations indicate that between 8 and 9 million U.S. jobs can be attributed to exports of goods and services in 1976. This may be a conservative estimate. Senator Stevenson, the Department of Commerce, and others have estimated that 1 out of 7 U.S. jobs is export-related—one out of six in Illinois, our principal exporting state. With total employment around 93 million, the 1-to-7 ratio would of course considerably increase the 8–9 million figure.

However, at the same time that exports are becoming increasingly important to the U.S., they also are becoming increasingly more difficult to obtain. There are at least 4 basic reasons:

First, the reconstruction of the economies of Europe and Japan after World War II, plus the historical world-trade orientation of the Europeans and, more recently, of the Japanese, have developed companies that are formidable competitors to U.S. industry in all world markets, including domestic markets.

The world-wide sales of the 200 largest non-U.S. firms have in recent years risen almost twice as rapidly as sales of the 200 largest U.S. firms. In 1974, the combined size of these non-U.S. firms approached that of the top 200 U.S. firms. It was below 50 percent in 1964. There are now more non-U.S than U.S. companies in the billion dollar sales club.

These trends demonstrate the broader base of economic well-being in the world, but they also illustrate world competitiveness and the reduced relative significance of the U.S. in world trade.

Second, the post-war U.S. advantage in high-technology products is steadily decreasing.

GE, for example, now has significant foreign competitors in most of our key export areas involving high technology—products like aircraft engines, power generation equipment, locomotives, plastics, and so on.

Third, the foreign trade policies of many industrial nations are export-oriented and designed to strengthen the competitiveness of their major export companies or enterprises. They provide aggressive export promotion. This includes favorable governmental financing assistance well beyond what the Export-Import Bank and other U.S. agencies have been able to do. Many of these foreign nations also protect their home markets through various trade barriers, both of the tariff and non-tariff type. This gives their exporters a protected home base for sales and profits. It also enables their exporters to have competitive advantage in third-country markets through incremental pricing. In addition, of course, in some cases, foreign exporters may receive considerable government subsidization for their exports.

It should also be noted that European firms have an added competitive advantage—both in their home and in third-country markets—because of the primary reliance by European governments on indirect taxation, such as "VAT"—the value-added-tax—for government revenue—raising purposes, as contrasted to group primary reliance on direct taxes (the income tax). On exports, the European firms get tax refunds or tax waivers on value-added taxes on their exports, whereas, on imports into the European markets from America, a border tax is imposed on sales. This border-tax-adjustment problem is one of the issues the

U.S. has raised in the current GATT negotiations. The Europeans, however, are adamantly opposed to any adjustment in this area. Prospects for relief are not promising.

Finally, illustrative of the total commitment some nations have made to maximize their exports, the top government officials of major trading nations personally engage in intensive sales efforts whenever they have the opportunity. Political and commercial considerations are oftentimes mixed; in our judgment, this is not a minor factor in the success of foreign exporters.

Obviously, such formidable foreign competition and practices pose serious problems for U.S. exporters. Since the U.S. exports are increasingly important to our economy, foreign competition is properly of great concern to the Congress, as these hearings demonstrate.

What is my Company doing to cope with these competitive challenges? And what are the clear implications for U.S. foreign economic policy, including U.S. tax legislation?

WHAT IS GE DOING?

To begin with, GE is of course doing everything it can to increase sales throughout the world, including enhancing its positions in established markets. In addition, we have invested heavily in market development in what we see as emerging growth areas for our products; such as Nigeria, the Middle East, Indonesia, Venezuela and many others.

As an integral part of this approach, we have improved our marketing capabilities to be better able to adapt to unique customer needs and requirements. We build "early presences" in promising markets, even if it takes years to develop them to the point where we get significant sales (e.g., Poland and Nigeria). We are able to provide "total project capability" so-called "added scope") sales and services; that is, complete installation services to meet customer needs. We are also developing capabilities to engage in countertrade and barter in order to respond to customer requirements.

IMPORTANCE OF DISC

It is especially in these basic areas of our efforts—and of comparable efforts by other U.S. firms—that DISC is so important. This is why the Carter Administration proposal to phase-out DISC could seriously damage U.S. exports—and jeopardize U.S. jobs.

GE's experience shows that DISC promotes exports and resulting domestic employment in at least three basic ways:

First, as was originally intended when Congress adopted DISC in 1971, it is a partial offset to the European Economic Community border tax adjustments which, as I mentioned earlier, can be viewed as rebates—i.e., cost reductions—for EEC exporters.

Second, DISC benefits can be used as working capital to finance the significantly longer-term accounts receivable that have to be carried by U.S. firms when dealing with foreign customers. Inherent in export trade and commercial practices abroad, foreign customers require two to three times as much time to pay their bills as U.S. customers, and the interest cost of this additional carrying time is a significant factor. If DISC legislation were repealed, one of its adverse effects, so far as GE is concerned, would be in payment terms. This factor alone would substantially reduce our exports.

Third, DISC has substantially supported the new forms of market development activities to which I previously referred—that is, the long-term before-you-get-any-orders kind of "local presence" building that we've been doing in Africa, the Middle East, Eastern Europe, and elsewhere. For example, we've only recently begun to receive orders in Nigeria. Our largest January export order was for a $15 million dollar power plant in that country. But we spent nearly four years and about $300–400 thousand dollars per year developing a local presence and establishing a marketing program. This was definitely a very high-risk venture and it was DISC benefits that encouraged us to take those risks.

Incidentally, we and other U.S. exporters wonder how so many American critics of DISC are able to conclude so categorically that DISC does not promote exports. In contrast, our European competitors have evidenced their conviction of the export effectiveness of DISC by bringing proceedings under GATT rules to have DISC branded as an impermissible "subsidy." The fact, of course, is that

our European competitors see DISC in action, whereas the American critics do not.

FOREIGN AFFILIATES

The final area I would like to mention as to what my Company is doing to face foreign competition and trade barriers concerns the use of foreign affiliates.

As I said earlier, GE has historically served foreign customers primarily through exports from the U.S. However in some cases reliance solely on direct exports is simply not feasible. Let's look at some of the problems:

Some foreign countries prohibit imports—in order to stimulate and protect local manufacturing, to conserve foreign currency, or for other reasons their governments deem compelling. Or they insist on "local content" requirements or the establishment of local joint-production ventures.

In other circumstances, foreign tariff and non-tariff barriers make U.S. exports impractical or economically non-competitive.

Finally, in some cases, it is simply not competitive to manufacture the product or the component in the U.S. and to transport it to the local market.

In such cases, local manufacturing, through the use of foreign affiliates, offers a logical alternative.

Our experience shows that our foreign manufacturing affiliates are contributing to GE exports growth in significantly increasing amounts. The affiliates are major customers for U.S.-made components and equipment. They also "pull-through" other U.S. products for sales to foreign customers.

In the past 12 years, GE's corporate sales increased about three times. Sales of GE affiliates expanded four times. *But GE exports increased seven times.* During 1976, $837 million of GE exports were attributable to GE affiliates, representing 36% of GE's total U.S. exports. One-third of these exports went directly to the affiliates in the form of components and complementary products. Two-thirds—or over one-half of a billion dollars—was "pulled through" by the affiliates.

We estimate that GE exports to and through our offshore affiliates accounted in 1976 for nearly 30,000 U.S. jobs, over 13,000 in GE and almost 16,000 domestic jobs in our suppliers and subcontractors.

Nationally, U.S. foreign affiliates account for about 25 percent to 30 percent of all U.S. exports. The domestic job importance of these U.S. foreign affiliates is accordingly very great.

IMPORTANCE OF MAINTAINING TAX PARITY

In view of what I have just been saying, the Administration proposal to tax unremitted income of U.S. foreign affiliates is not warranted.

At the present time, no country taxes such income. For this reason, and the need—from the point of view of our own economy—to keep our foreign affiliates competitive, the Administration proposal is clearly a big step in the wrong direction. We should keep tax parity in this area.

Moreover, repeal of deferral as a way to increase U.S. tax revenue would not be effective. Since the impact of repeal of deferral on U.S. foreign affiliates would be to impair their competitiveness and profitability, there might well be decreasing revenues to be taxed. Additionally, repeal may represent an invitation to local governments to increase their tax rates. The net result could therefore be a tax increase for U.S. business and no tax revenue increase for the U.S. government. Indeed there is a real prospect of a long term net reduction of U.S. tax revenues.

IMPLICATIONS FOR U.S. FOREIGN ECONOMIC POLICY

The implications of what I have been saying for U.S. foreign economic policy, including U.S. export policy, appear to us to be very clear.

We should keep DISC and preserve tax parity for U.S. foreign affiliates.

In addition, the Export-Import Bank, which I have thus far not mentioned, is vital. Since the Subcommittee will devote 4 days of hearings to the Bank in March, I have not discussed it today. Let me say briefly in passing that we of course endorse and welcome the pro-export changes in philosophy and operating practices at the Bank. We also endorse and welcome the Administration's proposal to renew the Bank's charter on an expanded basis. As I said, Eximbank is vital

to effective U.S. export performance. This point is conclusively demonstrated by the many specific examples discussed in an extensive survey recently completed by the National Association of Manufacturers in which we participated. I should add that the survey also documents the ways in which foreign governments provide greater financing assistance than the Bank. In short, Eximbank's help is still an incomplete offset to what foreign governments provide.

But we as a nation need to do more than maintain sound current tax incentives and renew and expand Eximbank.

We need a more affirmative, more realistic U.S. foreign economic policy—one that will help U.S. exporters no less than foreign government programs help our major competitors.

TWO PRACTICAL CONSIDERATIONS IN DETERMINING U.S. FOREIGN ECONOMIC POLICY

As we discuss and debate the elements of a more effective foreign economic policy for the U.S. there are two practical considerations that should be kept in mind.

First, the export field is vital to the U.S., to U.S jobs, to U.S. economic growth; but export is very, very competitive—and, in a number of particulars, is biased against the U.S. style of doing business. It is likely to become more so. With our foreign competitors moving very aggressively in the world markets, it completely misses the point to say—for example, in talking about DISC or tax parity or Eximbank restraint—"Well, that particular program doesn't really help very much" or doesn't have a favorable cost/benefit ratio.

The point is that American industry is already under substantial competitive disadvantage from foreign governmental programs. Therefore the elimination of any existing U.S. countermeasures could have very serious implications.

Second, we're talking in many cases about long-term market development. Foreign trade policy cannot be regarded as a transitory, on-again off-again issue. To illustrate, this month we received an $11 million dollar order from Poland for steel mill drive equipment. We worked many years to win that order. I earlier mentioned that it took almost 4 years to obtain new business in Nigeria. These time dimensions are typical in international business.

Such selling efforts require consistency and stability in the underlying government programs and rules. U.S. exporters cannot engage in effective long-term market development if they are constantly threatened with changes in U.S. laws.

CONCLUSION

The enormous U.S. trade deficit, coming on top of the stagflation that has beset the industrial world for over 4 years, is a serious threat to the system of international interdependence and the economic viability of the free world.

Neither our trading partners nor the U.S. can live with a continuing U.S. double-digit deficit. We can't live with the status quo.

In overall terms, we have to choose between effective import restrictions or intensive export promotions.

This choice concerns not only the need to balance our international accounts in terms of dollars but also involves domestic jobs. These urgent needs underline the critical importance of stimulating manufacturing exports.

All this appears undeniable. It is therefore difficult for us to understand why the Administration now desires to phase out and eliminate tax policies that have helped U.S. exporters to be competitive with those in other industrial countries.

We trust there will be reconsideration in the light of the realities.

If we do not have a foreign enonomic policy that works—that effectively deals with the trade deficit on the export side—we will be forced—by our growing economic difficulties and the resulting pressures—to deal with our problems on the import side. Against our wishes, we will be compelled by our failures and omissions into protectionism, perhaps further dollar devaluations, and to other forms of economic nationalism.

We believe that—as national discussion proceeds in this area and we gain greater common understanding of world economic realities and their implications for U.S. export policy and U.S. export performance—the Congress, the Executive Branch, and the American people at large will support a sound foreign economic policy.

Senator STEVENSON. Thank you, sir. I am impressed by the emphasis throughout today, even from the economists, on nonprice factors in the discussion of this subject. I may have to revise my opinions of economists, if you three gentlemen are examples of your profession, I think some at least in your profession are revising their thinking and becoming more realistic and less wedded to a doctrine that has been overtaken by events.

Mr. Stathakis, you endorsed retention of DISC, you expressed disagreement with the administration proposal to tax income. And of course also supported the Ex-Im legislation.

Professor Aho suggested that we get away from these more or less indiscriminate tax incentives, and find ways to address ourselves to causes as opposed to symptoms, and in particular by improving American productivity and investment in R. & D.

Now, I would like to ask how you respond to that general proposition and I do so mindful, as we all are, of course, of the products which GE makes and exports.

You mentioned some impressive figures for increased sales and exports over the last 12 years by GE. And GE's products, all of them, I believe, do have a relatively high technology content.

How do you respond to that suggestion by Professor Aho and notwithstanding those figures, has GE during that same 12-year period suffered increasing competition from foreign producers of commodities that have higher and higher technology content?

Aren't you faced with more competition in the world for the sale of high technology commodities?

Mr. STATHAKIS. Let me take them in order, Mr. Chairman, if I can recall them.

As to the proposition that Professor Aho presented on the need to improve, that is in terms of the general thesis of improving U.S. productivity, including the investment in R. & D., I couldn't agree with that more.

Senator STEVENSON. Excuse me. I think he suggested more than just productivity. It is also basic research, innovation, identifying markets, and developing the products for those markets. Not just productivity.

Mr. STATHAKIS. Yes; I think we have pointed out many times the problem in the United States of capital formation and the need to invest more in all elements of our manufacturing sector. And we look very favorably on the administration's proposals to reduce the corporate tax rate and to change the investment tax credit provisions in particular.

So in general, yes, we think the United States is losing its big lead in productivity; the gap is closing on high technology. And we think something has to be done in terms of investing in the U.S. industrial enterprise in a greater way in order to improve that situation, and we know that over the last 10 or 20 years, the investment in U.S. industry has not been up to what it has been in countries like West Germany and Japan.

Now as to the idea of eliminating DISC, in order to put that funding into R. & D., I would say this: That we have no great brief for DISC per se. We think that a basic solution is needed to the problem of inequality on tax rebates. We have suffered from that tax rebate

equation. We think the ultimate answer is through multilateral agreements. And we certainly encourage the U.S. position in the GATT negotiations and we think extension of that to the point where we can eliminate the nontariff barriers and the tax rebate angles and all of the others that we face in the marketplace, is the right direction.

But, gentlemen, we are here right now facing tough foreign competition, and if you eliminate DISC, you are just going to set us back one more step.

I have no great confidence that we will solve it through multilateral negotiations for many years. So I think it is a timing problem. DISC is already in place. We think it is very helpful to U.S. exports right now, and we think if you eliminate it, U.S. exports would suffer.

Now to your final point, Mr. Chairman, yes, the gap is closing on high technology, and I think some of that you would expect. The Germans in particular have come back after World War II, and gradually improved their technology. They have made great strides in many technical areas. And they are just one of many.

We, however, feel that we do have the technical advantage in a number of areas. We would like to have more. But we think that that is not really the biggest factor that is hurting us today in the export marketplace. We think the biggest factor is the help that our foreign competitors get from their governments that puts them at a competitive advantage over us, compared to what is available to U.S. companies.

I would say that that is a much bigger factor in our opinion than technology, and at the same time we recognize that the technology gap is certainly closing.

I think the fact that it is closing makes it all that much more important that we not only look at technology again, but we look at these other factors that are causing us to have more difficulties in the marketplace.

Senator STEVENSON. Would you like to respond, Professor Aho?

Dr. AHO. The changes proposed in the corporate tax law would improve profitability, while elimination of DISC would harm profitability somewhat. The net effect will depend upon the magnitude of the changes.

Perhaps you are suggesting that DISC should be eliminated over a period of 5 years, that is, to phase it out In a world of perfectly well-functioning markets, if the DISC were eliminated and U.S. exports were to decline, then the dollar exchange rate should depreciate to some degree and make U.S. commodities more competitive.

The estimates that I have read suggest that DISC increased U.S. exports by $1.2 billion while costing the Treasury about $1 billion. I find it hard to believe that it can be such a major factor in foreign competition.

Mr. STATHAKIS. Well, if I may respond. I wasn't suggesting phasing out DISC on any particular time schedule. I was suggesting that the ultimate solution, the best solution, of course, would be through multilateral agreement, to eliminate any kind of tax rebates from any governments.

I don't agree with the numbers that have been quoted. I don't think we know exactly what DISC does for exports. We do know that since

DISC was enacted, there has been a very significant increase in exports. We know that in our own case. But I would be hard pressed to tell you exactly what the impact of DISC is.

I did give you the example of market development in Nigeria, and I can tell you DISC was a major factor in our investing over a period of 4 years perhaps something close to $2 million to get a $15 million order. That is the kind of thing that I think DISC has done to stimulate us to move into some of these new market areas, which could develop into substantial export potentials out over the long-term future.

Senator STEVENSON. Senator Heinz.

Senator HEINZ. Mr. Chairman, as I understand what Mr. Stathakis is saying, he is saying that the aggressive export support programs and marketing techniques of some of our trading competitors are affecting U.S. export performance. And the question I would like to come back to you with, Professor Aho, is this: Can we substantially improve our export performance without expanding and upgrading our comparative support programs, CCC, Exim, to name a couple?

Notwithstanding the validity, in my judgment, of your observations on technology and research and development investment.

Dr. AHO. The estimates that were provided for the February 6 hearings suggested that a decrease in the U.S. dollar exchange rate of 1 percent should increase U.S. exports by $1.5 to $2 billion over the next 1½ to 2 years. I believe those elasticity estimates.

My testimony focuses more on the composition of exports. In the lower technology industries we have seen an expansion of exports over the last few years. I find it somewhat surprising that the United States could become such a large textile exporter, for example, although there are some textile categories with a high technology content. Furniture and pulp and paper manufactures exports also increased along with many commodities that were not major U.S. exports. Exports of these commodities have increased because of price elasticity. With the depreciation of the dollar, they look more attractive to foreigners.

Senator HEINZ. You are saying that what makes sense in terms of export policy is to concentrate our export support programs on those commodities that do have a demonstrated price elasticity? Is that what you are saying?

Dr. AHO. No. The depreciation of the dollar is going to help U.S. export performance in a number of categories, but not in those categories where the United States, for nonprice reasons, can not meet quality or servicing differences.

One of your future hearings is going to address the problem of foreign interference to promote exports, and how that can affect the world structure of exports.

I think they may be important and my results are consistent with foreign export promotion. To the extent there are widespread interferences overseas, these nonprice factors could affect trade patterns. It remains to be substantiated, however, that they are widespread.

I would put more emphasis upon quality and technology differences. The theory of comparative advantage compares two suppliers to determine which of them can supply a product at a lower price.

When technology and quality differences are introduced, trade is not determined by comparative advantage but by absolute advantage, who has the better product.

The question here is how much would the dollar have to depreciate in order to enable many U.S. manufacturing industries to become major exporters.

Senator HEINZ. You have pointed out very clearly, I think, in your testimony the negative impact on our export performance of declining R. & D. expenditures.

On that point, I would like to ask you this: First, what are the primary reasons for the reduction of such expenditures? To what extent do those kinds of investments receive subsidies or other support programs from competitors of the United States?

And, finally, what should we do about the situation you describe?

Dr. AHO. Unfortunately, broad international comparisons are not made very often, but there have been some individual comparative studies which have analyzed the subsidy of research and development in other countries. In Japan there has been an interesting blend between the Government, through the Ministry of Trade and Finance, and industry who have coordinated and worked to promote exports. But Japan's research and development strategy has differed from ours in the past. Our Government's R. & D. has been defense-related. They have the luxury of not having to support a national defense. Their R. & D. has been more consumer-related. When discussing research and development, we must distinguish between new technology in aircraft, space, or defense, and R. & D. that will improve processes, lower prices, and improve products for consumers.

If you think of the Japanese technological adaptation, it has been more to improve the quality of consumer products, and processes. Their R. & D. has a different orientation.

Senator HEINZ. Nobody really drove a motorcycle until the Japanese brought Hondas to the United States, is that what you are saying?

Dr. AHO. Right. There was an interesting article by Sanford Rose in the recent issue of Fortune, which discussed the Japanese export performance. He covered many of the points that have been covered today, except that he emphasized how the Japanese, in deciding upon R. & D. and the type of products they would promote, focus upon very narrow product lines. With motorcycles as you mentioned, they started out manufacturing small bikes, and after a while they expanded into different sizes and styles. All of the time, however, they focus their attention on their export markets and their R. & D. and product development is designed in order to promote those exports.

Senator HEINZ. Let me ask, then, because I am not entirely clear as to whether the differing rates of investments in research and development expenditures are due to a decline on our part in the United States, or, alternatively, more due to an increase on the part of others?

If it is the former, to what do you attribute the decline?

Dr. AHO. There has been, according to recent NSF surveys, a decline in basic industrial research in the United States. The data I presented in the paper for the record show that R. & D. as a percentage of GNP

in the United States declined during the 1960's from about 2.7 to 2.5 percent and recent estimates are close to 2 percent.

On the other hand, Germany allocated about 1.5 percent of its GNP to R. & D. in 1963, and now it is estimated at 2.3 or 2.4 percent, which is a higher allocation than ours.

Although the relative decline in U.S. R. & D. can be attributed to both factors, there has not been a precipitous decline in U.S. R. & D. It has tapered off slightly. There has been a very large increase in R. & D. in Germany.

In terms of growth rates, the Japanese have also increased their allocation of resources to R. & D. over time. I would put more emphasis on foreign increases in determining the relative decline.

Senator HEINZ. How should we, in the Federal Government, in the Congress, respond to that changing external environment?

Dr. AHO. That is a very good and a very hard question. And since I came up with such a strong statement on the effects of R. & D. I have tried in the last few days to read some comparative studies. Unfortunately I have only completed reading about one and a half.

The United Kingdom is an example where an attempt was made to promote R. & D., but they emphasized large scale projects in which the Government was deeply involved. If you think of the Concorde, for example, which was a large, high-technology project but was not oriented toward increasing their export sales that much. They may sell a few Concordes, but the price and income elasticities of Concordes are probably quite low.

The Japanese, on the other hand, are expanding into product lines where there is a higher income elasticity. I am sure we have all purchased consumer electronics products from Japan. I must apologize to the gentleman from G.E.—but we have seen a lot of consumer electronic goods coming to the United States and those have a higher income elasticity.

The British have done traditionally almost as much R. & D. as the United States but it has been in large-scale endeavors and exports.

Senator HEINZ. But at this time you have no particular suggestions to us in what direction we in the Congress should go?

Dr. AHO. At this time we should focus more on industry doing research and development. There has been a decline in Government subsidies in defense-related projects over time and I think Government involvement should increase with more emphasis on industry. I would recommend subsidies, because industry knows best how to respond to a market. They are out there. They have to compete with foreign producers. They must do the R. & D. that will enable them to create better and less expensive products in order to compete.

The Government cannot direct that activity for them.

Senator HEINZ. Would either of you gentlemen care to comment on this issue?

Mr. STATHAKIS. I would be glad to comment on your question of what should you do. I certainly think in a broad sense, that providing more incentives for industry to invest in R. & D. is a big step.

As I pointed out earlier, and as has been pointed out, I think, many times by many people in U.S. industry, the incentive has been reduced very significantly over the last 20 years. The return on investment for U.S. industry as a whole has drastically gone down in that time period.

And as compared to some of our foreign competitors, to get back to that side of it, they have gone up.

So I think what can be done on the tax front, in particular, to go back to the President's tax proposals, on the corporate tax rate and investment tax credit, these are things that will help make investment in R. & D., in new plants and equipment for higher productivity; these are things that will make U.S. industry more competitive.

Senator HEINZ. If I may interrupt you at this point, if I understood Mr. Aho correctly, he was suggesting that the way that the Federal Government could most effectively get industry involved in increasing R. & D. investment, is to have industry come and bid on research and development contracts. That at least is what I take to be a reasonable translation of his prescription of a direct subsidy.

Dr. AHO. In the past it has also been done through the tax system.

Senator HEINZ. You were talking, Mr. Stathakis, about having a tax incentive. I believe, Mr. Aho, you were talking about a more direct kind of Government subsidy, or did I misunderstand you?

Dr. AHO. I would support a tax subsidy because the bureaucracy for administering a tax subsidy is already in place.

Senator HEINZ. That answers my question.

In fairness to the chairman, he has kindly yielded his time to me, but do you have a response, Mr. Mathis?

Mr. MATHIS. Yes. The figures you gave on percent technology of GNP, are those in real terms?

Dr. AHO. They are percentages derived from value data.

Mr. MATHIS. That may be a problem since Germany has had a slow rate of inflation. I am not sure what the increase in price for technology expenditures have been, but they probably have not risen as fast as GNP over all, in that case the percentage may normally decline, because Germany has had a slower inflation rate than the United States.

The second point is I am not sure of the extent to which consumer electronic goods coming from Japan are in effect not being supplied with U.S. technology components. The microdots and so forth, that is U.S. technology, which in fact we are exporting or producing abroad somewhere and selling to foreign electronic industries, who in turn sell the finished product to the United States.

Senator HEINZ. You are suggesting, Mr. Mathis, that our export performance may have suffered in part due to our past eagerness to export our more advanced technology? If you feel we indeed still have a technological lead to protect any more, do you feel that we should restrict the transfer of advanced technology?

Mr. MATHIS. No, I am not really against any sort of interference with movement of goods and services or technology or capital. I think to some extent there are other reasons that have been causing us to move our technology abroad.

Again, we go back to some of the fundamental problems. We are a mature economy, we are taxing more heavily the productive sectors of the economy for welfare purposes, we have priorities that relate to human rights, or whatever, we have made a decision that we do not want to support business as much as some feel we should.

I think it is more a result of that.

Senator HEINZ. Thank you, Mr. Mathis.

Senator STEVENSON. Two quick questions. Mr. Mathis, do you think that the term of CCC credit should be extended from the present 3 years?

Mr. MATHIS. Yes, I do. The reason is that poor crop cycles, particularly in the case of the Soviet Union, tend to come two every 5 years, or one every 3 years. And therefore by having a financing program that is one every 3 years, 3-year term, you don't really give the country a chance to improve its position.

So I think something like a 10-year program or more would be of some benefit, from the standpoint of the debt servicing problems of countries.

This applies to the LDC problem. They have a high debt service ratio coming due in the next 3 years. So did the United States at a certain point in its history. If we pull back, that is where it becomes a serious problem; as long as these economies continue to grow, there is no problem.

Senator STEVENSON. And to what extent, if any, is the trade deficit owing to the transformation of the economy from manufactures to services? Who will take that one on?

Mr. MATHIS. To what extent is the deterioration in the current account balance due to trade versus services?

Senator STEVENSON. Decline in manufactures, increase of services, the changing orientation of the economy.

Is that one of the reasons for the trade deficit?

Mr. MATHIS. One of the comparisons that I think is interesting, and I am not sure what it exactly says, if you go back and compare the largest previous U.S. trade deficit we had with the present one we ran last year, and if you exclude oil imports from both of those figures, so you are looking at a nonoil trade figure, we had a deficit of about $3.4 billion in 1964, and last year we had a surplus of—excuse me, in 1976 we had a surplus of about $25 billion. That is a pretty tremendous improvement in the nonoil trade balance of the United States from the $3 billion or $4 billion deficit to a $25 billion surplus.

Now in 1977, that $25 billion surplus fell to about a $10 billion surplus. That is a fairly significant fall.

I attribute that mostly to the demand factors. Foreign economies are just growing more slowly than is the United States. Therefore, we tend to import goods more rapidly than do foreign countries buy from us.

Also the type of goods that we have a comparative advantage in are most closely related to business spending on new plant and equipment, and while this has been increasing in the United States, the performance overseas has been much weaker, and therefore this does not result in increased demand for these U.S. goods.

The service account of the U.S. balance of payments is a surplus account, and it has grown. It is to some extent related to per capita income in the United States, because we are fairly large travelers and spenders of funds abroad, that is an element that tends to have a negative impact on it.

The positive impact is the earnings from foreign investments overseas, the royalties and dividends, that continue to grow.

Senator STEVENSON. Do you have any observations to add to that proposition, Professor Aho?

Dr. AHO. I understand from the tables supplied by the Department of Commerce that the United States for the first time had a trade deficit in manufactures last year. The economy is undergoing a transformation from a manufacturing economy to service economy, but I was somewhat surprised that the United States could have a trade deficit in manufacturing. Although I would agree that on services, we have done fairly well and will continue to do well, because U.S. industry has a large volume of investment in place overseas that will help the service account.

One indication of change in the structure of the U.S. economy is that there are less people employed in manufacturing now than there were in 1970. This could reflect technical change or the substitution of capital for labor or it could just reflect the changing composition and the shift to a service economy.

How much it will continue is hard to say.

Senator STEVENSON. Thank you very much, gentlemen. We in fact ran out of time quite a while ago. Thank you, you have been very helpful. The meeting is adjourned.

[Thereupon, at 1:30 p.m., the hearing was recessed, to reconvene on March 9, 1978.]

APPENDIX

UNITED STATES EXPORT PERFORMANCE IN THE POST-DEVALUATION PERIOD: CONTINUATION OF A SECULAR DECLINE?

by

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and

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The United States trade balance showed a record deficit of $26.7 billion in 1977. Most analysts have attributed this deficit to the large volume of oil imports and to cyclical factors. Imports were large because of high aggregate demand in the U.S. and exports were low because of deficient aggregate demand overseas. According to these analysts, if aggregate demand were to rise overseas, the U.S. trade balance would improve and there would be no reason for concern. Further, it is suggested that since the recent depreciation of the dollar will increase the volume of U.S. exports over the next 1½ to 2 years, explicit policy measures are not needed.

These macroeconomic analyses overlook what is happening to the composition of U.S. exports. This paper examines the structure of U.S. exports to see whether the deterioration of U.S. dynamic comparative advantage widely discussed during the 1960s has continued into the 1970s, and if it is responsible for the lagging U.S. export performance.

If U.S. comparative advantage is deteriorating because of inadequate investment or a reduction in R&D effort, then depreciation of the dollar may provide temporary relief, but will not correct the underlying problem. Under such circumstances an assessment of U.S. exports at a disaggregated level is essential to the design of policy measures to correct a structural deterioration in comparative advantage whose effects may not be fully realized for five to ten years.

To investigate whether U.S. comparative advantage is declining, we examine the performance of U.S. exports from a longer-term perspective and compare the recent performance with the historical trend. The first section summarizes the historical record and reopens the debate whether the decline in the U.S. trade position during the latter 1960s was due to a secular decline in U.S. comparative advantage.

Opponents of that view claimed the deterioration was due to excess credit creation in the latter 1960s. If the U.S. export position had deteriorated because of excess credit creation, then devaluation of the dollar should, with a lag, reverse the deterioration. On the other hand, if U.S. export performance in those sectors traditionally associated with U.S. comparative advantage (capital-, R&D-, and skill-intensive industries) continues to lag in the post-devaluation period, it would be consistent with the hypothesis of a secular decline.

Thus, one test whether recent export performance is due to structural factors is to analyze how export patterns have changed since the exchange rate realignments. The second section examines the performance of U.S. exports using a constant-market-share analysis for nine major OECD countries.

The analysis separates out the changes in a country's exports which can be attributed to the growth in world trade, to the commodity composition of trade, to the market distribution, and to the competitive effect, which is defined as the residual. The unexplained residual is then compared with price and cost indices to see how the exchange rate realignments have affected the structure of trade. In this way, we examine whether the U.S. export performance can be explained by the movement in relative prices or

if other non-price, structural factors must be postulated. Structural factors which have been advanced include: decline in R&D by U.S. firms, smaller productivity increases in the U.S., technology transfer, government regulations on U.S. industry, a lack of aggressiveness on the part of U.S. exporters and protectionism abroad.

Each of these structural factors is discussed in section three, which also examines changes in the commodity structure of international trade on a more disaggregated level. Examination of the changes at a disaggregated level provides important detail on emerging trade patterns and helps to identify the factors contributing to changes in the structure of trade. The final section summarizes our results and makes policy recommendations.

I. THE HISTORICAL RECORD

The United States emerged from World War II relatively unscathed with its capital stock intact and with a comparative advantage in research and development. Numerous studies have shown that technological factors (R&D expenditures, human capital) characterize United States exports.[1] As the reconstruction of Europe and Japan proceeded, the United States lost many of its traditional exports to these rapidly expanding economies. Expanded markets overseas enabled local firms to achieve economies of scale, and during the 1950s elastic factor supplies kept costs down. Productivity increases overseas were not matched by cost increases.

As the storehouse of United States technology was depleted, the gap between the United States and the rest of the world narrowed, and its export surplus should have also been reduced. With technological change, however,

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the United States could maintain an export surplus, as long as it continued to expand its export bundle through the development of new technologies and products.

Although there was dramatic growth in Europe and Japan through capacity expansion and increases in efficiency, this confluence of economic structures was not fast enough to eliminate the United States balance-of-trade surplus during the 1950s and 1960s. The line between traditional exports and imports was moving against the United States as more products could be produced relatively cheaply overseas, but the United States kept expanding its export bundle through technological advance.

The U.S. surplus on merchandise trade peaked in 1964 and declined thereafter, finally becoming negative in 1971. By the end of the 1960s, Germany and Japan were recording record trade balance surpluses. There was considerable discussion at the time whether the deterioration in the U.S. trade balance was the result of excess credit creation in the United States or if it reflected a continued secular decline in U.S. comparative advantage.

Several authors have argued that the deterioration in the trade account was the result of systematic technical change. Samuelson (1964, p. 153), in commenting on U.S. balance of payments problems, spoke of the "technological miracles of growth abroad" and the "reducing of the technological gap."

More recently, Kindleberger (1974) attributed the deterioration to the loss of dynamic comparative advantage as the United States failed to develop new sources of comparative advantage as it lost old sources. He suggested that the United States economy was undergoing a climacteric while the Japanese economy was in ascendency. According to Kindleberger, sometime during the last ten to fifteen years the United States research-and-development

structure ceased to develop new export possibilities fast enough to maintain the technological gap. What began as imitation overseas gave way to the development of new products and processes.

Figures 1 and 2 compare the United States', United Kingdom's, Germany's and Japan's trade shares in manufactures and all commodities as a percentage of industrial country exports. The decline in the U.S. share of both total exports and manufacturing exports is evident in the figures. The U.S. share of total exports declined from over 25% in 1960 to less than 20% in the 1970s. Meanwhile, Germany's share of total exports rose from 15 to 18% and Japan's rose from 5% to over 10% after 1970. The U.K.'s share of total exports fell from 5 to 3.5%.

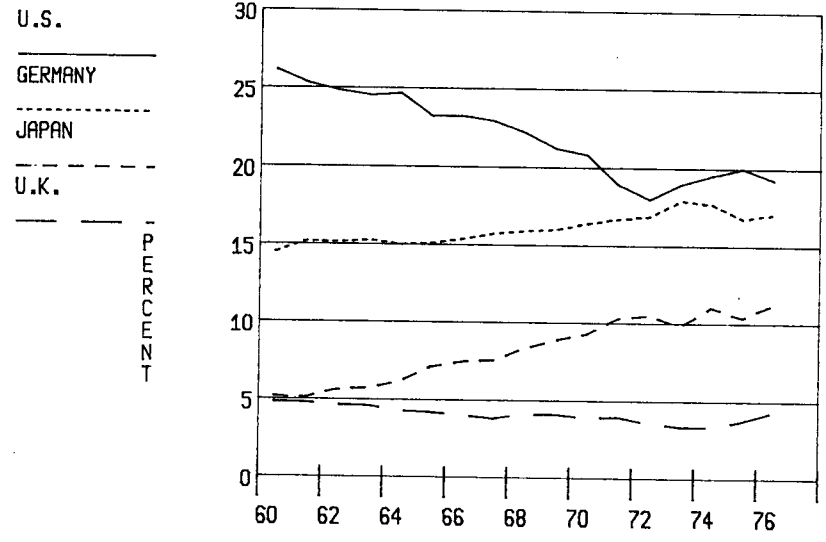
Manufactured exports reveal more pronounced changes. The U.S. share fell from almost 22% in 1962 to 15-16% in the 1970s. Germany's share rose above 20% in the early 1970s before declining back to its historical level of 18-19%.

The most dramatic changes occurred with Japan and the United Kingdom. Japan's share rose from 7% in 1962 to 13-14% in the 1970s. The appreciation of the effective exchange rate for the yen (16% since 1970) does not seem to have affected Japan's share. On the other hand, the U.K.'s share of manufactured exports has declined steadily from a high of 14% in 1962 to approximately 8% in 1975 and 1976. Apparently, the depreciation of the pound (34% on an effective exchange rate basis since 1970) has not influenced their share.

Although we would expect the U.S. share of exports to decline while foreign countries were in the process of rebuilding, the reconstruction was

Figure 1

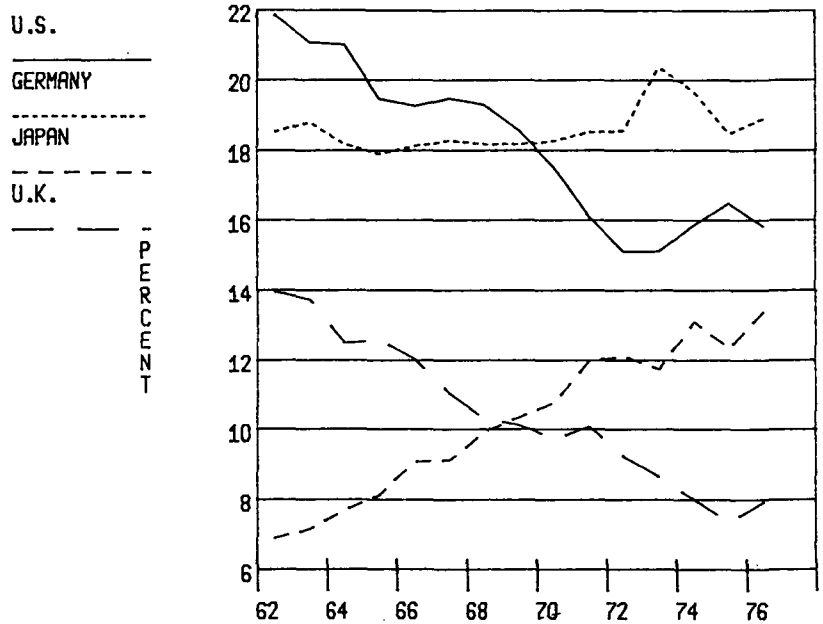
INDIVIDUAL COUNTRY EXPORTS
AS A PERCENTAGE OF
INDUSTRIAL COUNTRIES' EXPORTS



SOURCE:
IMF INTERNATIONAL FINANCIAL STATISTICS

Figure 2

INDIVIDUAL COUNTRY SHARES
OF TOTAL OECD MANUFACTURES EXPORTS



SOURCE:
OECD TRADE SERIES C

largely accomplished by the early 1960s. Why then did the decline continue and accelerate in the latter 1960s?

The disagreement which is the important question in this analysis is whether the deterioration of the United States export position in the latter 1960s was due to monetary factors through increases in credit creation in the United States, or whether it was due to structural factors and technological change. If the deterioration was a one-time loss due to excess demand and inflation, then the depreciation of the dollar will reverse the trend. However, if the deterioration in the United States trade balance was due in part to systematic technical change and a loss of dynamic comparative advantage, then devaluation of the dollar will not reverse the trend or correct the underlying cause.

Table 1 contains data on price and exchange rate indices over different periods. During the latter 1960s, the U.S. export price index rose relative to most of the other major countries. At the same time, however, the increases in productivity, industrial productivity, and real investment expenditures were smaller in the U.S. than in most countries overseas. Table 2 contains the changes in these variables over different time periods.

Studies of longer-term trends of U.S. trade done in the early 1970s concluded that the deterioration was the result of structural changes in the U.S. competitive position. For example, Branson and Junz, (1971, p. 355) concluded:

> "...while aggregate demand factors were important in the late 1960s, a structural movement underlies the changing U.S. trade position, operating independently of the state of aggregate demand."

TABLE 1

INDICES EXPORT PRICES AND EXCHANGE RATES
(Period to Period Percent Change)

	EXPORT PRICES[1]				DOLLAR EXCHANGE RATE[2]				EXPORT PRICES ADJUSTED BY DOLLAR EXCHANGE RATE[3]				EFFECTIVE EXCHANGE RATE[4]			
	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970-1976
United States	16	24	47	82	-	-	-	-	16	24	47	82	-	-18	6	-12
Germany	6	7	26	34	10	38	5	45	17	47	32	95	NA	19	11	32
Japan	13	7	38	47	1	32	-9	21	14	41	26	78	NA	24	-6	16
United Kingdom	25	26	91	140	-14	2	-26	-25	7	29	41	81	NA	-12	-24	-34
France	20	18	45	71	-11	25	-7	16	6	47	35	98	NA	6	-2	4
Italy	8	27	94	146	0	8	-30	-24	7	36	36	86	NA	-10	-29	-36
Belgium	11	8	36	47	0	28	0	29	11	38	37	89	NA	4	3	7
Netherlands	4	10	43	57	0	30	5	37	4	43	50	115	NA	6	10	16
Canada	14	19	51	79	3	4	2	6	18	24	53	89	NA	-1	4	3

Source: IMF, International Financial Statistics

1) Line 74
2) Line ahx
3) Line ahx / Line 74 x 100
4) Line amx

TABLE 2

INVESTMENT AND PRODUCTIVITY

	INVESTMENT/GDP RATIO (average percentage over period)[1]				RATE OF GROWTH OF REAL INVESTMENT[2]				PRODUCTIVITY (period to period percent change)[3]				INDUSTRIAL PRODUCTIVITY (1970=100) (period average)[4]			
	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970-1976	1965-1970	1970-1973	1973-1976	1970 1976
United States	18.1	18.1	17.3	17.6	5.2	3.1	2.6	2.9	6.4	14.3	3.5	18.3	101	105	107	105
Germany	24.4	25.6	22.0	23.7	2.2	4.4	2.8	3.6	30.0	18.9	17.2	39.3	89	107	119	113
Japan	32.9	35.1	32.8	33.6	9.8	13.5	10.9	12.2	85.2	25.8	39.7	39.7	78	110	127	117
United Kingdom	18.6	18.7	19.8	19.3	4.5	3.7	3.0	3.4	18.0	17.4	-2.0	14.9	93	104	104	103
France	24.6	23.6	23.7	23.6	6.9	7.3	6.5	6.9	36.9	17.3	8.0	26.7	93	109	119	113
Italy	19.8	20.5	21.1	20.8	1.4	3.7	3.2	3.4	28.6	25.5	4.2	30.7	92	103	109	106
Belgium	22.0	21.6	NA	NA	4.1	3.8	3.9	3.9	NA	NA	NA	NA	88	NA	NA	NA
Netherlands	25.5	24.4	21.4	22.9	6.6	5.9	4.1	5.0	NA	NA	NA	NA	82	113	135	123
Canada	22.4	21.6	23.0	22.3	8.2	4.9	5.6	5.3	22.0	14.8	5.2	20.7	90	109	118	113

Sources:

1) IMF, International Financial Statistics, Line 93e / Line 99b
2) OECD, National Income Accounts
3) International Economic Report of the President, 1977
4) IMF, International Financial Statistics, Line 66c / Line 67c

Several reasons were given for the secular decline. Nordhaus (1972) attributed the decline to a fall in rate of productivity growth in the United States. The growth in output per manhour in the U.S., which had averaged 3.1 percent between 1945 and 1955, fell to 2.15 percent between 1955 and 1965 and declined further to 1.88 percent between 1965 and 1971. Of the nine major countries we are considering, the U.S. had the smallest increase in industrial productivity between 1965 and 1970, and the second smallest increase, behind the United Kingdom, between 1970 and 1976. The ranking was the same for productivity, measured as output per manhour, for the seven countries for which data were available.

The relative productivity decline in the United States has been attributed to changes in the industrial structure, in particular to the large shift towards industries with low productivity growth such as services and government. Another possible source of the relative decline in output per man hour is the lower rate of investment in the United States. Table 2 also compares gross private domestic investment expenditures as a percentage of GDP in the major countries. The United States has the smallest percentage of GDP devoted to investment at 17-18 percent while Germany allocates 25% and Japan allocates more than 32% of gross domestic product to investment. The United Kingdom had the second smallest percentage with 18-19 percent. Note that real investment growth is also consistently smaller in the U.S. and the U.K. than in Japan.

Technological change also could have caused the differences in productivity growth. Historically, the United States, in absolute terms, committed more resources to research and development effort than any of its

major competitors. Even relative to total national resources the United States R&D effort was greater than overseas.[3]

During the 1960s the United States devoted more expenditures as a percentage of GNP to R&D than any of the other countries and had more R&D personnel per 1000 in the labor force than any of the other OECD countries. Since then there have been significant changes in the patterns of R&D among the leading countries. Table 3 summarizes the changes. Between 1963 and 1971, U.S. expenditures on R&D only grew by 3 percent annually while R&D personnel also increased by only 3 percent. Germany, on the other hand, had an annual growth rate of expenditures on R&D of 11 percent, while R&D personnel were increasing at a rate of 6 percent per year. Japan's annual growth rate of expenditures on R&D was almost 15 percent during the period, while its R&D manpower was growing at approximately 5 percent.

Table 3 also gives changes in the relative amount of resources devoted to R&D in the period 1963-64 to 1971. Notice that the United States expenditures on research and development as a percentage of GNP fell from approximately 2.7 percent in 1963-64 to 2.5 percent in 1970-71, while the number of qualified R&D manpower per 1000 in the labor force increased slightly from 12.9 to approximately 13.6 percent. Germany had the most remarkable change. In 1963 Germany averaged 1.4 percent of its GNP allocated to research and development expenditures and approximately 6.9 of every 1000 workers qualified as research and development personnel. In 1970, 2.1 percent of GNP was expended on research and development and the number of qualified personnel rose to 10.6 per 1000.

TABLE 3

RELATIVE AMOUNTS OF RESOURCES DEVOTED TO R&D
IN THE MAJOR OECD COUNTRIES, 1963-71

Country	Expenditures on R&D: As a percentage of GNP 1963/64	Expenditures on R&D: As a percentage of GNP 1971	Expenditures on R&D: Average Annual Growth of Real Expenditures	R&D Manpower: Per 1000 in the labor force 1963/64	R&D Manpower: Per 1000 in the labor force 1971	R&D Manpower: Average Annual Growth
United States	2.7	2.5	3%	12.9	13.6	3%
Germany	1.4	2.1	11%	6.9	10.6	6%
Japan	1.3	1.6	14%	6.2	8.2	5%
United Kingdom	2.3	2.3	3%	11.0	12.1	2%
France	1.7	1.8	6%	7.5	9.2	3%
Italy	.6	.9	9.5%	2.3	3.6	5%
Belgium-Luxembourg	.9	1.2	9%	5.0	6.0	2.5%
Netherlands	1.9	2.0	6%	9.5	11.2	3%
Canada	1.0	1.2	8%	4.3	5.8	7%

Source: OECD "Patterns of Resources Devoted to Research and Experimental Development In the OECD Area, 1963-71," (Paris, 1975), p. 22 and p. 16.

Between 1963 and 1971, all of the major countries increased their share of GNP allocated to R&D except the United States and the United Kingdom. Although these data are now seven years old, they indicate a trend which newspaper accounts have suggested is continuing. More recent cross country data are not yet available but an article by Mitchell Lynch in the Wall Street Journal[4] cited a recent National Science Foundation study which found that U.S. expenditures on R&D in 1975 were only 2% of GNP. The current estimate for Germany was 2.3% of GNP. Since research and development can be expected to have a lagged influence on trade performance, these data from the early 1970s may be reflected only recently in trade patterns.

These changes in the relative amounts of resources devoted to research and development could explain the difference in productivity growth and the changes in the pattern of trade among the major countries. Empirical evidence on the effects of increased R&D on the pattern of trade is lacking but studies of the characteristics of German exports suggest that they are becoming more skill intensive. Stern (1976) found that the human capital content of German trade increased substantially between 1962 and 1969. Using a cross-sectional study of 25 German industries, he found that there was a marked increase in the coefficient on his human capital variable in an equation explaining German trade patterns between the years 1962-69.[5]

The increase in the foreign direct investment activity of the United States multinational corporations during the 1960s has also been identified as a possible cause of the change in U.S. trade patterns. The hypothesis advocated by labor groups is that U.S. multinational corporations transferred technology overseas, thereby eroding the United States comparative advantage. However, it cannot be conclusively proven that U.S. multinational

corporations eroded U.S. comparative advantage, for we do not know what would have happened in the absence of foreign direct investment. These firms may have had little discretion in their decision to invest overseas. They may have been reacting defensively to local firms in the foreign market who were about to capture their market shares.

If these factors were responsible for the deterioration in the U.S. trade position, then it is likely that U.S. export performance will continue to lag. It is important to determine how much of the decline in U.S. export shares in the latter 1960s was due to systematic structural changes because the reasons cited for the structural decline are still present today.

Table 2 shows that the U.S. productivity increases are still smaller than in most of the leading OECD countries, including Germany and Japan. Investment as a share of GNP is smaller than in all of the other countries and the growth rate of real investment is lower than in most countries. As mentioned earlier, the U.S. research and development effort has been declining relative to the other leading countries.

Finally, U.S. multinational corporations are continuing to expand overseas. In an econometric analysis, Aho (1977) has shown that there was little change in U.S. foreign direct investment behavior after the devaluations. U.S. investment overseas in manufacturing plant and equipment is now 25-30% of the same investment in the United States. This is well above its value in the latter 1960s and early 1970s when the ratio never rose above 20%.

In order to identify the effects of these factors aggregate trade shares are inappropriate. Instead, it is necessary to examine changes in the composition and structure of trade. The depreciation of the dollar will increase

U.S. export shares but in what commodities and to which markets? What is the U.S. export performance in those commodities which traditionally reflected U.S. comparative advantage? How is the U.S. performing relative to her major competitors in those technically sophisticated commodities? The analysis in the following section will compare U.S. export performance with that of the other major industrial countries in the context of a constant-market-share analysis to determine changes in U.S. competitiveness over time and with respect to other countries.

II. CONSTANT-MARKET-SHARE ANALYSIS OF INDUSTRIAL COUNTRY EXPORT STRUCTURE, 1965-76

Constant-market-share analysis (CMS) provides a summary measure of a country's export performance vis-a-vis its major competitors.[6] The analysis allows for differences in the commodity composition and market distribution of a country's exports. It decomposes a country's change in exports into the change due to the increase in world trade, due to commodity composition, due to market distribution and due to a residual competitive effect.[7] The competitive residual represents all other price and non-price factors which would influence a country's export performance.

The basic element of the analysis is the comparison of a country's actual export level with the level the country would have achieved had it maintained a constant share.[8] At the level of total exports this implies the hypothetical exports for 1970 would be

$$\bar{V}^{US}_{70} = \frac{V^{US}_{70}}{V_{65}} \cdot V_{70}$$

where $\bar{V}^{US}_{70}$ is the hypothetical level of U.S. exports in 1970, V_{70} and V^{US}_{65} are total OECD exports in 1965 and 1970, and V^{US}_{65} is the actual value of United States exports in 1965. Alternatively, this can be expressed in terms of growth rates

$$\bar{V}^{US}_{70} = r\, V^{US}_{65}$$

where r is the actual increase in OECD exports.

Most of the tables which we present will compare the hypothetical export level with the actual level. If the deviation obtained by subtracting the hypothetical from the actual is positive, then the market share is increasing. If the deviation is negative then the market share is decreasing. These deviations can be calculated for commodities, partners and commodities by partner. A comparison of deviations across countries can be useful in assessing a country's competitiveness.[9]

The basic data used were taken from OECD Trade Series C. Export data for the major OECD countries were assembled for the 1962-76 period. The countries covered were the United States, Germany, Japan, France, Italy, the United Kingdom, Canada, Belgium-Luxembourg, the Netherlands, with the remaining OECD countries considered as a group. The data were classified according to Standard International Trade Classification (SITC) and were disaggregated to the one-digit level for categories 0-4 and 9 and at the two-digit level for the manufacturing industries, SITC categories 5 through 8.

Table 4 shows total exports and commodities at the one-digit level of disaggregation for these countries' exports to the world. The four time periods shown, 1965-70, 1970-73, 1973-76 and 1970-76 will be the ones on

which we shall focus in the rest of the paper. Market share data for these commodities for 1965, 1970, 1973 and 1976 are given in Appendix Table 1.

For total exports the U.S. had negative deviations for all time periods. The U.K. also consistently had negative deviations while Japan consistently had positive deviations.

The U.S. performance varied among the one-digit categories. Food (SITC 0) was alternatively positive and negative by $2-3 B. In the manufacturing sectors (SITC 5,6,7 and 8) the U.S. had negative residuals in all four categories between 1965 and 1970 and 1970 and 1973. Although all four showed small positive deviations between 1973 and 1976, the deviations for all four categories were negative for the whole period from 1970 to 1976.

The largest negative deviations were in machinery and transport, where between 1970 and 1976 -$5978 M was the largest negative deviation in any category experienced by any country. The U.K. decline of -$5957 M in the same category for the same period was the second largest. At the same time the Japanese positive deviation in machinery and transport was $11977 M, the largest in any category.

The U.S. decline in machinery and transport is significant for two reasons. First, machinery and transport equipment exports account for 43% of total U.S. exports. Secondly, each of the subcategories under SITC 7 has been identified as among the most R&D intensive industries.[10] Chemicals, another category characterized as among the most R&D intensive industries, showed the largest percent decline, from 23 percent in 1965 to 19.8 percent in 1970 and to 16.7 percent in 1976.

TABLE 4

DEVIATIONS FROM CONSTANT SHARE NORMS AT THE ONE-DIGIT SITC LEVEL, 1965-70, 1970-73, 1973-76, and 1970-76
($ Millions)

One-Digit SITC Categories	Period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Nether-lands	Canada
Food (0)	1965-70	-1690	396	129	-57	239	-232	288	-346	-562
	1970-73	3301	561	-433	70	832	-446	179	-209	-312
	1973-76	-2258	-27	-411	-8	-920	89	-83	430	-264
	1970-76	2617	801	-1050	96	307	-571	181	122	-724
Beverages and Tobacco (1)	1965-70	-93	11	-1	20	47	44	-8	20	19
	1970-73	-222	66	-9	-224	421	120	42	56	-129
	1973-76	164	104	45	-21	-356	19	14	34	-72
	1970-76	-132	192	33	-320	207	180	70	108	-244
Materials (Except Fuels) (2)	1965-70	-53	-23	-37	-27	-208	-95	-151	-31	44
	1970-73	1078	311	159	18	338	-1	27	209	-3
	1973-76	-1418	-100	-119	-175	-290	-39	-184	-135	-541
	1970-76	155	354	114	-149	204	-40	-144	170	-546
Fuels (3)	1965-70	-106	-297	-6	-185	-209	-35	-61	255	260
	1970-73	-1232	-123	5	4	72	44	71	818	642
	1973-76	404	-976	-93	186	-116	-806	125	-589	-298
	1970-76	-2395	-1255	-80	194	48	-706	287	1270	1159
Fats and Oils (4)	1965-70	-179	25	-15	-5	16	9	14	45	3
	1970-73	-151	101	-7	4	50	11	18	31	-12
	1973-76	6	42	-1	-3	7	4	26	0	12
	1970-76	-205	184	-11	8	77	20	51	43	-5
Chemicals (5)	1965-70	-613	254	223	-386	-103	-211	257	310	29
	1970-73	-1165	546	-92	-290	323	13	533	670	-270
	1973-76	158	-1088	-4	108	-514	20	91	195	170
	1970-76	-1803	-169	-158	-380	29	43	989	1324	-285
Materials Manufactured (6)	1965-70	-514	657	616	-1029	-390	-219	6	-38	-88
	1970-73	-1431	2048	-366	-111	302	421	461	553	-1746
	1973-76	440	-1390	2687	-1582	239	822	-2489	-142	-313
	1970-76	-1682	1646	2144	-1747	208	1447	-1805	678	-2901
Machinery and Transport (7)	1965-70	-2257	-729	2519	-3257	552	489	-117	-413	2988
	1970-73	-4193	3020	4074	-2497	918	-1013	359	313	-1739
	1973-76	1019	-4791	5179	-1790	1372	-383	43	-55	-1171
	1970-76	-5979	250	11977	-5957	2903	-2073	642	466	-4072
Miscellaneous Manufactured Articles (8)	1965-70	-586	77	268	-218	-174	401	-11	78	91
	1970-73	-650	442	-703	-294	614	-388	216	213	-41
	1973-76	491	-360	90	-42	-537	708	-327	-43	-16
	1970-76	-494	310	-975	-488	394	120	-1	280	-78
Not Classified (9)	1965-70	-6	131	79	-124	-36	-102	24	-18	37
	1970-73	-246	62	169	25	-49	2	80	-20	-64
	1973-76	490	177	6	-338	-25	84	361	-19	30
	1970-76	-914	283	299	-295	-110	88	499	-54	-81
Total Exports	1965-70	-7123	1246	3757	-5091	-772	-25	-1412	-5	1734
	1970-73	-4933	7087	2673	-3461	4066	-1056	1780	3075	-4045
	1973-76	-1723	-6997	7280	-3499	-2379	-1056	-3006	874	-1933
	1970-76	-9601	4319	11526	-9025	4113	-878	-164	5785	-8392

Derivation as described in the text.

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Meanwhile, the U.K. had negative deviations in all manufacturing industries in almost every period. Japan had large positive deviations in manufactured materials and machinery and transport in almost every period. Germany had positive deviations as large as $2-3 B between 1970 and 1973, followed by large negative deviations between 1973 and 1976. Germany's share in each of the manufacturing categories was virtually the same in 1976 as it was in 1970.

We will examine the commodity structure of trade on a more disaggregated level in the next section. Table 5 contains a similar analysis for the market structure of trade for manufacturing exports. Appendix Table 2 contains the same information for total trade.

In Table 5 the deviations are shown for each of the nine countries trading with fourteen partner countries or groups.[11] By holding the destination constant we can compare the performance of different exporting nations competing in a common foreign market. The table covers three time periods from 1970-73, 1973-76 and 1970-76. By focusing on those periods we can assess how well the U.S. did both before and after the second devaluation of the dollar.

Between 1970 and 1973 the U.S. share decreased in 11 of the 13 partner areas. The largest decrease in dollar terms was in the EEC9 where the deviation was almost -$4 B. In the period from 1970 to 1973, Germany outperformed the U.S. in 11 of 13 market areas and Japan had the advantage in 9 of 12.

The U.S. performance improved over the period from 1973 to 1976, as shares decreased in only 2 of the 13 market areas. The largest increase was in the Middle East ($1058) which was the most rapidly growing import region over the period.

TABLE 5

DEVIATIONS FROM CONSTANT-SHARE NORMS FOR MANUFACTURING EXPORTS, BY TRADING PARTNERS: 1970-73, 1973-76 and 1970-76
($ Millions)

Partner	Period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Nether-lands	Canada
United States	1970-73	-	475	-7	296	132	-209	168	84	-1325
	1973-76	-	-2356	2945	-614	177	-120	-555	-163	928
	1970-76	-	-1663	2996	-219	364	-386	-323	-24	-1003
Canada	1970-73	46	29	11	-149	37	1	23	-26	-
	1973-76	582	-103	55	-387	-42	11	-34	-37	-
	1970-76	649	-59	74	-609	14	12	0	-76	-
Japan	1970-73	-157	121	-	-31	89	51	32	4	-76
	1973-76	88	-152	-	-66	-32	1	-65	-18	-11
	1970-76	-97	-19	-	-105	68	59	-32	-15	-91
Australia New Zealand South Africa	1970-73	-36	237	560	-361	-20	15	47	-4	-152
	1973-76	340	-333	311	-720	106	-91	-21	-60	50
	1970-76	261	41	1189	-1293	70	-69	46	-68	-175
EEC-9	1970-73	-3902	1943	1006	-670	1180	-612	549	850	-941
	1973-76	-108	-1733	732	1050	-835	988	-541	-940	-305
	1970-76	-6025	1141	2224	53	948	37	338	375	-1676
Other Developed Europe	1970-73	-550	304	204	-192	181	-71	16	198	-34
	1973-76	188	-399	330	-302	-143	167	41	-177	-13
	1970-76	-625	61	635	-623	133	60	72	118	-62
Developing Europe	1970-73	-462	129	-9	-293	209	40	35	78	-39
	1973-76	169	24	333	-125	-122	80	-68	-128	-13
	1970-76	-498	212	318	-547	179	140	-16	-13	-71
Eastern Europe	1970-73	36	1154	-40	-386	-55	-480	114	62	-12
	1973-76	310	-1236	1202	-411	111	-389	-152	-132	-1
	1970-76	379	846	1144	-1102	[illegible]	-1244	51	-23	-24
Africa	1970-73	-237	122	428	-422	5	-68	-55	27	6
	1973-76	171	-41	-176	230	407	14	-26	79	43
	1970-76	-268	183	636	-555	403	-114	-130	125	53
Caribbean	1970-73	-43	76	450	-173	-109	-123	5	-26	-68
	1973-76	19	-260	229	-108	23	-45	-28	-72	22
	1970-76	-65	-127	1055	-416	-182	-263	-26	-123	-94
South America	1970-73	-559	126	479	-119	139	-37	47	57	-191
	1973-76	704	-496	18	-113	-137	51	-112	-193	222
	1970-76	-239	-274	796	-317	120	-7	-35	-98	-96
Middle East	1970-73	-117	92	391	-248	-392	125	51	37	35
	1973-76	1058	255	1977	-1319	-1468	-244	-570	-167	59
	1970-76	677	587	3267	-2171	-2624	117	-464	-65	185
Central Asia and Far East	1970-73	-287	54	931	-298	70	-128	-19	12	-94
	1973-76	164	-203	-10	-649	439	-93	118	-108	-27
	1970-76	-234	-142	1418	-1122	548	-299	90	-94	-177
Other	1970-73	128	-5	-210	175	21	8	4	-1	0
	1973-76	-1580	789	-100	-1904	-387	-93	-11	2482	-3
	1970-76	-1355	788	-805	-866	-181	-34	3	2485	-1

The U.S. performance improved with respect to Germany as Germany only outperformed the U.S. in one of thirteen markets. The story is slightly different with respect to Japan. Japan continued to outperform the U.S. in seven of twelve areas. Over the whole period from 1970 to 1976, Japan outperformed the U.S. in eleven of twelve areas even though the yen appreciated by 21 percent relative to the dollar. Japan's adjusted unit value did rise less quickly over the whole period but only slightly less (78 versus 82 percent).

This implies two things: First, one of the factors often cited for the lagging export performance, increased protectionism overseas, cannot explain the superior performance of Japan in markets where they must compete on an equal basis. Secondly, it calls into question the cyclical explanation of U.S. deficits. Obviously, the level of income in foreign markets common to both Japanese and U.S. exporters is the same. The cyclical explanation still has validity to the extent low aggregate demand in Japan makes more goods available for export, but that should already be reflected in the export unit values.

Finally, it is interesting to note that Japan had a better performance than the United Kingdom in all but three cases. One of those was trade with EEC after 1973. Japan's deviation of $732 M was exceeded by the U.K.'s $1050 M which was to be expected given the U.K.'s integration into the European Community.

We turn now to a constant-market-share analysis which allows comparison of export performance across countries while taking into account the commodity and market structure of a country's exports. This analysis was used to

compare the export performance of the leading OECD countries for three separate time periods (1965-70, 1970-73 and 1973-76), to see if and how the realignment of exchange rates affected U.S. export performance relative to other industrial countries.[12]

The analysis was done at the one-digit SITC level for the nine OECD countries' exports to the fourteen different market areas. Total exports and manufacturing exports were analyzed separately to compare individual country export performance both in total exports and in industrial products, and to abstract from changes in agricultural and petroleum trade in the 1970s. The results of the analysis for total exports are given in Table 6. The results for manufacturing exports alone are given in Table 7.

Both tables separate the change in exports into the change due to the growth in world trade, commodity composition and market distribution and the competitiveness residual. All of the effects are expressed as percentages, where the actual change in exports over the period is used to normalize. Table 8 contains the dollar value of the competitive residuals for both manufacturing and total exports for the different time periods.

Table 6 shows that the growth in world trade accounted for 145.7 percent of the increase in U.S. exports between 1965 and 1970. U.S. exports were concentrated in commodities growing at a slower rate than overall trade (commodity effect = -6.6) and they were going to regions growing less quickly than overall trade (market effect = -6.0). The negative residual of -33.1 percent translates into more than -$5 B. That was the largest negative residual in dollar terms for the period from 1965 to 1970. It was second in percentage terms, only exceeded by the U.K. at -68.1 percent. Japan had the largest positive residual in both dollar and percentage terms.

TABLE 6

CONSTANT-MARKET-SHARE ANALYSIS OF TOTAL EXPORTS OF SELECTED OECD COUNTRIES: 1965-70, 1970-73, 1973-76 and 1970-76
(Percentage)

Country	Period	CHANGE IN EXPORTS DUE TO: Increase in World Trade	Commodity Composition	Market Distribution	Increased Competitiveness (Residuals)
United States	1965-70	145.7	-6.6	-6.0	-33.1
	1970-73	117.8	- .1	-7.6	-10.1
	1973-76	104.3	- .6	2.2	- 5.9
	1970-76	114.2	1.8	-5.4	-10.6
Germany	1965-70	92.4	4.5	3.2	- .1
	1970-73	78.7	.2	4.8	16.3
	1973-76	121.0	4.3	-4.0	-21.3
	1970-76	93.5	2.6	1.9	2.0
Japan	1965-70	65.4	.1	-1.4	35.8
	1970-73	84.7	-.7	-7.2	23.2
	1973-76	75.1	-.4	.2	25.0
	1970-76	75.3	-1.6	-4.5	30.8
United Kingdom	1965-70	184.3	2.9	-19.2	-68.1
	1970-73	130.7	-1.5	-5.4	-23.8
	1973-76	123.8	1.1	13.8	-38.6
	1970-76	134.7	0	2.8	-37.6
France	1965-70	109.9	-6.5	-3.0	- .5
	1070-73	76.9	1.4	4.6	17.0
	1973-76	112.7	-4.1	11.2	-19.9
	1970-76	88.7	-.4	11.0	.8
Italy	1965-70	100.3	-1.2	2.2	-1.3
	1970-73	111.7	2.0	7.3	-21.0
	1973-76	94.3	2.1	5.5	-1.9
	1970-76	103.8	2.6	7.2	-13.6
Belgium Luxembourg	1965-70	102.7	1.9	-1.4	-3.2
	1970-73	83.3	-1.9	6.0	12.6
	1973-76	129.2	-5.7	-5.3	-18.3
	1970-76	100.8	-4.4	2.5	1.2
Nether-lands	1965-70	100.1	-10.4	6.6	3.7
	1970-73	74.5	3.6	4.1	17.7
	1973-76	94.2	7.9	-2.6	.4
	1970-76	78.7	5.1	1.8	14.4
Canada	1965-70	80.1	-12.4	11.2	21.2
	1970-73	146.9	-4.3	-6.1	-36.5
	1973-76	114.8	4.0	-24.2	5.4
	1970-76	138.6	-2.8	-19.5	-16.3

Source: Export data taken from OECD Trade Series C. Derivation as described in the text. The various effects are normalized by the actual increase in the country's exports over the period.

TABLE 7

CONSTANT-MARKET-SHARE ANALYSIS OF MANUFACTURING (SITC 5, 6, 7, 8)
EXPORTS OF SELECTED OECD COUNTRIES: 1965-70, 1970-76, 1970-73 and 1973-76
(Percentage)

Country	Period	CHANGE IN EXPORTS DUE TO: Increase In World Trade	Commodity Composition	Market Distribution	Increased Competitiveness (Residual)
United States	1965-70	127.1	5.7	-16.5	-16.4
	1970-73	145.9	2.5	-8.5	-39.9
	1973-76	88.8	4.2	.0	7.0
	1970-76	117.3	4.5	-5.5	-16.3
Germany	1965-70	95.8	2.4	5.3	-3.5
	1970-73	79.0	.6	4.0	16.4
	1973-76	123.9	2.3	-4.8	-21.4
	1970-76	94.9	1.6	.8	2.7
Japan	1965-70	66.9	-2.0	-1.9	37.0
	1970-73	83.2	-.7	-7.7	25.2
	1973-76	72.6	-.4	.4	27.3
	1970-76	72.8	-1.5	4.3	33.0
United Kingdom	1965-70	192.4	2.3	-16.3	-78.5
	1970-73	132.2	.2	-3.5	-30.9
	1973-76	128.3	-.7	17.8	-45.4
	1970-76	139.8	.5	6.2	-46.5
France	1965-70	104.0	-2.1	-2.1	.3
	1970-73	83.0	-.2	5.4	11.9
	1973-76	100.0	.5	11.7	-12.2
	1970-76	87.9	-.5	13.1	-.5
Italy	1965-70	91.0	.6	3.8	4.7
	1970-73	112.4	.4	6.9	-19.8
	1973-76	92.5	-2.1	7.7	2.0
	1970-76	103.0	-.6	7.8	-10.2
Belgium-Luxembourg	1965-70	105.0	-8.1	9.5	-6.5
	1970-73	84.5	-2.6	6.4	11.7
	1973-76	144.8	-9.4	-8.6	-26.8
	1970-76	107.6	-6.6	1.5	-2.6
Netherlands	1965-70	103.6	-1.6	7.0	-9.1
	1970-73	74.7	.0	5.7	19.5
	1973-76	100.8	-.3	-5.1	4.5
	1970-76	81.9	-.1	1.6	16.6
Canada	1965-70	55.0	-4.0	15.2	33.9
	1970-73	203.2	-1.7	-24.2	-77.3
	1973-76	118.6	.7	-32.9	13.7
	1970-76	170.0	-1.1	-38.6	-30.2

Source: Export data taken from OECD Trade Series C. Derivation as described in the text. The various effects are normalized by the actual increase in the country's manufactured exports over the period.

The results are similar for manufacturing exports. The U.S. had the second largest negative residual in percentage terms and also in dollar terms. The U.K. negative residuals apparently came in manufacturing exports as the dollar value (-$4 B) was nearly the same for both breakdowns. Japan again had the largest positive residuals, as will be true for most of the rest of this analysis. Japan's performance as measured by the competitive residual is primarily determined by her performance in manufacturing.

For the whole period from 1970 to 1976, the U.S. performed relatively poorly. In total trade, U.S. residuals were negative in both subperiods as well as over the entire period. The -10.6 percent residual (-$7190 M) was the fourth worst. In manufacturing exports, the -16.3 percent ($-$7440 M) residual was the third worst, exceeded only by those of the U.K. and Canada. The performance for total trade was better because the improvement in agriculture over the period helped to offset the decline in manufactures.

The results for total exports and manufacturing exports differed for the two subperiods. Total exports had negative competitive residuals in both subperiods, but in manufacturing, the U.S. had its only positive residual (7.0 percent or $2104 M). This still was not enough to outweigh the decline for the 1970-1973 period, and the manufacturing competitive residual for the whole period was negative.

Two unambiguous results emerge from the constant-market-share analysis. Japan did exceptionally well in all periods despite the appreciation of the yen. The United Kingdom, on the other hand, did very poorly even though the pound was devalued in 1967 and depreciated in the aftermath of the collapse of the Bretton Woods system. The U.K.'s competitive residuals in

TABLE 8

COMPETITIVE RESIDUALS FROM CONSTANT-MARKET-SHARE ANALYSIS, MANUFACTURING AND TOTAL EXPORTS
($ Millions)

Period	Category	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Nether-lands	Canada
1965-70	Manufacturing Exports	-1977	-516	3825	-4051	19	255	-286	-284	2083
	Total Exports	-5163	-18	3895	-4107	-39	-81	-166	200	1790
1970-73	Manufacturing Exports	-6140	4857	4192	-2871	1485	-1487	1016	1354	-2892
	Total Exports	-2605	5431	4050	-2686	3004	-1897	1345	2137	-3150
1973-76	Manufacturing Exports	2104	-6245	7847	-5439	-1903	236	-2028	368	949
	Total Exports	-2387	-7066	7312	-5690	-3719	-265	-1879	64	710
1970-76	Manufacturing Exports	-7440	1575	14948	-9890	-139	-1991	-426	2506	-3223
	Total Exports	-7190	1320	14374	-9769	277	-3155	252	3916	-3539

dollar terms ranged from -$2.6 B to -$5.6 B. Japan had residuals ranging from $3.8 B to $7 B.

Germany's performance was mixed. Competitiveness residuals were positive and large between 1970 and 1973 but they were large and negative between 1973 and 1976. Still, Germany was able to hold her 1970-share despite the sustained appreciation of the D-Mark amounting to 32 percent on an effective exchange rate basis. After Germany's export unit values are adjusted for exchange rate changes, Germany had one of the largest increases in unit value witnessed over the period.

This analysis provides evidence that substantial changes had occurred in the United States trade patterns during the 1960s and that these changes have persisted since the two dollar devaluations. If the United States deterioration on the trade account had been due to a one-time decrease because of excess demand inflation in the United States, one would have expected that the trade shares of the United States would have increased (or stabilized) after the substantial devaluation of the dollar with respect to the major currencies. This trade share analysis demonstrates that this, in fact, has not happened.

There are many practical and theoretical problems associated with conducting a constant-market-share analysis. Practical problems include the choice of base years and periods for analysis and the choice of a standard group of countries for comparison. Theoretically, the competitive residual represents the interaction of both supply and demand factors and the general equilibrium system behind them.[13] In the next section we go on to investigate the factors, both price and non-price, that could cause market shares to

change. In addition, we examine recent changes in the commodity composition of trade at a more disaggregated level to see if we can determine if there are structural changes occurring and what are the possible causes.

III CHANGES IN THE COMMODITY COMPOSITION OF TRADE AND THEIR CAUSES

One of the most important factors by which competitiveness is traditionally measured is changes in relative prices. Changes in relative prices have generally been in favor of the U.S. and the U.K. in recent years (see Table 1). Nevertheless, both of these economies have had lagging export performances as measured by our constant-market-share analysis.

Apart from changes in relative prices, several non-price, structural factors could be responsible for the lagging U.S. export performance. These include falling research and development expenditures by U.S. industry, lower productivity growth in the U.S. caused in part by smaller growth in investment, technology transfer by U.S. corporations, government regulations on U.S. industry, a lack of aggressiveness on the part of U.S. exporters and protectionism abroad. We have argued earlier that protectionism could not explain the superior performance of Japan vis-a-vis the U.S. in many export markets overseas.

Aggressiveness is a factor often cited for the superior performance of Japanese and German exporters. However, it is difficult to separate out aggressiveness in marketing from other non-price factors such as product quality and performance.

Although they should affect the competitiveness of U.S. exports, stricter government regulations on industry are a relatively new phenomenon and cannot explain the long-term decline. However, to the extent they raise costs, they could hamper U.S. exports, other things being equal. To arrive at an empirical estimate would require comprehensive empirical information on the cost and demand functions at the microeconomic level. In the analysis which follows these regulations should be reflected in the price variable, adjusted unit value.

Besides price, the remaining factors comprise what we feel are the important variables affecting U.S. comparative advantage in the long run. The hardest factor to identify is the effect of technology transfer. U.S. firms investing overseas have been accused of eroding U.S. comparative advantage based upon differences in technology. The difficulty comes in addressing the counterfactual question: What would have happened had the firms not invested overseas? Further, it is hard to separate technology transfer by multinational corporations from the observed decline in basic research by U.S. industry. Those same industries which do the most R&D, whether measured by the number of scientists and engineers in the workforce or as a percentage of sales, are also responsible for the bulk of U.S. foreign direct investment.

Of the remaining variables, price, productivity and investment activity can be quantified and used to try to explain observed changes in market shares. Leamer and Stern (1970) suggest that the residuals from a constant-market-share analysis could be used as a dependent variable to be explained by changes in relative prices and other factors which would affect the size of the competitive residuals.[14]

Our hypothesis, expressed in the first section, is that the decline in U.S. export shares in the latter 1960s which continued at a more moderate rate in the 1970s, reflects more than a change in price levels. Systematic technical change and international differences in productivity growth could cause U.S. comparative advantage to decline over the longer term. The lower rate of growth of investment and industrial productivity, the smaller share of material resources devoted to investment and the decline in R&D effort -- all structural factors -- could influence the pattern of comparative advantage over the longer run.

In order to test whether price or non-price factors are responsible for recent changes in trade patterns, we set up a simple linear regression to try to explain the competitive residuals derived from constant-market-share analysis. The residuals were related to adjusted unit value indices (from Table 1), industrial productivity (Table 2) and the share of investment in GDP (Table 2). Theory would predict that the residuals would be negatively related to price and positively related to increases in productivity and the share of investment in GDP (in part proxying the "newness" of the industrial base).

Equations 1-4 contain the results for the 1970s for manufacturing.[15] Similar results were obtained for the 1960s so that we confine our attention to the more recent period which included the exchange rate realignments.

PERIOD

(1) $RES = -.29 + .03\ AXPI + .52IGDP$ (1970-76)

$(.24) \quad (5.01) \quad \bar{R}^2 = .91$

PERIOD

(2) RES = .02 - .13 AXPI + .49IGDP (1970-73)

(.38) (3.04) $\bar{R}^2$ = .53

(3) RES = .08 - .18 AXPI + .19 IP (1973-76)

(2.30) (2.60) $\bar{R}^2$ = .41

(4) RES = .01 - .36AXPI + .27IGDP (1973-76)

(2.89) (3.54) $\bar{R}^2$ = .63

RES is the residual in manufacturing from Table 8 deflated by the increase in OECD exports (/1000), AXPI is adjusted unit value, IP is industrial productivity, and IGDP is the investment-GDP ratio. Equations (1) and (2) use concurrent values. Equations (3) and (4) use lagged values.

Although these results are obtained from a very limited sample, eight observations for each period, they suggest that non-price factors are important. The industrial productivity or investment-GDP variable entered significantly with the correct sign in every equation while the price variable did not. The results for the period after 1973, when the largest changes in adjusted unit values occurred, showed that both price and structural components were correlated with the residuals. The higher the AXPI, the smaller was the residual. But, in addition, those countries with higher IP or IGDP had larger positive residuals.

These results are consistent with the hypothesis of a secular decline and lend support to the importance of structural factors. However, we would be remiss if we did not qualify the results. With so few observations, outlying values for one or two countries can greatly influence the results. Two outliers come immediately to mind, the U.K. and Japan.

Japan has the largest positive residual concurrent with the highest IGDP ratio and largest increases in industrial productivity. On the other hand, the U.K. has one of the lowest IGDP ratios and low rates of productivity increase, while consistently having the worst export performance record.

An alternative form of evidence would have been a close comparison of the two countries' performance. In either case the conclusion would be the same, that structural factors are needed to explain the recent changes in the pattern of trade. Unfortunately this analysis does not enable us to identify with certainty which structural factors are important. In order to do that a more detailed analysis of disaggregated trade data is needed. However, to the extent the U.S. continues to resemble the U.K. in terms of productivity, investment and R&D, there is reason for concern. We turn now to a more detailed commodity breakdown to determine whether these results are confirmed at a disaggregated level.

Table 9 contains deviations from constant share norms for U.S. exports in the thirty manufacturing industries at the two-digit level.[16] Note in Table 9 that between 1965 and 1970 there were only four positive deviations. Between 1970 and 1976, only nine two-digit manufacturing categories had positive deviations. The positive deviations were in fertilizers ($89 M), explosives ($8 M), leather manufactures ($20 M), wood and cork ($181 M), paper manufactures ($39 M), textiles ($563 M), furniture ($27 M), handbags and luggage ($14 M), and footwear ($18 M).

None of these categories is characterized as R&D intensive. The traditionally R&D intensive industries all had negative deviations indicating

TABLE 9
DEVIATIONS FROM CONSTANT-SHARE NORMS FOR U.S. MANUFACTURING EXPORTS
TWO-DIGIT SITC DISAGGREGATION
($ MILLIONS)

	SITC NO.	Description	1965-1970	1970-1973	1973-1976	1970-1976
5		Chemicals	-613	-1165	158	-1803
	51	Chemical Elements and Compounds	-230	- 486	-83	-1009
	52	Crude Chemicals From Coal, Petroleum and Gas	12	- 9	-78	-96
	53	Dyeing Tanning and Coloring Materials	- 28	- 50	0	-71
	54	Medicinal and Pharmaceutical Products	- 80	- 96	41	-103
	55	Perfume Materials, Toilet and Cleansing Preparations	- 35	- 43	28	- 41
	56	Fertilizers, Manufactured	22	38	37	89
	57	Explosives and Pyrotechnic Products	-7	3	3	8
	58	Plastic Materials, etc.	-279	- 271	-58	-511
	59	Chemical Materials and Products, NES	- 73	- 170	81	-198
6		Manufactured Goods Classified Chiefly by Material	-514	-1431	440	-1682
	61	Leather, Leather Manufactures, NES & Dressed Fur Skins	- 38	-3	25	21
	62	Rubber Manufactures NES	-116	-37	-41	-104
	63	Wood and Cork Manufactures Excluding Furniture	30	32	136	181
	64	Paper, Paperboard and Manufactures thereof	-26	-83	168	39
	65	Textile Yarn, Fabrics, Made-Up Articles, etc.	-201	154	366	563
	66	Non-metallic Mineral Manufactures, NES	-10	-163	-29	-268
	67	Iron and Steel	130	-851	-141	-1459
	68	Non-ferrous Metals	-94	-241	-231	-548
	69	Manufactures of Metal, NES	-244	-136	125	-112
7		Machinery and Transport Equipment	-2257	-4193	1019	-5979
	71	Machinery Other Than Electric	-1181	-2087	1799	-1623
	72	Electrical Machinery, Apparatus and Appliances	-379	-393	313	-369
	73	Transport Equipment	-601	-1603	-1030	-3698
8		Miscellaneous Manufactured Articles	-586	-650	491	-494
	81	Sanitary, Plumbing, Heating and Lighting Fixtures	-27	-29	18	-22
	82	Furniture	-39	-21	64	27
	83	Travel Goods, Handbags and Similar Articles	-4	7	4	14
	84	Clothing	-115	-102	82	-66
	85	Footwear	-13	5	11	19
	86	Scientific & Control Insts., Photographic Goods, Clocks	-89	-325	186	-327
	89	Miscellaneous Manufactured Articles, NES	-234	-187	109	-166

that the United States market share in those commodities fell between 1970 and 1976. Some of the largest deteriorations between 1970 and 1976 were in technically sophisticated categories including chemical elements (-$1010 M), plastics (-$511 M), nonelectrical machinery (-$1623 M), electrical machinery (-$369), transport equipment (-$3699 M) and scientific instruments (-$326 M). Each of these categories was identified earlier as among the most R&D intensive industries.

Since all of the deviations for the technically sophisticated products were negative between 1970 and 1976, this implies that those sectors did not reverse any losses caused by the excess demand inflation of the latter 1960s. In fact, in several of the categories the losses were accentuated even though the dollar was devalued.

Since our interest was in concentrating on those industrial categories which form an important part of United States exports, we separated out for closer analysis twelve manufacturing categories which make up the bulk of United States exports. These twelve categories include chemical elements (51), medical and pharmaceutical (54), plastic materials (58), miscellaneous chemicals (59), iron and steel (67), non-ferrous metals (68), miscellaneous metal manufactures (69), nonelectrical machinery (71), electrical machinery and appliances (72), transport equipment (73), scientific and professional (86), and miscellaneous manufactures (89).

In each of these twelve categories, except medical and pharmaceutical, the United States had exports of over $1 billion in 1975 and 1976.[17] In 1970 these twelve categories accounted for 60 percent of total United States exports and 88 percent of United States manufactured exports. In 1976 these

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twelve categories comprised 57 percent of total exports and 86 percent of manufactured exports. Most of these categories are those which are traditionally associated with United States comparative advantage and are either research and development intensive or sophisticated manufactured products.[18]

From Table 9, we see that the United States had a negative deviation in each of these categories between 1970 and 1976. Table 10 contains trade share data for these twelve categories for 1965, 1970, 1973 and 1976. The table compares United States export market shares with those of the other nine OECD countries or groups. The table shows the extent to which the United States trade shares have decreased in these important industrial categories.

In chemical elements (51), the United States share decreased from 25 percent of the market in 1970 to less than 20 percent in 1976. In medical and pharmaceutical (54), the decrease was from 16.9 to 15.2 percent. In plastics (58), the United States share decreased from 16.7 percent to a low of 12.8 percent. Miscellaneous chemicals (59) also decreased from 23.5 to 20.3 percent.

Note that the decreases in these categories followed decreases in the 1965-70 period. Thus it appears that the United States has continued to lose its share in the major chemical categories since the two devaluations of the dollar. Remarkably with the decline in the United States trade share in the chemical categories, the Japanese share and the German share of the export markets have remained substantially the same in each of the four categories. The largest gainer in these four chemical categories appears to be the other OECD classification.

TABLE 10

EXPORT TRADE SHARES* FOR SELECTED MANUFACTURING INDUSTRIES: 1965, 1970, 1973 and 1976
(Percentage Shares)

SITC Category	Year	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Nether-lands	Canada	Other OECD
Chemical Elements (51)	1965	27.81	18.76	6.97	8.56	9.44	6.33	2.55	5.39	3.59	10.60
	1970	25.00	18.63	8.14	6.85	9.35	4.64	5.25	7.52	3.53	11.09
	1973	20.18	20.17	7.31	7.72	10.23	4.29	7.15	10.09	2.58	10.28
	1976	19.81	18.78	7.60	8.39	8.22	4.26	6.52	10.44	2.97	13.02
Medical & Pharmaceutical (54)	1965	20.65	15.45	2.18	15.10	11.11	4.91	2.35	5.47	1.21	21.56
	1970	16.86	19.69	2.46	13.45	9.22	6.07	3.31	5.65	1.37	21.81
	1973	14.60	19.95	2.33	12.65	10.16	6.11	4.66	6.18	1.13	22.23
	1976	15.23	18.32	2.21	12.39	9.35	6.39	5.09	6.19	.90	23.93
Plastic Materials (58)	1965	23.88	22.38	6.65	12.75	7.14	8.52	3.03	6.63	1.20	7.81
	1970	16.72	24.49	10.92	8.84	7.32	6.35	5.73	10.86	.80	7.98
	1973	13.23	26.33	8.32	7.11	8.65	7.16	7.62	12.80	.69	8.09
	1976	12.78	24.38	8.20	7.19	8.85	7.10	8.26	13.19	.54	9.52
Miscellaneous Chemicals (59)	1965	26.47	21.50	1.80	16.06	9.52	2.89	2.27	8.07	1.43	9.99
	1970	23.53	23.17	2.44	11.92	9.31	3.31	3.25	8.12	1.67	13.29
	1973	19.09	24.55	3.06	11.78	9.92	3.23	5.37	9.81	1.19	12.00
	1976	20.31	23.21	3.95	10.89	9.75	3.44	5.64	9.41	1.01	12.38
Iron and Steel (67)	1965	8.16	18.42	16.65	8.51	12.49	4.75	14.83	3.15	2.76	10.28
	1970	9.09	18.12	20.37	5.98	11.15	3.23	13.97	3.45	3.01	11.62
	1973	5.49	20.98	22.32	4.49	10.36	4.28	14.69	4.18	2.07	11.14
	1976	5.11	17.95	28.00	3.96	10.15	5.77	10.56	3.51	2.35	12.63
Non-Ferrous Metals (68)	1965	13.97	9.81	3.08	11.89	6.04	2.72	12.79	3.26	21.96	14.48
	1970	12.74	9.62	3.27	11.12	5.02	1.82	12.97	2.62	20.71	20.12
	1973	10.37	13.14	3.02	12.94	5.96	1.90	13.62	3.98	16.26	18.81
	1976	8.65	13.91	4.72	9.59	6.01	2.35	10.73	5.38	14.75	23.91
Miscellaneous Metal Manufactures (69)	1965	17.13	21.77	9.26	13.49	7.56	7.00	5.21	3.79	2.19	12.60
	1970	12.87	20.96	12.34	10.81	8.17	7.73	5.03	4.10	2.84	15.16
	1973	11.46	22.68	12.42	8.57	8.65	7.22	5.76	4.95	2.60	15.69
	1976	12.20	19.91	11.84	8.22	10.04	8.09	5.07	5.14	2.60	16.90
Machinery (Non-Electrical) (71)	1965	28.54	22.42	3.50	14.82	6.00	5.91	2.40	2.20	2.77	11.44
	1970	25.01	22.87	6.02	11.82	6.75	7.49	2.29	2.42	3.74	11.60
	1973	21.41	25.92	7.64	10.47	7.56	6.48	2.44	2.75	3.33	12.00
	1976	23.35	23.58	8.09	9.51	8.22	6.37	2.46	2.70	3.29	12.44
Electrical Machinery (72)	1965	21.67	19.31	9.91	12.08	6.83	5.60	3.37	8.10	2.37	10.36
	1970	19.18	18.84	15.25	8.89	6.98	6.38	3.03	6.21	3.49	11.76
	1973	17.79	20.95	16.58	7.00	7.72	5.76	3.40	5.93	2.25	12.59
	1976	18.43	18.86	19.33	7.20	7.96	5.19	3.29	5.35	1.71	12.69
Transport Equipment (73)	1965	21.98	21.41	9.16	15.17	7.77	5.30	4.39	2.48	5.67	8.68
	1970	20.49	18.44	11.91	8.89	8.73	4.74	4.16	1.79	12.39	8.46
	1973	19.17	19.54	16.27	6.81	8.89	4.32	4.36	2.17	9.61	8.86
	1976	18.07	17.93	19.76	5.80	9.58	4.33	4.43	2.40	8.72	8.98
Scientific and Instruments (86)	1965	23.21	20.15	9.21	10.33	5.79	3.51	3.86	2.11	.52	21.31
	1970	21.61	19.86	12.85	9.52	6.27	3.81	3.29	3.60	.77	18.42
	1973	18.40	20.56	14.80	9.08	6.74	3.35	3.29	5.03	.73	18.02
	1976	19.67	18.39	18.69	7.57	6.70	3.04	3.40	5.47	.98	16.09
Miscellaneous Manufactures (89)	1965	18.70	16.05	13.28	12.62	9.09	7.97	3.89	4.69	1.17	12.53
	1970	15.49	16.71	17.52	10.57	7.60	8.92	4.13	4.68	1.52	12.86
	1973	13.97	17.57	15.88	10.28	9.25	8.14	4.18	4.74	1.41	14.58
	1976	14.58	16.70	14.36	10.46	8.86	9.58	3.89	4.69	1.71	15.16

Source: Basic export data from OECD Trade Series C.

*Country share of OECD exports of the commodity to the world.

In the metallurgical industries, the United States share in iron and steel (67) declined from 9 percent to 5.1 percent while the Japanese share increased dramatically from 20 percent to 28 percent. Germany's share declined as did the United Kingdom's. Over the longer historical period, the Japanese share of iron and steel increased by over 11 percent between 1965 and 1976, rising from 16.7 to 28 percent.

In non-ferrous metals (68) the United States share declined by approximately 4 percent while the German share increased by over 4 percent in the six-year period for 1970-76. Japan's share also increased slightly. The shares in miscellaneous metal manufactures (69) were unchanged between 1970 and 1976, except for the UK which lost over 2 percent.

The machinery and transport sectors contain three of the most R&D intensive subcategories. In the nonelectrical machinery industry (71), the United States share declined from over 25 percent to 23.4 percent, while Japan's share increased by over 2 percent from 6.0 to 8.1 percent between 1970 and 1976. Germany's share increased slightly while the UK lost over 2 percent. In electrical machinery and appliances (72), the United States share decreased slightly from 19.2 to 18.4 percent while Japan increased its share by over 3 percent. The overwhelming development in transport equipment was the increase in the Japanese share from 11.9 percent to over 19.6 percent in the six-year period. Over the longer historical period, the United States share fell by almost 4 percent between 1965 and 1976 while the Japanese share more than doubled.

In the scientific and professional category (86), the United States share declined by almost 2 percent between 1970 and 1976, while the Japanese

share increased approximately 6 percent. Germany and the UK both lost 1.5 to 2 percent. Finally, in miscellaneous manufactures (89), the United States share decreased slightly, the Japanese share decreased from 17.5 percent to 14.4 percent, and the German share remained fairly constant.

The U.S. did improve its export performance between 1973 and 1976. Table 9 shows that 19 of the 30 industries had positive deviations since 1973. With the exception of nonelectrical machinery, however, most of these gains were small in dollar terms. The increase in nonelectrical machinery was almost $1.8 billion.

An examination of changes in trade patterns at the three digit level of disaggregation (not shown) reveals that agricultural implements and office machinery were responsible for the improvement in nonelectrical machinery. The U.S. share of agricultural implements trade increased from 28 to 32 percent between 1973 and 1976. The increase in office machinery was from 31 to 35.5 percent but this was still below its high of 39 percent in 1970. The improvement in all of nonelectrical machinery between 1973 and 1976 was still not enough to outweigh the earlier decline, as the deviation for the whole period from 1970 to 1976 was -$1.6 billion.

Meanwhile, some of the other manufacturing industries contributing to the U.S. share increases between 1973 and 1976 included such unlikely industries as wood and cork ($135 M), paper manufactures ($168 M), clothing ($81 M) and textiles ($366 M). Except for a portion of the textile industry, none of these categories can be classified as R&D intensive. These categories are ones in which an exchange rate change could be expected to have a larger effect compared to the more technical industries where product quality or superior production techniques dominate trade patterns.

On the other hand, some of the more research-intensive industries experienced further declines in share between 1973 and 1976. Transport equipment (-$1029 M) had the largest decline among the more technically sophisticated commodities, followed by chemical elements (-$83 M) and plastics (-$58 M). The decline in transport equipment did not come in road motor vehicles (SITC 732) but in aircraft (SITC 734). The U.S. share of road vehicles actually increased by about 1 percent between 1973 and 1976 while aircraft decreased by 4 percent from 67 to 63 percent.

These results suggest that the depreciation of the dollar has not improved the performance in many of the most important industrial categories. Although the depreciation of the dollar has arrested the slide of U.S. export shares in technology-intensive products, there is no evidence that the trend has been reversed. Apparently the depreciation of the pound was also not sufficient to make the UK's manufactures competitive, as the UK continued to lose shares in many of these important categories. Meanwhile, the other major U.S. competitors, Germany and Japan, have been maintaining and increasing their shares. Thus, the results from the constant-market-share analysis and the simple regression analysis appear to be reinforced at the disaggregated level. Although more sophisticated statistical analysis is required to substantiate these findings, they do suggest that more attention should be paid to the structural factors that influence comparative advantage in the long run.

IV CONCLUSION

Our results suggest that structural factors are, in part, responsible for recent changes in the pattern of United States exports. Price and cyclical factors cannot completely explain the recent changes in the structure cf U.S. exports. These results are consistent with the hypothesis of a secular decline in U.S. comparative advantage.

Unfortunately, we could not precisely identify those factors causing the change. Decreased R&D effort, lower productivity growth, smaller investment outlays and technology transfer are all possibilities. Depreciation of the dollar will help to increase export revenues by making U.S. products more competitive on world markets, but it will do little to cure the problem if it is due to one of these factors. U.S. exports which have traditionally been characterized by their capital-, skill- and R&D-intensity have not in general done any better than less sophisticated products since the devaluations of the dollar and U.S. industry as a whole has not been able to regain its 1970 share of world markets.

A nation's comparative advantage does not remain constant. If these trends continue, the increased R&D expenditures and larger investment overseas will in the long run improve the competitive position of those economies with respect to the United States. This will sustain the lagging performance of U.S. exports and not help to improve the value of the dollar in world markets. Other things equal, a lagging export performance by the United States will necessitate future dollar depreciation.

Contrary to popular opinion, exchange rate depreciation may not be the best solution for it may not correct the underlying problem. There are lessons

to be learned from the UK's experience. The depreciation of the pound has not enabled the UK to regain its share of trade in sophisticated manufactures. In fact, the UK's share in most of those categories has continued to decline.

This suggests that the United States must give greater consideration to the longer-run factors characteristic of its exports. In the past these factors have been overlooked because the responsibility for U.S. trade policy is decentralized. Policy has focused upon short-term problems with high visibility, while longer-term assessments of the nation's comparative advantage were ignored. The United States should begin to focus on these longer-term factors, particularly in the area of research and development.

APPENDIX

TABLE 1

OECD COUNTRY EXPORT TRADE SHARES* BY ONE-DIGIT SITC CATEGORIES: 1965, 1970, 1973, and 1976
(Percentage Shares)

SITC Category	Year	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Nether-lands	Canada	Other OECD
Food (0)	1965	30.14	2.80	2.51	3.26	9.74	5.77	2.92	11.22	10.78	20.86
	1970	21.71	4.77	3.15	2.98	10.94	4.61	4.36	12.95	7.99	26.54
	1973	30.02	6.18	2.06	3.16	13.03	3.49	4.81	12.42	7.20	17.63
	1976	26.17	6.13	1.36	3.15	11.46	3.64	4.67	13.15	6.75	23.52
Beverages and Tobacco (1)	1965	24.58	3.05	.53	19.06	14.57	3.98	2.02	3.72	6.91	21.58
	1970	21.71	3.40	.49	19.68	16.02	5.34	1.79	4.33	7.51	19.73
	1973	17.80	4.56	.32	15.73	23.46	7.47	2.53	5.31	5.23	17.59
	1976	19.97	5.93	.92	15.46	18.76	7.72	2.71	5.76	4.29	18.48
Materials (Except Fuels) (2)	1965	26.41	4.79	2.06	3.74	6.63	2.19	3.69	4.60	20.87	25.02
	1970	26.11	4.66	1.85	3.59	5.44	1.66	2.83	4.43	20.62	28.81
	1973	29.97	5.77	2.42	3.65	6.65	1.65	2.93	5.17	20.67	21.12
	1976	26.49	5.53	2.13	3.22	5.94	1.56	2.48	4.84	19.28	28.53
Fuels (3)	1965	22.63	17.41	.72	8.93	7.79	9.38	4.95	13.33	9.86	5.00
	1970	21.23	13.46	.63	6.61	5.01	8.91	4.12	16.72	13.33	9.98
	1973	12.22	12.56	.67	6.64	5.54	9.23	4.65	22.71	18.02	7.76
	1976	13.52	9.42	.37	7.23	5.16	6.64	5.05	20.81	17.06	14.74
Fats and Oils (4)	1965	54.07	6.92	3.28	2.15	3.33	1.60	1.85	6.44	2.37	17.99
	1970	39.67	8.94	2.07	1.79	4.66	2.28	2.95	10.10	2.59	24.95
	1973	32.51	13.75	1.72	1.99	7.03	2.83	3.78	11.56	2.02	22.81
	1976	32.72	15.16	1.69	2.08	7.28	2.95	4.67	11.56	2.43	19.46
Chemicals (5)	1965	22.91	19.82	5.22	11.73	9.67	5.77	3.76	6.23	2.77	12.12
	1970	19.75	21.13	6.37	9.74	9.14	4.68	5.08	7.83	2.92	13.36
	1973	16.42	22.69	6.11	8.91	10.06	4.72	6.61	9.75	2.15	12.58
	1976	16.69	20.84	6.10	9.09	9.19	4.75	6.76	10.08	2.44	14.06
Materials Manufactured (6)	1965	11.08	13.56	11.64	11.53	9.48	5.85	10.37	4.28	7.57	14.64
	1970	10.06	14.87	12.87	9.49	8.71	5.41	10.38	4.20	7.40	16.61
	1973	8.39	17.27	12.44	9.36	9.06	5.91	10.92	4.85	5.35	16.45
	1976	8.74	16.17	14.56	8.11	8.87	6.56	8.95	4.74	5.11	18.19
Machinery and Transport (7)	1965	25.64	21.17	6.77	14.24	6.77	5.58	3.29	3.46	3.04	10.04
	1970	22.77	20.24	9.97	10.09	7.47	6.20	3.14	2.94	6.85	10.33
	1973	19.79	22.39	12.87	8.32	8.12	5.48	3.40	3.16	5.61	10.86
	1976	20.23	20.35	15.07	7.55	8.70	5.32	3.41	3.14	5.11	11.12
Miscellaneous Manufactured Articles (8)	1965	16.22	15.82	11.74	10.05	8.86	11.13	4.80	3.91	.99	16.48
	1970	13.23	16.21	13.11	8.94	7.97	13.18	4.74	4.30	1.45	16.87
	1973	11.37	17.48	11.09	8.09	9.74	12.07	5.36	4.92	1.33	18.55
	1976	12.30	16.80	11.26	8.01	8.72	13.41	4.74	4.83	1.30	18.63
Not Classified (9)	1965	43.87	11.61	2.28	19.78	2.50	4.12	5.93	2.96	1.87	5.08
	1970	43.67	15.51	4.59	15.96	1.43	1.08	6.64	2.44	2.96	5.72
	1973	38.49	16.80	8.15	16.48	.40	1.12	8.33	2.01	1.62	6.60
	1976	32.53	18.96	8.23	12.37	.09	2.15	12.72	1.78	1.98	9.19
Total Exports	1965	22.50	14.91	7.04	11.02	8.37	5.99	5.32	5.32	6.76	12.77
	1970	19.28	15.48	8.74	8.72	8.03	5.98	5.26	5.33	7.50	16.58
	1973	18.01	17.29	9.43	7.83	9.07	5.71	5.71	6.11	6.46	14.38
	1976	17.74	16.17	10.60	7.27	8.69	5.84	5.23	6.26	6.15	16.05

Source: Derived from OECD Trade Series C.

*Country share of OECD exports of the commodity to the world.

APPENDIX

TABLE 2

DEVIATIONS FROM CONSTANT-SHARE NORMS FOR TOTAL EXPORTS

BY TRADING PARTNERS: 1970-73, 1973-76 and 1970-76

($ Millions)

Partner	Period	United States	Germany	Japan	United Kingdom	France	Italy	Belgium-Luxembourg	Netherlands	Canada
United States	1970-73	-	534	105	236	206	-212	191	47	-1208
	1973-76	-	-2405	2746	-562	163	-284	-573	-212	971
	1970-76	-	-1620	2970	-240	443	-563	-302	-159	-874
Canada	1970-73	101	32	29	-149	49	7	24	-20	-
	1973-76	412	-103	34	-376	-46	11	-34	-39	-
	1970-76	580	-55	84	-599	29	20	2	-68	-
Japan	1970-73	741	125	-	3	130	49	33	-18	520
	1973-76	-2766	-145	-	-146	-106	-5	-52	-28	-727
	1970-76	-1514	-2	-	-133	58	53	-17	-71	506
Australia New Zealand South Africa	1970-73	2	243	597	-373	-18	28	43	-3	-173
	1973-76	176	-349	273	-670	104	-106	-27	-71	74
	1970-76	165	50	1205	-1259	69	-45	32	-80	-181
EEC-9	1970-73	-3985	2351	903	508	2103	-768	779	1695	-1521
	1973-76	38	-2301	655	1660	-1883	681	-378	-641	-35
	1970-76	-6281	909	2005	912	1168	-574	869	245	-2244
Other Developed Europe	1970-73	-680	403	216	-204	366	-100	19	185	-113
	1973-76	165	-314	304	-313	-223	97	12	-188	-85
	1970-76	-829	254	62	-654	333	-50	55	88	-242
Developing Europe	1970-73	-352	102	-17	-274	192	13	47	122	-68
	1973-76	281	28	317	-141	-112	103	-93	-249	4
	1970-76	-288	138	293	-514	176	131	-12	-31	-96
Eastern Europe	1970-73	968	1105	-52	-411	9	-601	128	45	-79
	1973-76	155	-1611	1258	-443	2	-400	-189	-255	137
	1970-76	1665	407	1181	-1174	-5	-1445	37	-169	9
Africa	1970-73	-207	125	438	-429	91	-82	-41	24	7
	1973-76	145	-18	-180	259	310	19	-40	98	36
	1970-76	252	219	649	-526	441	-141	-123	146	48
Caribbean	1970-73	46	83	460	-182	-106	-128	12	-50	-120
	1973-76	-37	-266	226	-112	21	-31	-42	-87	121
	1970-76	-7	-124	1064	-431	-179	-257	-30	-170	-61
South America	1970-73	-466	140	483	-136	130	-16	59	46	-236
	1973-76	593	-480	22	-81	-131	16	-115	-190	353
	1970-76	-277	-227	813	-307	117	-1	-21	-111	-17
Middle East	1970-73	-15	110	400	-255	-264	65	81	52	-81
	1973-76	926	250	1991	-1151	-1863	-257	-510	-263	43
	1970-76	766	614	3313	-2015	-2780	1	-348	-142	-76
Central Asia and Far East	1970-73	438	67	904	-338	108	-156	-25	-13	-76
	1973-76	-690	-249	-253	-593	450	-89	110	-130	-175
	1970-76	-225	-167	1214	-1114	600	-332	63	-147	-302
Other	1970-73	605	10	-415	335	9	5	-6	25	-2
	1973-76	-1784	898	-81	-3020	-403	-18	51	2319	-6
	1970-76	-714	926	-1045	-1712	-20	49	47	2377	-6

FOOTNOTES

The authors are assistant professor of economics at George Washington University and international economist, Data Resources, Inc., respectively. This paper presents the preliminary results of a larger study in progress (Aho and Carney, 1978). The discussion of the problems of a secular decline is discussed in more detail in Aho (1978). The views expressed in this paper are those of the authors and do not necessarily reflect those of Data Resources. The availability of the OECD Trade Series C data on line through Data Resources made this analysis possible and much less laborious.

See for example Keesing (1966), Gruber, Mehta and Vernon (1967), Hufbauer (1970), Baldwin (1971), Morrall (1972), Katrak (1973), and Lowinger (1975).

See for example Nordhaus (1972), Nelson (1971), and Boretsky (1975). Gilpin (1975) contains a review of the discussion. For a discussion of earlier changes in the structure of trade, see Baldwin (1962).

Boretsky (1975) gives several reasons why the research-and-development effort by the United States may have been overstated. First, the figures on the United States R&D effort include research and development for defense and space purposes. Although there may be spinoffs from these ventures, other leading industrial countries, particularly Germany and Japan, do not devote as much R&D effort to defense applications. Secondly, Boretsky argues that to the extent the United States dollar was overvalued, comparisons on the basis of absolute dollar volume overstated the United States R&D effort during the 1960s. Most of the data that are available on comparative R&D efforts have been converted to United States dollar equivalents which would understate expenditures in those currencies which were undervalued. Third, differences exist in the classification of scientists and engineers. In the United States only a B.S. degree is required to be classified as a qualified scientist, while in Germany, for example, you have to be a graduate of the German Ingenieur Schule or, in other words, a qualified technician as opposed to merely a bachelor of science.

Michael Lynch, "Backing Off Basics: Many Concerns Stress Product Development and Reduce Research," Wall Street Journal, (October 18, 1977).

The results were confirmed whether the human capital concept was measured in terms of technicians and engineers or as a capitalized variable. These variables were similar to the variables used in studies of United States trade. For example, see Hufbauer (1970), and Gruber, Mehta and Vernon (1967) ; who demonstrated that United States exports were characterized by their research and development

intensity. Keesing (1966) and Morrall (1972) related U.S. export patterns to the skill intensity of the industry.

6 CMS analysis of export growth has been reviewed by Leamer and Stern (1970), Chapter 8. Richardson (1971) provides a criticism of the technique and presents the results of several sensitivity tests. We have conducted several of those tests in addition to a few others such as changing the time interval. We refrain from cluttering the current discussions with the results of those tests. They are available from the authors upon request. The results included in the test best capture the changes which have occurred.

7 The derivation for one OECD country is as follows. Let

V_{ij} = value of exports in commodity i to partner j in the base period

V'_{ij} = value of exports in commodity i to partner j in the terminal year

r_{ij} = percentage increase in OECD exports in commodity i to partner j over the period

r_i = percentage increase in OECD exports in commodity i to the world

r = percentage increase in OECD exports in all commodities to the world.

For notational purposes, let

$\Sigma_j V_{ij} = V_{i.}$

$\Sigma_j V_{ij} = V_{.j}$

$\Sigma_i \Sigma_j V_{ij} = V_{..}$

The individual effects are derived by beginning with the identity

$$V'_{..}-V_{..}=rV_{..}+(V'_{..}-V_{..}-rV)$$

then adding and subtracting the r_iV_i term and summing over i to obtain

$$V'_{..}-V_{..}=rV_{..}+\Sigma_i(r_i-r)V_i+\Sigma(V'_i-V_{i.}-r_iV_{i.})$$

finally adding and subtracting the $r_{ij}V_{ij}$ and summing over both i and j to obtain

$$V'_{..}-V_{..}=\underset{(1)}{rV_{..}}+\underset{(2)}{\Sigma_i(r_i-r)V_i}+\underset{(3)}{\sum_i\sum_j(r_{ij}-r_i)V_{ij}}+\underset{(4)}{\sum_i\sum_j(V_{ij}-V_{ij}-r_{ij}V_{ij})}$$

(1) is the effect of the increase in world trade. (2) is the effect of commodity composition. To the extent that ri exceeds (is less than) r and Vi is large in the base period, then the commodity effect will receive a larger positive (negative) weight. (3) is the effect of the market distribution and will receive a larger positive (negative) weight if rij is greater than (less than) r and Vij is large in the base period. The last term, (4), is the competitive residual.

8 Trade shares should ideally be measured by netting out each country's imports from the value of trade in each category. To assess competitiveness, countries should be compared in markets where each one of them is on an equal footing. That would require us to eliminate the trade among the nine countries being compared in this analysis. We have not done that yet because trade among these countries comprises such a large volume of world trade. Some information on competitiveness in a given market can be gleaned from the partner deviation which are shown below in Table 5.

9 Competitiveness is difficult to define. Both price and non-price factors such as product quality, servicing etc. determine the ability of a supplier to compete. Price alone may not be indicative of a supplier's competitiveness. Under conditions of limited supply,an increase in demand for a product because of its attractiveness may cause price to rise considerably. See Leamer and Stern (1970) for a discussion. For an earlier discussion, see Balassa.(1962).

10 The five industries which Gruber, Mehta and Vernon (1967) identified as the most research and development intensive were transport equipment (SIC 37, SITC 73), electrical machinery (SIC 36, SITC 72, 891.1 and 891.2), instruments (SIC 38, SITC 86 plus the remainder of 89), chemicals (SIC 28, SITC 5 plus 651.6 and 281), and non-electrical machinery (SIC 35, SITC 71). The numbers in parentheses give the concordance between the United States Standard Industrial Classification and the SITC. Chemicals was first when research effort is measured by scientists and engineers as a percentage of total employment with 4.1%. It was followed by electrical machinery (3.6%),instruments and transport equipment (both at 3.4%) and non-electrical machinery (1.4%) which placed sixth behind petroleum and coal (1.6%) on this measure. The overall average for manufacturing was 1.1%. Using research and development expenditures as a percentage of sales, chemicals was fourth with R&D expenditures 3.9% of sales. Transport equipment was first (10.0%) followed by electrical machinery(7.3%), and instruments (7.1%). Non-electrical machinery was fifth with R&D expenditures 3.2% of sales. The average for manufacturing was 2.0%. Later studies by Gruber and Vernon in Vernon,ed.(1970), and Lowinger(1975) have used similar rankings.

11 The fourteen trading partners were the U.S., Canada, Japan, Australia-New Zealand-South Africa, EEC9, other developed Europe, developing Europe, eastern Europe and the Soviet Union, Africa, the Caribbean, South America, the Middle East, Central Asia and the Far East and Other.

12 The results for different time periods are available from the authors on request.

13 Leamer and Stern (1970, p. 180) separate possible factors into demand and supply influences. On the demand side, the competitive effect could represent: (1) differential rates of export price inflation, (2) differential rates of quality improvement and the development of new exports, (3) differential rates of improvement in the efficiency of marketing or financing of export sales and (4) differential changes in the ability for prompt fulfillment of export orders.
Supply side factors will also affect the residual, including: (1) differential rates of monetary inflation (affecting production costs), (2) differential growth rates of available productive factors and the responsiveness of export supply to the domestic supply of these factors, (3) differential rates of productivity increases, and (4) the extent to which the country is concentrated in exports to rapidly growing markets.

14 See Leamer and Stern (1970) for a discussion.

15 The numbers in parentheses are the t-statistics.

16 Similar tables for other countries are available from the authors on request.

17 Medical and pharmaceutical was singled out by Gruber, Mehta and Vernon (1967), as one of the subcategories of chemicals that is particularly R&D intensive.

18 The metallurgic industries (67), (68) and (69), while not necessarily R&D intensive, did account for 7% of total exports and 10.1% of manufacturing exports in 1970.

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March 10, 1978

The Honorable Adlai E. Stevenson
Chairman, Subcommittee on International
Finance
Senate Committee on Banking, Housing
and Urban Affairs
5300 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Chairman Stevenson:

This statement is being presented in connection with your Subcommittee's hearing on February 23 concerning shifts in the composition of and markets for U.S. exports.

We commend the scope of the Subcommittee's effort to explore in depth United States' competitiveness in export markets and to reexamine U.S. policies which may affect that competitiveness. In addition to this statement, we intend to submit additional material as the hearings progress on certain of the other subjects in which the Subcommittee has expressed interest: (1) the adequacy of U.S. export financing facilities with respect to both (a) the terms and conditions of Eximbank loans and other export support facilities and (b) statutory and policy limitations on Bank activities in certain communist countries, South Africa, and other countries where "human rights" considerations restrict Bank activities; (2) the impact of federal government regulatory activities, such as export controls and the Council on Environmental Quality's proposal that environmental impacts in foreign countries be assessed in connection with "major federal actions"; and (3) other government policies which are adversely affecting U.S. export performance.

The Machinery and Allied Products Institute is the national research organization and spokesman for the capital goods and allied product manufacturers of the United States. Capital goods comprise about one-third of total U.S. merchandise exports. Roughly four-fifths of capital goods shipments are typically machinery and one-fifth capital goods transportation equipment.

This statement provides statistical data and commentary concerning (1) capital goods exports over the

MACHINERY & ALLIED PRODUCTS INSTITUTE AND ITS AFFILIATED ORGANIZATION, COUNCIL FOR TECHNOLOGICAL ADVANCEMENT, ARE ENGAGED IN RESEARCH IN THE ECONOMICS OF CAPITAL GOODS (THE FACILITIES OF PRODUCTION, DISTRIBUTION, TRANSPORTATION, COMMUNICATION AND COMMERCE) IN ADVANCING THE TECHNOLOGY AND FURTHERING THE ECONOMIC PROGRESS OF THE UNITED STATES

period 1967-first half 1977 with respect to both machinery and transportation equipment, (2) the international competitive position of capital goods exports over the past decade, and (3) U.S. machinery imports, exports, and import-export ratios (in percent) for the same period.

Before proceeding further, it seems desirable to point the moral that can be drawn from the statistics and analysis in this presentation:

> After sharp increases in U.S. machinery exports in 1972-75, gains in 1976 and through the first half of 1977 have been much more modest. Further, and more importantly, it seems probable that under the circumstances we confront, at least for the short-term and middle-term future, major gains in U.S. machinery exports will become increasingly difficult to achieve. The corollary to this proposition is that when combined with the overall deficit in our foreign trade balance it is in the interest of the United States to take further steps to achieve a significant improvement in our export position.
>
> Underlying these propositions are a number of factors which we will spell out in more detail in a later commentary, but some illustrations are in order in the context of this presentation. The United States and its exporting industries confront severe competition from other industrialized areas of the world. High technology products that are already available go to the core of the strength of U.S. exports, especially capital goods. The development of new products with high technology characteristics must be a part of the increased effort to which we have referred. There is also a continuing need for adaptation of product lines so as to match foreign market needs. Maintenance and, hopefully, enlargement of the link between U.S. exports and U.S. direct investment abroad must be given substantial attention, and we could go on.
>
> There is another aspect to the U.S. export situation. At the same time that the private sector must expand its effort in the export field, government should remove and avoid creating new roadblocks to exports where this is appropriate. Also, government should be vigilant in examining new policies and new administrative procedures which burden U.S. exports and, therefore, limit the potential for improvement. This is not the place to argue tax questions in any detail, but the roadblocks take a wide range of forms. It is timely to point out that the Administration could not pick a worse juncture than the present--

considering the deficit in our balance of trade and balance of payments, and the deterioration in the value of the dollar--to urge that DISC be phased out and that deferral of unremitted earnings from U.S. direct investment abroad be repealed.

Summary

Below is a summary of the detailed discussion contained in each of the segments of our statement.

Export Shipments, New Orders and Unfilled Orders

-- Total export shipments of machinery and transportation equipment, which were less than $10 billion in 1967, advanced moderately through 1972 when total shipments were slightly over $16 billion. Rapid increases since then resulted in a 1976 shipments level of some $40 billion. However, data for 1977 thus far indicates some slowing in this rate of advance.

-- For most of the three-year period 1972 through 1974, new orders of both machinery and transportation equipment exceeded shipments, causing unfilled orders to rise. In the first quarter of 1975, the total order backlog was a record $13.7 billion on a seasonally adjusted basis. The backlog for both machinery and transportation equipment has fallen since that time, although new orders and unfilled orders for transportation equipment turned up sharply in the second quarter of 1977. Third-quarter 1977 data indicate an increase in machinery shipments and new orders, but a fall in both transportation shipments and new orders. However, labor maritime difficulties may have been an influence here.

-- During the period of rapid U.S. export shipment growth in recent years, the construction equipment category outpaced other machinery. In 1973, that component was 12.2 percent of total U.S. machinery export shipments. It had risen to 16.6 percent of the total in 1975./1

-- The bulk of transportation capital goods export shipments consists of aircraft and aircraft parts, and

1/ Construction equipment shipments in 1973 were $2.1 billion. They were $4.7 billion in 1975. See Table 1.

they have averaged some 90 percent of the transportation total since 1967. Transportation equipment shipments generally are between 20 and 25 percent as large as total nontransportation machinery shipments.

-- The world geographical distribution of U.S. capital goods exports was broad-based over the growth period with a big surge for oil-rich Near East Asia. Exports to that region almost tripled in the three-year period 1974-1976.

International Competitive Position of U.S. Capital Goods Exports

-- U.S. capital goods export growth exceeded that of other major capital goods exporting nations except France and Japan over the five-year period 1972-76. However, from 1975 to 1976 the U.S. rate of growth declined sharply and exceeded only that of the United Kingdom.

-- During the period 1972-76 the U.S. market share increased from 20.7 percent to 21.6 percent. The shares of Japan and France also increased during this period, while the shares of the United Kingdom and Canada decreased substantially and the share of Germany declined slightly. Japan registered the largest increase in market share during this period, with its share growing from 13.1 percent in 1972 to 15.7 percent in 1976.

-- The market share of the United States, as well as those of Germany and the United Kingdom, declined during the 1974-76 period, while those of France and Japan have increased since 1974.

-- The United States was the world leader in capital goods exports in 1974, 1975 and 1976, but Germany led in 1972 and 1973 and was leading again during the first half of 1977.

Machinery Imports, Exports, and Ratio of Imports to Exports

-- While the annual value of machinery exports quadrupled over the period 1967-first half 1977, the annual value of imports increased five-fold. Thus, imports as a percentage of exports increased from 32.8 percent in 1967 to 41.1 percent during the first half of 1977.

-- The ratio of imports to exports of machinery increased steadily from 1967 through 1971, and then rose to much higher levels in 1972 and 1973. Following the dollar devaluation of 1973, the ratio of imports to exports declined significantly in 1974 and 1975. However, it rose again in 1976 and during the first half of 1977.

-- With respect to the Nonelectrical Machinery category, exports and imports followed the same general pattern as total machinery. Over the period 1967-first half 1977, imports as a percentage of exports increased from 31.8 percent to 39.9 percent. However, there were wide variances for individual product groupings within the nonelectrical machinery category. For example, for Textile and Leather Machinery the ratio of imports to exports increased from 115 percent in 1967 to 146.5 percent during the first half of 1977. For Office Machines the ratio increased from 31.8 percent in 1967 to 44.2 percent during the first half of 1977.

-- The pattern for Electrical Machinery is similar to that of Nonelectrical Machinery. Although exports increased substantially from 1967 through the first half of 1977, imports increased at a faster rate. Thus, during that period, the ratio of imports to exports increased from 37 percent to 45.2 percent. Within the Electrical Machinery category, the ratio of imports to exports of Power Machinery and Switchgear increased from 26.1 percent in 1967 to 36.7 percent during the first half of 1977.

Conclusion

After sharp increases in U.S. machinery exports in 1972-75, gains in 1976 and through the first half of 1977 have been much more modest. Since economic recovery is still weak in the industrial nations and most of the less developed countries and there seems little prospect that any other region can provide a boost to U.S. capital goods exports comparable to that provided since 1974 by the oil rich areas of the Middle East, it seem probable that new gains will become increasingly difficult to achieve. However, it seems likely that the exchange rate changes over the past year, particularly vis-a-vis the yen, will blunt the export competitiveness of some of our major competitors, notably Japan.

Export Shipments, New Orders, and Unfilled Orders

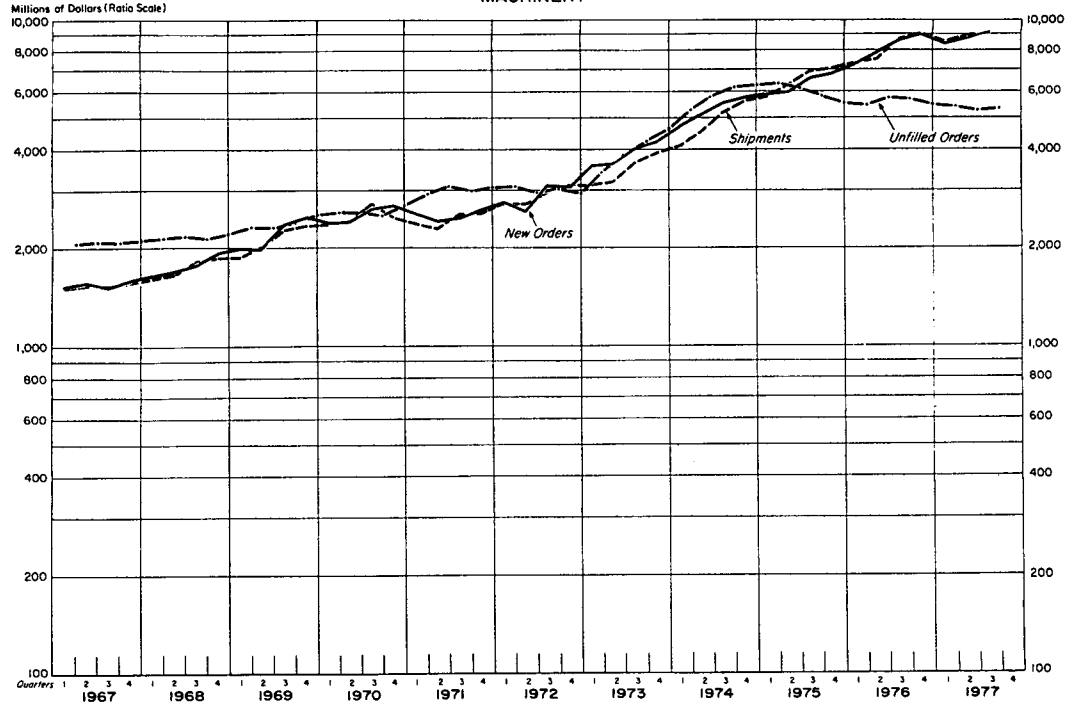
Machinery

The Chart, "U.S. Capital Goods Export Shipments, New Orders, and Unfilled Orders--Machinery," shows the quarterly pattern of shipments,

U.S. CAPITAL GOODS EXPORT SHIPMENTS, NEW ORDERS, AND UNFILLED ORDERS

Seasonally Adjusted

MACHINERY



Source: U.S. Department of Commerce.

new orders, and the order backlog for U.S. machinery exports. For shipments and new orders, three distinct time periods can be identified. The period 1967 through 1972 was one of moderate growth with some sideways movement in 1970 and 1971. In all, for the six-year period through 1972, shipments and new orders roughly doubled in money terms to around $3 billion a quarter. In the next four years, 1973-1976, shipments and orders almost tripled approaching $9 billion for the last quarter of 1976. Shipments and orders fell sharply in the first quarter of 1977--7.3 and 6.5 percent, respectively--as U.S. export markets were experiencing slow growth. There was some recovery in the following two quarters, however; in September--the latest data available--shipments were still below their beginning-of-the-year levels, although new machinery orders marked a record new high./1

It is probably too soon to make judgments about what the current shipment and order profile indicates for the future. An examination of the reasons for the rapid increase in recent years, however, may provide some insights. First, one must keep in mind that part of the growth shown is the result of inflation. However, even accounting for inflation, the export increases are still substantial./2 There is no question that the December 1971 devaluation helped./3 However, probably more important in terms of our ability to compete in world markets is the fact that the four-year period 1970 through 1973 was one of fairly stable production costs for this country relative to our major competitors./4

1/ These third-quarter data are probably substantially influenced by recent maritime labor problems.

2/ The Department of Commerce Implicit Price Deflator for Nonresidential Fixed Investment in the Gross National Product Accounts rose from an index value of 100 in 1972 to 141 in the last quarter of 1976. Over the same period, total U.S. shipments of machinery more than tripled.

3/ For example:

U.S. Dollars Purchased by National Currency

	1970	1972
Canada	.958	1.009
Germany	.274	.314
France	.181	.198
Sweden	.193	.210

Source: Bureau of Statistics of the International Monetary Fund.

4/ Comparative data show:

Unit Labor Costs--National Currency Basis
(Index 1967=100)

	1970	1973	Change in Index Points
United States	116.5	123.2	6.7
Canada	101.7	111.9	10.2
Germany	114.0	138.1	24.1
France	111.1	132.7	21.6
Sweden	105.6	125.2	19.6

Source: U.S. Department of Labor.

Unfilled orders for machinery are also charted. They bulged somewhat in 1971, leveled out and then built continuously throughout 1973 and 1974 to a record high of over $6.3 billion. The order backlog fell sharply in the last three quarters of 1975, finished 1976 at the end-of-1975 level and continued to decline in 1977. Mid-year 1977 unfilled orders stood at $5.2 billion. This is significantly lower than current shipments and new orders and represents a dramatic departure from recent trends.

Transportation Equipment

Capital goods transportation equipment shipments, new orders, and the order backlogs are shown on the Chart, "U.S. Capital Goods Export Shipments, New Orders and Unfilled Orders--Transportation Equipment." The profile is similar to that of machinery. After remaining relatively flat for most of the period 1967-1972, shipments advanced steadily throughout the next four years peaking at over $2.8 billion for the final quarter of 1976. In the 1972-1973 period, new orders generally exceeded shipments causing unfilled orders to rise. New orders surged in the first half of 1977 to a new high, and unfilled orders turned sharply upward.

Future prospects for transporation equipment are highly uncertain. Underlying world demand should remain strong. However, there are major unanswered questions concerning the future availability and price of fuel and the associated problems of financing new aircraft. These uncertainties probably rule out any near-term radical aircraft and design departures or massive sales acceleration. Moderate expansion over the next several years is probably the best estimate.

Shipment Components

Table 1 shows machinery and transportation equipment shipments in more detail. In dollar terms, much less electric than nonelectric machinery was exported in the period as a whole; however, electric machinery has increased its proportion since 1967.

Looking at selected components of electric machinery, in the period since 1972, power equipment shipments have grown faster than the total of electric machinery and the other components shown. Power equipment was 5.9 percent of total machinery shipments in 1972 and 7.4 percent in the first half of 1977. Telecommunication and household equipment shipments have increased over the past decade about in pace with total machinery.

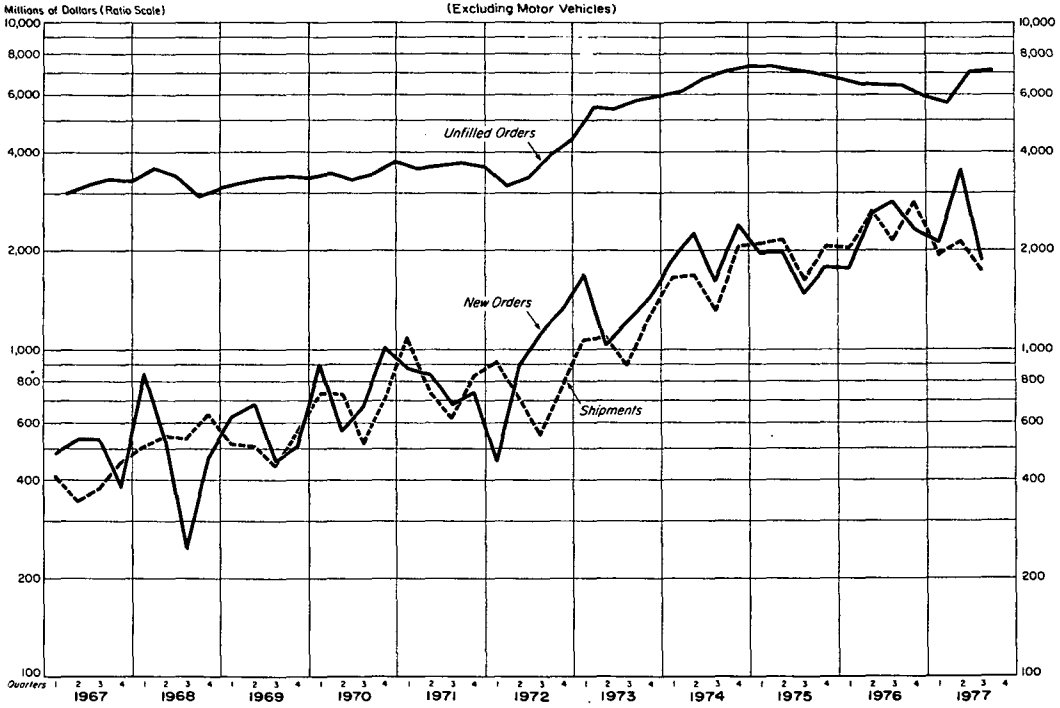
In the nonelectric classification, construction equipment shipments advanced sharply from 1973 to 1975. In 1973 those shipments were $2.1 billion or 12.2 percent of total machinery shipments. In 1975 they were $4.7 billion or 16.6 percent of total machinery shipments. Their share of the total has declined somewhat since then. Metalworking machinery shipments as a percent of total machinery shipments have declined significantly since 1967.

U.S. CAPITAL GOODS EXPORT SHIPMENTS, NEW ORDERS, AND UNFILLED ORDERS

Seasonally Adjusted

TRANSPORTATION EQUIPMENT

(Excluding Motor Vehicles)



Source: U.S. Department of Commerce

An examination of Table 1 indicates a break in the rate of growth of shipments of transportation equipment in total, construction, power generating, and agricultural nonelectric machinery--about half of the nonelectric machinery--after 1975. In addition, based on data for the first half of the year, 1977 shows a decline in transportation, construction equipment, and agricultural machinery shipments.

Dispersion of Shipments Among Principal World Markets

Table 2 shows U.S. capital goods export shipments to major world trading areas./1 Growth was generally broad based for major export areas from 1967 through 1974. Exports to Japan fell in 1975 and growth rates for several other areas--notably European OECD countries--moderated through 1975 and 1976. The 1974-1976 increase in shipments to oil-rich Near East Asia is impressive--almost tripling over the period.

Table 3 shows the compounded annual rates of growth for selected U.S. export categories over the five-year period 1971-1976./2 Even with the large Near East Asian growth rates, capital goods declined as a percent of total U.S. exports over the period. This is because U.S. capital goods exports to Europe increased at a slower rate than did total exports. Other interesting observations can be made. The growth rate for electrical machinery exports to Germany exceeded that of capital goods in general to that country, while the reverse was the case for Canada. With the exception of "Other Asia," the growth of exports of U.S. aircraft and aircraft engine parts has not kept pace with other export growth rates. This category accounted for 4.5 percent of total U.S. exports in 1971 and 3.4 percent in 1976.

International Competitive Position of U.S. Capital Goods Exports

The data presented above--U.S. capital goods exports by selected commodity types and country of destination--tell, of course, only part of

1/ These Commerce data are on an "end-use" commodity category f.a.s. basis --transaction value at the port of exportation. The European OECD countries, Canada, Latin America, Asia, Africa, Japan, Australia and Oceania combined accounted for 97 percent of total U.S. capital goods exports in June 1977. The European OECD countries are: the United Kingdom, the Federal Republic of Germany, Denmark, Ireland, The Netherlands, Belgium and Luxembourg, France, Italy, Iceland, Sweden, Norway, Finland, Austria, Switzerland, Spain, Portugal, Greece, and Turkey. Near East Asia includes: Syria, Lebanon, Iraq, Iran, Israel, Jordan, the Gaza Strip, Kuwait, Saudi Arabia, Qatar, the United Arab Emirates, Yemen, Oman, and Bahrain. Other Asia includes: Afghanistan, India, Pakistan, Nepal, Bangladesh, Ceylon, Burma, Thailand, South Vietnam, Laos, Cambodia, Malaysia, Singapore, Indonesia, Brunei, Philippines, Macao, Southern Asia, n.e.c., Republic of Korea, Hong Kong, and the Republic of China (Taiwan).
Footnotes to the table indicate some differences in trading-area designation.

the story of world capital goods trade. To add perspective, the activity of trading rivals should be considered.

Table 4 shows capital goods exports from the U.S. and other major world trading areas./1 The U.S. growth rate approximated that of the total and exceeded that of all other countries shown except France and Japan for the five-year period 1972-1976 as a whole. However, looking at year-to-year changes, the U.S. growth rate was exceeded only by that of Japan in 1974, but then declined sharply the following two years. It was considerably lower than the total of 1976 and exceeded only that of the United Kingdom. The U.S. rate of growth has continued to decline through the first quarter of 1977.

Looking at market shares (Table 4), those for France and Japan have increased since 1974. The market shares for the United States, Germany, and the United Kingdom declined during the 1974-1976 period, while the Canadian share remained constant.

However, even with the relative decline for the U.S. since 1974, the total performance over the period shown is one of respectable growth. The U.S. market share in 1972 was 20.7 percent. In 1976 it was 21.6 percent.

These data for share of market are not surprising based on the U.S. capital goods export profiles outlined earlier. The story is one of generally strong growth through the mid-1970s with only some slowing after that time and into 1977.

In conclusion, U.S. capital goods exports are still near record highs. There is, of course, always uncertainty regarding the future; however, with optimistic assumptions of expanding future world markets and based on their performance over the last decade, the outlook for capital goods exports appears reasonably good.

Machinery Imports, Exports, and Import-Export Ratios, 1967-First Half 1977

Another way of looking at the competitiveness of certain sectors of the economy--and the impact of foreign trade in those sectors--is through examining the data concerning imports, exports and the ratio of imports to exports. Table 5 reviews such data with respect to machinery--nonelectrical and electrical--and to certain categories of equipment within those broad classifications.

Machinery, Total

During the period under review:

1/ These data are from an OECD series starting in 1972 for SITC Category #7. The "other OECD" countries are: Austria, Belgium, Denmark, Finland, Italy, The Netherlands, Norway, Spain, and Sweden.

-- Exports quadrupled in current dollars from $7.8 billion in 1967 to an annual level of about $32 billion during the first half of 1977. However, imports increased five-fold during this period from $2.6 billion in 1967 to an annual level of $13.1 billion during the first half of 1977.

-- Imports as a percentage of exports increased from 32.8 percent in 1967 to 41.1 percent in 1977.

-- The ratio of imports to exports increased steadily from 1967 through 1971, and then rose to much higher levels in 1972 and 1973. As a result principally of the changes in currency parities in 1973 (including the devaluation of the dollar), the ratio of imports to exports declined significantly in 1974 and 1975. However, this ratio began to increase again in 1976 and, during the first half of 1977, had returned almost to 1971 levels.

Nonelectrical Machinery

Nonelectrical Machinery, total.--The overall pattern for this category during the period under review is similar to that of the machinery category as a whole:

-- Exports quadrupled in current dollars, while imports increased by nearly five times.

-- Imports as a percentage of exports increased from 31.8 percent in 1967 to 39.8 percent during the first half of 1977.

-- The ratio of imports to exports increased steadily during 1967-71; rose to much higher levels in 1972-73; declined sharply in 1974 and 1975; and began to rise again in 1976 and 1977.

Selected categories of Nonelectrical Machinery.--The data in Table 5 with respect to individual subcategories of Nonelectrical Machinery indicate wide variances in the import-export ratios within that sector:

-- For Textile and Leather Machinery the ratio increased from the 1967 level of 115 percent (i.e., an excess of imports over exports) to 146.5 percent during the first half of 1977.

-- For Agricultural Machinery and Farm Tractors the ratio declined from 70.3 percent in 1967 to 65.3 percent during the first half of 1977. However, it will be noted that this ratio reached 90.7

percent in 1971 and, after declining sharply in 1974 and 1975 and more modestly in 1976, began to climb again in 1977.

-- The ratio of imports to exports of Engines, Turbines, and Parts increased from 37.5 percent in 1967 to 69.2 percent in 1972. It then declined in 1973, 1974, and 1975 to 47.7 percent in the latter year. Since then it increased in 1976, and during the first half of 1977 reached 61.7 percent.

-- For Metalworking Machinery the ratio of imports to exports during the first half of 1977 was below the level of 1967. However, during 1977 it returned to a level of over 50 percent.

-- For Office Machines the ratio increased from 31.8 percent in 1967 to 44.2 percent during the first half of 1977.

Electrical Machinery

Electrical Machinery, total.--The pattern for Electrical Machinery is similar to that of Nonelectrical Machinery. Although exports increased substantially, imports rose by an even greater amount. Thus the ratio of imports to exports increased from 37 percent in 1967 to 45.2 percent during the first half of 1977. However, it is noteworthy that although, as in the case of Nonelectrical Machinery and total machinery, the ratio of imports to exports increased until 1973, unlike the other categories the ratio of imports to exports of Electrical Machinery declined from 1974 through the first half of 1977.

Power Machinery and Switchgear.--Within the Electrical Machinery category, Table 5 includes data for Power Machinery and Switchgear. The ratio of imports to exports of Power Machinery and Switchgear increased from 26.1 percent in 1967 to 36.7 percent during the first half of 1977. The ratio reached 45.2 percent in 1972, declined in 1973, 1974 and 1975, and then began to rise again in 1976.

Conclusion

Over the period under review, capital goods exports, a major component of U.S. exports, have made impressive advances. However, after the sharp increases of 1972-1975, the 1976 gain for machinery exports was much more modest and data for the first six months of 1977 suggest an even smaller increase--and perhaps a decrease in real terms--for the year as a whole. Since economic recovery is still weak in the industrial nations and most of the less developed countries and there is little prospect that any other region can provide a boost to U.S. exports comparable to that provided since 1974 by the oil rich Middle East, it seems probable that major gains will become increasingly difficult to achieve. In view of the fact that we experienced a merchandise trade deficit of over $27 billion in 1977, continuing increases in exports is a matter of considerable national importance.

The United States and Germany continue to hold the largest--and almost equal--shares of world capital goods exports, while Japan enjoys a strong third place position. France also has been scoring impressive gains, although its exports are at a level substantially below that of the three leaders, and the shares of the United Kingdom and Canada have slipped.

While U.S. machinery imports as a percentage of machinery exports have increased substantially since 1975, a shift in this direction was to be expected in view of the fact that the U.S. economy has recovered more strongly than that of other industrial nations from the worldwide recession. As exchange rate changes over the past year (particularly vis-a-vis the yen and the German mark) take effect we expect that exports--particularly from Japan and Germany--to the United States will be dampened.

We hope this statement will prove useful to the Subcommittee. If we can be of any further assistance to the Subcommittee, please let us know.

Respectfully,

Charles Stewart
President

CWS:sss

Table 1

U.S. Export Shipments -- Selected Commodity Groups
(Millions of U.S. Dollars, Percent of Total)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1st Half 1977
MACHINERY	8,048	8,597	9,864	11,379	11,559	13,236	17,130	23,688	28,477	31,289	16,445
NONELECTRICAL	5,951	6,313	7,187	8,380	8,492	9,538	12,099	16,669	20,895	22,011	11,353
% of total Machinery	73.9	73.4	72.9	73.6	73.5	72.1	70.7	70.4	73.4	70.3	69.0
Power Generation	1,046	1,159	1,257	1,405	1,546	1,842	2,218	2,883	3,551	3,662	1,876
% of total	13.0	13.5	12.7	12.3	13.4	13.9	12.9	12.2	12.5	11.7	11.4
Agricultural	615	627	644	626	597	750	987	1,398	2,092	2,108	1,021
% of total	7.6	7.3	6.5	5.5	5.2	5.7	5.8	5.9	7.3	6.7	6.2
Office Equipment	707	748	1,051	1,547	1,519	1,623	2,085	2,699	2,640	2,937	1,705
% of total	8.8	8.7	10.7	13.6	13.1	12.3	12.2	11.4	9.3	9.4	10.4
Metal Working	339	334	343	396	405	410	489	637	918	949	398
% of total	4.2	3.9	3.5	3.5	3.5	3.1	2.9	2.7	3.2	3.0	2.4
Construction	1,038	1,099	1,248	1,422	1,404	1,599	2,095	3,113	4,734	4,945	2,310
% of total	12.9	12.8	12.7	12.5	12.1	12.1	12.2	13.1	16.6	15.8	14.0
Air Conditioning and Refrigerating	288	328	362	398	408	461	581	861	931	1,056	667
% of total	3.6	3.8	3.7	3.5	3.5	3.5	3.4	3.6	3.3	3.4	4.1
ELECTRIC	2,097	2,284	2,677	2,999	3,067	3,698	5,031	7,019	7,582	9,278	5,092
% of total Machinery	26.1	26.6	27.1	26.4	26.5	27.9	29.4	29.6	26.6	29.7	31.0
Power Equipment	510	531	562	611	679	787	1,066	1,492	1,709	2,138	1,210
% of total	6.3	6.2	5.7	5.4	5.9	5.9	6.2	6.3	6.0	6.8	7.4
Telecommunication Equipment	475	535	618	660	678	836	1,037	1,361	1,574	1,997	1,020
% of total	5.9	6.2	6.3	5.8	5.9	6.3	6.1	5.7	5.5	6.4	6.2
Household Equipment	121	121	132	119	193	158	223	378	359	463	262
% of total	1.5	1.4	1.3	1.0	1.7	1.2	1.3	1.6	1.3	1.5	1.6
TRANSPORTATION (excluding automotive)	1,750	2,434	2,669	2,900	3,674	3,290	4,598	6,448	6,959	6,989	3,184
Aircraft and Aircraft Parts	1,519	2,312	2,398	2,658	3,389	2,919	4,124	5,766	6,171	6,116	2,857
% of total Transportation	86.8	95.0	89.8	91.7	92.2	88.7	89.7	89.4	88.7	87.5	89.7
Railroad Vehicles and Parts	145	81	87	91	193	212	219	282	462	392	140
% of total Transportation	8.3	3.3	3.3	3.1	5.3	6.4	4.8	4.4	6.6	5.6	4.4
Ships and Boats	86	41	184	151	92	159	255	400	326	481	187
% of total Transportation	4.9	1.7	6.9	5.2	2.5	4.8	5.5	6.2	4.7	6.9	5.9

Source: U.S. Department of Commerce [Schedule B Commodity Groups].

Table 2

U.S. Export Shipments -- Capital Goods, Except Automotive
(Millions of U.S. Dollars, Percent of Total)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1st Half 1977
TOTAL	10,005	11,082	12,322	14,366	15,106	16,578	21,519	29,921	35,440	38,338	19,609
Canada	2,345	2,363	2,588	2,552	2,803	3,352	4,132	5,324	6,030	6,142	3,305
% of total	23.4	21.3	21.0	17.8	18.6	20.2	19.2	17.8	17.0	16.0	16.9
Latin America	1,529	1,769	1,852	2,152	2,124	2,526	3,096	4,733	5,896	6,174	2,921
% of total	15.3	16.0	15.0	15.0	14.1	15.2	14.4	15.8	16.6	16.1	14.9
OECD (Europe)	3,331	3,728	4,312	5,333	5,341	5,726	7,498	9,657	10,442	10,740	5,768
% of total	33.3	33.6	35.0	37.1	35.4	34.5	34.8	32.3	29.5	28.0	29.4
Japan	527	655	851	1,201	1,174	1,274	1,530	2,144	1,706	1,748	882
% of total	5.3	5.9	6.9	8.4	7.8	7.7	7.1	7.2	4.8	4.6	4.5
Near East Asia	297	385	412	418	604	697	891	1,542	3,002	4,403	2,186
% of total	3.0	3.5	3.3	2.9	4.0	4.2	4.1	5.2	8.5	11.5	11.1
Other Asia	815	867	906	1,088	1,260	1,394	1,953	2,946	3,488	3,909	2,068
% of total	8.1	7.8	7.4	7.6	8.3	8.4	9.1	9.8	9.8	10.2	10.5
Australia and Oceania	481	529	485	570	630	493	710	1,250	1,224	1,283	622
% of total	4.8	4.8	3.9	4.0	4.2	3.0	3.3	4.2	3.5	3.3	3.2
Africa	449	535	638	696	804	764	1,011	1,292	2,141	2,499	1,233
% of total	4.5	4.8	5.2	4.8	5.3	4.6	4.7	4.3	6.0	6.5	6.3

Source: U.S. Department of Commerce ["End Use" by World Areas--f.a.s. value basis].

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Table 3

U.S. Exports -- Compounded Annual Rate of Increase, 1971-1976 /1
(Percentages)

	Percent of Total 1971	Percent of Total 1976	Canada	United Kingdom	Federal Republic of Germany	Other OECD /2	Near East /3	Other Asia /4
TOTAL EXPORTS	100.0	100.0	18	15	15	18	41	20
Capital Goods	38.3	34.0	18	15	12	15	50	25
Machinery	27.2	27.1	18	19	15	18	52	26
Electric Machinery	4.7	5.1	16	19	19	20	60	37
Parts for Aircraft and Aircraft Engines	4.5	3.4	9	12	2	11	41	29

1/ Data derived from Overseas Business Reports OBR 77-31, Table 4.
2/ Other OECD includes: Belgium-Luxembourg, Denmark, France, Ireland, Italy, Netherlands, Austria, Greece, Finland, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and Yugoslavia.
3/ Near East includes: Egypt, Iran, Israel, Kuwait, Lebanon, and Saudi Arabia.
4/ Other Asia includes: Taiwan, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand, and Vietnam.

Source: U.S. Department of Commerce.

Table 4

Capital Goods Exports of Major World Areas
(Millions of U.S. Dollars, Percent of Total)
[monthly averages, unadjusted]

	Percent Change										1st Half
	1972-73	1973-74	1974-75	1975-76	1972-76*	1972	1973	1974	1975	1976	1977
TOTAL	30	27	18	13	22	8,675	11,243	14,249	16,861	19,078	NA
United States	29	37	20	8	23	1,794	2,322	3,182	3,810	4,129	4,171
% of total						20.7	20.7	22.3	22.6	21.6	
Canada	15	12	11	21	15	558	643	717	794	960	1,072
% of total						6.4	5.7	5.0	4.7	5.0	
United Kingdom	17	21	29	Neg.	16	837	979	1,184	1,525	1,521	1,630
% of total						9.6	8.7	8.3	9.0	8.0	
Federal Republic of Germany	41	20	10	16	21	1,859	2,630	3,164	3,488	4,039	4,398
% of total						21.4	23.4	22.2	20.7	21.2	
France	36	22	36	8	25	635	863	1,052	1,435	1,551	1,709
% of total						7.3	7.7	7.4	8.5	8.1	
Japan	33	39	9	31	27	1,138	1,517	2,107	2,287	2,996	3,300
% of total						13.1	13.5	14.8	13.6	15.7	
Other OECD	23	24	24	10	20	1,854	2,289	2,843	3,522	3,882	NA
% of total						21.4	20.4	20.0	20.9	20.3	

* Compounded Annual Rate

Source: Organization for Economic Cooperation and Development
[SITC Category #7]

Table 5

Machinery Imports, Exports, and Import-Export Ratios, 1967-1st Half 1977
(Imports and Exports in Millions of Dollars, Ratios in Percent)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1st Half 1977
MACHINERY, TOTAL											
Imports	2,563	3,035	3,565	4,271	4,740	6,245	8,081	9,530	9,893	11,429	6,534
Exports	7,803	8,309	9,519	11,015	11,160	12,726	16,548	22,956	27,641	30,114	15,880
Ratio	32.8	36.5	37.4	38.8	42.5	49.1	48.8	41.5	35.8	38.0	41.1
NONELECTRICAL MACHINERY											
Imports	1,963	2,280	2,622	3,103	3,504	4,539	5,652	6,472	7,059	8,021	4,695
Exports	6,181	6,560	7,460	8,686	8,772	9,864	12,556	17,298	21,633	22,833	11,809
Ratio	31.8	34.8	35.1	35.7	39.9	46.0	45.0	37.4	32.6	35.1	39.8
Engines, Turbines, and Parts											
Imports	383	517	603	782	957	1,242	1,478	1,528	1,614	1,934	1,129
Exports	1,021	1,123	1,213	1,358	1,523	1,796	2,169	2,733	3,381	3,543	1,830
Ratio	37.5	46.0	49.7	58.0	62.8	69.2	68.1	55.9	47.7	54.6	61.7
Agricultural Machinery & Farm Tractors											
Imports	317	301	314	318	332	448	605	784	904	952	581
Exports	451	414	421	362	366	498	685	1,026	1,456	1,635	890
Ratio	70.3	72.7	74.6	87.8	90.7	90.0	88.3	76.4	62.1	58.2	65.3
Office Machines											
Imports	225	256	372	505	566	700	915	1,007	1,052	1,341	753
Exports	707	747	1,051	1,547	1,519	1,623	2,085	2,699	2,639	2,937	1,704
Ratio	31.8	34.3	35.4	32.6	37.3	43.1	43.9	37.3	39.9	45.7	44.2
Metalworking Machinery											
Imports	203	204	183	164	107	140	189	300	361	362	211
Exports	339	334	343	396	405	410	489	636	922	953	400
Ratio	59.9	61.1	53.4	41.4	26.4	34.1	38.7	47.2	39.2	38.0	52.8
Textile & Leather Machinery											
Imports	237	308	305	361	501	638	630	602	518	636	318
Exports	206	207	239	273	253	272	375	528	486	457	217
Ratio	115.0	148.8	127.6	132.2	198.0	234.6	168.0	114.0	106.6	139.2	146.5
ELECTRICAL MACHINERY *											
Imports	600	755	942	1,169	1,236	1,706	2,429	3,058	2,834	3,407	1,839
Exports	1,621	1,749	2,059	2,429	2,388	2,862	3,992	5,658	6,008	7,281	4,071
Ratio	37.0	43.2	45.8	48.1	51.8	59.6	60.8	54.0	47.2	46.8	45.2
Power Machinery and Switchgear											
Imports	133	168	196	247	263	356	461	567	550	758	445
Exports	510	531	562	611	679	787	1,066	1,492	1,709	2,138	1,211
Ratio	26.1	31.6	34.9	40.4	38.7	45.2	43.2	38.0	32.2	35.5	36.7

* Excludes Telecommunication apparatus, including radio and television apparatus.

SOURCE: U.S. Department of Commerce.

FOREIGN MARKET DEVELOPMENT ACTIVITIES OF COMPETING AGRICULTURAL EXPORT COUNTRIES FY 1975

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Program Evaluation Division
Foreign Agricultural Service

INTRODUCTION

This report is one in an ongoing series of comparative studies of the market promotion activities of the principal countries competing with the U.S. in world agricultural markets. It is intended to give the reader an idea of the nature and scope of market development programs of our competitors, including their FY 1975 expenditures and future trends.

The report contains:

(1) Highlights of major promotional efforts by the eight major agricultural competitors of the U.S.: Australia, Canada, Denmark, France, Israel, the Netherlands, New Zealand, and South Africa. Brief summaries of the market development programs of Italy and Spain are also included. Emphasis in this section is placed on the agencies responsible for market development programs, the types of activities they conduct, the major products promoted, countries in which the programs are concentrated, and major expenditures by agency;

(2) Highlights of market development activities of our leading competitors in market countries for U.S. agricultural products. The emphasis in this section is on the types of activities conducted and products most widely promoted; and

(3) A chart of market development expenditures and export values for FY 1974-75 of our leading competitors. This chart includes our eight major competitors in world markets. In addition, expenditures of Italy and Spain are included in their respective country summaries.

The data on export values and market development expenditures [illegible] based on reports submitted by U.S. agricultural attaches, stationed in countries competing with the U.S. in foreign [illegible] the differ[illegible]
in 197[illegible]

HIGHLIGHTS

Competitor Expenditures

Major competitors of the United States in world agricultural markets continue to increase the size and scope of their market development programs. Expenditures by 8 of our principal competitors in FY 1975 totaled about $140 million, compared to approximately $128 million in FY 1974. In addition, expenditures by Italy and Spain in FY 1975 totaled about $2.3 million.

Market development expenditures by the U.S. in 1975 equalled one-tenth of one percent of exports. This compares to 1.15%, 1.10%, and 1.01% in Israel, New Zealand, and Australia, respectively.

Trends in Market Countries

Japan - Market development programs of major U.S. competitors in 1975 included increased consumer promotions and trade teams. Future emphasis will be placed on promoting prepared and processed foods, increasing the number and scope of point-of-purchase (POP) and consumer promotions, and the utilization of trade teams.

West Germany - Participation in trade fairs is strong, as are point-of-sale (POS) promotions. The use of trade teams, seminars, and consumer advertising will continue.

United Kingdom - Press and consumer servicing, point-of-purchase activities, and consumer advertising are the major types of activities conducted. Expenditures on press and TV advertising in FY 1975 by our major competitors in the U.K. increased by 62% over the 1974 level.

Sweden - Expenditures for market development by major competitors increased, particularly for fruits, vegetables, and beef.

AGRICULTURAL EXPORTS AND MARKET DEVELOPMENT
EXPENDITURES, FY 1975, 1976 1/

Country	Revised 1975 Exports (Bil.$)	Revised 1975 Market Development (Mil.$)	Revised 1975 Percent of Exports	Estimated 1976 Exports (Bil.$)	Estimated 1976 Market Development (Mil.$)	Estimated 1976 Percent of Exports
Australia	$ 4.9	$ 49.6	1.01	$ 4.61	$ 50.48	1.09
Canada	3.9 2/	6.3	.16	3.90	10.20	.26
Denmark	2.3	16.9	.73	2.24	16.18	.72
France	8.4 2/	11.8	.14	8.70 2/	12.10	.14
Israel	.31 3/	3.8	1.23	.38 4/	6.00	1.58
Netherlands	8.6	20.4	.24	8.79	23.02	.26
New Zealand 2/	1.7	18.7	1.10	2.01	17.90	.89
South Africa 2/	1.6	12.5	.78	1.32	9.57	.72
Total		140.0			145.45	
United States 5/	21.6	22.6	.10	22.1	22.50	.10

1/ Exchange rates used are indicated in texts. Source: Treasury Reporting Rates of Exchange, Department of the Treasury, Fiscal Service, Bureau of Government Financial Operations.
2/ Data based on calendar year.
3/ CY 1974.
4/ CY 1975.
5/ Includes Foreign Agricultural Service funds and contributions of U.S. Market Development Cooperators.

COUNTRY SUMMARIES

Competitors

AUSTRALIA

Australia operates a strong market development program through export oriented marketing boards and government agencies. Government funds are used to assist the boards as well as to conduct trade fairs, trade missions, and displays. The advertising and trade fair approach of the past is being replaced with activities such as trade servicing and technical assistance. A new market development grant scheme was started in July 1975. The new scheme authorizes export incentive payments (in the form of grants) to encourage the development and expansion of Australian exports.

Agencies responsible for foreign market development include:

Australian Meat Board - Despite the very restrictive import controls on beef and resultant high consumer prices, Japan continued in FY 1975 to be the main target of the AMB promotion campaign. The promotion centered mainly on TV advertising. Promotion of Australian beef in Japan will be intensified in 1975/76, directed towards the generation of increased sales of chilled beef. Interest is also shown by AMB in the USSR and the Middle East. Restrictions on imports to the United Kingdom and Europe resulted in limited activities in these areas.

Australian Wheat Board - A Central Grain Research Laboratory will be set up to study utilization and marketing and to conduct crop quality surveys, and other research work. The thrust of the promotion efforts centers around the publication of information on Australian wheat, trade delegations to all regions in the world, trade fairs, and technical support offered through the Bread Research Institute.

Australian Dried Fruits Control Board - Activities in FY 1975 included publicity and advertising in Japan and Germany and a joint promotion campaign with raisin producing countries in the United Kingdom.

Australian Canned Fruit Board - The largest campaign for canned fruits was mounted in the United Kingdom. In conjunction with other commodity marketing Boards and the Australian Government, a multi-product campaign was conducted using trade and consumer press advertising, a recipe service and a public relations program. The Board concentrated its efforts through the Overseas Trade Publicity Committee (O.T.P.C.). Programs were also carried out in Norway, Sweden, Denmark, Ireland, Canada and Japan. Emphasis was placed on store promotions, point-of-sale activities and public relations.

The Australian Dairy Corporation - A reorganization to make the new Dairy Corporation more effective in marketing was conducted in 1975. Recent market development activity included a number of overseas visits by Corporation and other industry representatives, to Iran, Indonesia, North Vietnam, and several other markets.

The Australian Wool Corporation - Almost all funds were made available to the International Wool Secretariat for promotion purposes. This totaled over $37.3 million.

Promotion by Other Commodity Boards - The Sugar Board provides technical assistance to foreign buyers and the sugar trade. Consumer promotion by the Wine Board was concentrated in Canada, Japan, and the United Kingdom. Other agencies carrying out export promotion include the Honey Board and the Egg Board.

Summary of Expenditures

A summary of estimated Government and Marketing Board expenditures for overseas promotion of farm products for the past marketing year is as follows:

Commodity	Estimated Expenditures (Million Dollars)
Wool	37.338
Meat	1.495
Dairy	1.385
Wheat	.827
Sugar	.689
Canned Fruit	.496
Wine	.448
Apples and Pears	.227
Dried Fruit	.097
Honey	.028
Eggs	.014
Total	43.044

Exchange rate: US$1 = $A.7258

The addition of $6.9 million by the Department of Trade for the Trade Commission Services and $2.5 million for activities conducted by CTFC would bring the estimated total expenditures to approximately $52.4 million. 1/

1/ This figure was revised to $49.6 million in an attache report of July 7, 1976, using the exchange rate US$1 = $A.7258. This report also indicated the likelihood of increased scrutiny and possible reductions of government funds for export promotion.

CANADA

Market development for agricultural products is carried out by the federal government, crown corporations, provincial governments, marketing boards, growers associations and private companies. The following are individual organizations responsible for market promotion:

Federal Department of Industry, Trade and Commerce (IT&C) - Operates government market development program. It financed establishment of International Grains Institute and presently funds 60 percent of the Institute's operating costs.

Export Development Corporation - Provides export financing, export credit insurance and other aids to exporters.

Agriculture Canada (AC) - Provides technical and personnel assistance to IT&C, including the provision of personnel for trade missions.

Canada Dairy Commission - Has authority over export trade in dairy commodities.

Canadian Grain Commission - Has responsibility of the regulatory supervision of the grain handling industry.

Canadian International Grains Institute - Provides training courses for foreign and domestic industry representatives, and customers (existing or potential) of grains and oil seeds. Courses include grain handling, marketing, and technology. The Institute works in affiliation with the Canadian Wheat Board, the Canadian Grain Commission, and various government departments.

Canada Grain Council - Membership is comprised of all sectors of the industry. It is jointly financed by member organizations, AC and IT&C. A three-year Korean feeding trial project is underway.

Canadian Wheat Board - Maintains market development offices in London, Tokyo, and Brussels. Trade missions are concentrated in Europe, Asia, and the Middle East, with some activity in the Caribbean, Brazil, and Mexico. Market research and product [illegible] programs are being carried out with feed and malting barley varieties and durum wheat varieties in overseas laboratories and bakeries. The Board contributes 40 percent of the operating costs of the International Grains Institute.

Rapeseed Association of Canada - Participates in international seminars. It is funded by a checkoff on exports and crushings.

Beef and Cattle Association - Participates in international exhibits, sponsors travel, and hosts foreign officials.

Ontario Flue - Cured Tobacco Grower's Marketing Board - Conducts overseas trade missions, participates in international fairs and symposiums, and offers trade servicing in Bulgaria, Czechoslovakia, Denmark, Finland, Italy, Libya, Norway, the Soviet Union, and the United Kingdom).

Provincial Government - Individual provincial governments play a role in market development activities. One role is to act as a broker, agent, or merchant in selling agricultural products. Activities carried out at a provincial level are conducted separately from the federal effort.

Future Trends

Particular emphasis will be placed on market development projects with long-term benefits.

Summary of Expenditures

	FY 1975	FY 1976	FY 1977
	(Million Dollars)		
Federal Budget - ITC Market Development Activities	3.84	6.86	11.72
ITC matched by other organizations 1/	.70	1.01	1.00
Grains and Oilseeds Program matched by other organizations 2/	.41	.82	1.48
Canadian Wheat Board	.70	.80	.70
Other	.60	.70	.80
Total	6.25	10.19	15.70

1/ Contributions to Canadian companies and markets for Canadian agricultural products other than grains and oilseeds.

2/ Assistance to Canadian companies and organizations in expanding the total effective market for Canadian grains and oilseeds by supporting selected projects.

DENMARK

The Agricultural Marketing Board and commodity export boards are the main organizations that promote agricultural products abroad. Funds for promotion are generated through production fees on hogs, horses, cattle, milk, and sheep. Direct government financial support for foreign market development has only been granted to the horticultural sector since Danish membership in the European Community in 1973. The newly formed Export Promotion Council and its secretariat, "Export Promotion for Danish Trade and Industry", work with the above-mentioned boards as well as with private corporations.

A new development in agricultural market promotion in 1975 was the foundation of Danagro Adviser A/S, a limited liability company set up jointly by Danish agricultural and industrial organizations and private companies under the directorship of the Agricultural Council for the purposes of: (1) selling technical assistance in establishing agricultural enterprises abroad; and (2) participating in joint venture projects. Although many projects are under discussion with several countries interested in developing their agricultural industries (e.g. Iran, Saudi Arabia, Brazil, and Sudan), no firm commitments were reported during 1975.

The Agricultural Marketing Board (AMB) - The Board functions as an umbrella organization for export promotion of agricultural products in general. The Board may also carry out activities alone or in conjunction with the commodity export boards, private companies, or the government.

The Board carries out market analyses, in-store promotions, restaurant and consumer campaigns: participates in large international agricultural fairs; and arranges the visits of trade and press teams. Concentration of activities has moved toward EC countries other than the U.K. While activities have been curtailed in most overseas areas, certain markets such as the Middle East and Japan are being given increasing emphasis.

Commodity Export Boards - The Boards act as coordinating channels for overall market development activities and include the Sales Association of the Bacon Export Board, the Butter Export Board, the Cheese Export Board, the Joint Beef Board (covers beef, veal, and horsemeat), the Poultry Export Board, the Egg Export Board, the Potato Export Board, the Danish Commercial Horticultural Association, and the Horse Export Board. These boards act as coordinating channels for overall market development activities in the United Kingdom. They (or their parent organizations) maintain offices in major markets such as the U.K., the U.S., West Germany, Canada, Belgium, and France. Activities are carried out singly

or in cooperation with the AMB, private companies and official government agencies. Sources of funds are mostly derived from production fee revenues and are allocated by the Ministry of Agriculture Committee.

Increased emphasis is being placed by Export Boards on developing EC markets. Other areas of concentration include the Middle East and Japan.

Future Trends

Continued importance will be placed on maintaining and expanding export outlets. While fewer activities will be conducted in the U.S., Canada, and the Far East (other than Japan), there will be an increased concentration on developing EC markets. This includes an increased emphasis on promoting cheese and pork in France and Italy, as well as Japan. In addition, the Danish government is placing major importance on developing trade with non-market countries, including China (PRC). Greater emphasis is being given to direct trade and consumer promotion (exhibitions, advertising, in-store campaigns) and less to press servicing, representation and similar PR activities.

Summary of Expenditures

	1973-74	1974-75	1975-76 (est.)
	(Million Dollars)		
Agricultural Marketing Board	2.5	2.8	2.8
Commodity Export Boards	11.1	13.2	12.9
Government Funds (estimated)	.7	.9	1.1
Total	14.3	16.9	16.8

Exchange rates: 1974 - US$1 = D Kr.6.10; 1975 - US$1 = D Kr.5.75; 1976 - US$1 - D Kr.6.10.

FRANCE

Promotion of wine, dairy products, fruits and vegetables, meat products, livestock, and grain are conducted through the following organizations:

SOPEXA - Responsible for market promotion of products other than field crops. SOPEXA's activities consist of participation in international trade fairs and point-of-sale promotions. The emphasis in 1976 will be placed on wine, cheese, apples, cabbage, pears, canned peas, and canned mushrooms.

COFRANIMEX - A private corporation financed by livestock associations, COFRANIMEX promotes livestock exports for breeding purposes. Promotional activities include trade shows, publicity materials, and trade teams.

ONIC - The Interprofessional Cereals Board, a quasi-governmental organization, promotes cereal in cooperation with French cereal producers' association. Funded through checkoff fees, their activities include trade teams and promotional material. Emphasis is placed on the EC for grain (wheat and corn) and on the Middle East for flour.

CFCE - The French Center for Foreign Trade, a quasi-governmental agency under the auspices of the Minister of Economics and Finance, conducts studies in marketing and production for French Exporters. This effort includes overseas studies and meetings with foreign specialists. The organization is funded in equal amounts by public funds, food organizations, and checkoff taxes for special trademark labels.

Future Trends

SOPEXA will concentrate in 1976 on wine, dairy products, fruits and vegetables, and meat products. Principal countries of interest for wine promotion are: West Germany, the United States, United Kingdom, Belgium, Denmark and Canada; for dairy products: West Germany, Italy, Switzerland, the United States, United Kingdom, and the Netherlands. The principal fruits and vegetables promoted are apples, pears, mushrooms, and peas (the latter two are processed), and target countries are France's European neighbors.

Summary of Expenditures

	CY 1975	CY 1976
	(Million Dollars)	
SOPEXA		
International fairs	.52	.52
Point-of-purchase	2.58	3.04
Wine	1.21	1.64
Promotional materials	.89	.98
Storage of materials and representation	NA	2.16
Other	4.24	1.80
Subtotal	9.44	10.14
COFRANIMEX	.23	.22
ONIC	NA	NA
CFCE	2.11	2.49
Total	11.77	12.85

Exchange Rates: 1975 - US$1 = F 4.258; 1976 US$1 = F 4.604

ISRAEL

Principal export markets for Israel's agricultural products are the EC, Scandinavia, Switzerland, Japan and Iran. Market development activities for citrus, avocado, flowers, strawberries, processed fruits and vegetables are conducted by commodity marketing boards which include the following:

Citrus Marketing Board (CMB) - Composed of producer and packer representatives with the Minister of Agriculture as chairman, it works with missions visiting Israel.

Cotton Production and Marketing Board - The Board is organized along the lines of the Citrus Board, with the Director General of the Ministry of Agriculture as its chairman. Trips abroad by the Director and invitations to key customers to visit Israel are the thrust of activities.

Agricultural Export Company (AGREXCO) - AGREXCO deals in all agricultural products except citrus, cotton, peanuts and processed foods. It is controlled by the Marketing Boards, Producers Organizations, Local Marketing Firms and the Ministry of Agriculture.

The Peanut Production and Marketing Board - Composed of representatives of producers and packers, it is headed by the Minister of Agriculture.

Citrus Products Export Board - A new organization, its task is to coordinate marketing efforts of processors.

Market development efforts include both incoming and outgoing trade teams, which would include the Israel Food Week held at two or three year intervals in Tel Aviv by the Export Institute.

Israel's main markets are in Europe, and most promotional activities are concentrated in the EC and EFTA areas.

Market development activities are funded by producer checkoffs and government funds which total approximately $3.8 million. The level of activities is expected to increase in the future.

THE NETHERLANDS

Major agricultural products are promoted by the Ministry of Agriculture and 13 Dutch trade organizations. The Ministry of Agriculture assists producers and processors with commercial displays and is represented on governing boards of many trade associations and bureaus. In 1976 the Ministry will participate in 26 international shows and over 30 "Dutch Weeks" to enhance the prestige of Dutch agricultural products. In addition, the Ministry initiates market research, arranges technical seminars, and disseminates market information. Continued emphasis will be placed on promotions in EC countries and new markets in the Middle East.

Dutch trade organizations include:

Dutch Dairy Bureau - A promotional organization representing cooperatives and private exporters.

Product Board for Poultry and Eggs - An official body with authority to issue regulations which are binding on producers and related industries in the poultry and egg sector. The Board carries out radio and TV advertising and participates in fairs.

The Information Bureau for Meat and The Meat Products and Information Center for Live Dutch Cattle - They conduct promotional activities for the livestock sector. The former is limited to a few international shows in Europe, while the latter conducts shows in Europe, carries out symposiums and disseminates market information through magazines and pamphlets.

The Flower Growers Association, the Dutch Council and Plant Publicity Holland - They are private organizations promoting flowers, bulbs and ornamental shrubbery, respectively. The Flower Growers Association is directed exclusively at the trade. The Dutch Bulb Council, through eight groups -- each covering a different market area, advertises in trade and consumer

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magazines, in newspapers and on radio and television. It distributes posters and bulbs for publicity. The Plant Publicity Holland is directed at wholesalers, nurserymen, landscaping firms and institutions. Activities include films and participation in exhibitions.

Netherlands Potato Consultative Institute - A semi-official organization, it develops and distributes information and sends technicians abroad to improve sales of potatoes and seed.

Future Trends

Include continued concentration in the EC and Middle East; in Spain and Japan by the Dairy Bureau; and in Iran and the Middle East for poultry products.

Summary of Expenditures

	1975	1976
	(Million Dollars)	
Ministry of Agriculture and Fisheries	1.83	1.58
Dutch Dairy Bureau	11.31	13.81
Central Bureau for Agricultural Auctions	1.92	2.15
Product Board for Fruit and Vegetable	-	-
Product for Poultry and Eggs	.68	.77
Cookiest Rusk Promotion	-	.20
The Dutch Bulb Council	2.97	2.42
The Dutch Flower Growers Association	.45	.71
Plant Publicity Holland	.07	.07
Dutch Information Center for Seed Potatoes	.63	.69
Dutch Information Center for Consumption Potatoes	.24	.28
Information Bureau for Meat and Products	.07	.24
Product Board for Fish and Products	-	.02
Information Center for Dutch Cattle	.24	.24
Total	20.39	23.51

Exchange rates: 1975 - US$1 = f. 2.55; 1976 US$1 = f. 252

NEW ZEALAND

Despite substantial losses in trading in 1975, most major producer boards which do the bulk of market promotion in New Zealand are increasing programs. Promotion of meat (mostly lamb), apples, pears, and processed dairy and livestock products is conducted by producer-owned boards and, to a much lesser extent, the New Zealand Department of Trade and Industry. Foreign travel by board members, industry representatives, and government officials is usually the greatest cost of market promotion work. Activities also include market research, trade fairs, and advertising. Most major food shows are held in Europe and Japan. Included among the producer boards are the following:

New Zealand Meat Producers Board - The Board concentrates its expenditures on direct advertising of brand identifiable items such as lamb. In addition, it spends considerable funds on travel to countries with high market potential. In an attempt to diversify its lamb market, numerous trips were made to the Middle East. Several Middle East teams were hosted in New Zealand. More funds will be aimed at this area in 1976, mainly to develop the lamb trade, with the emphasis on Egypt. Promotion through DEVCO will also be increased in 1976 in North America.

New Zealand Dairy Board - The Dairy Board, mainly an incorporation of the leading dairy cooperatives in New Zealand, buys, stores, and sells all dairy products going into export. The majority of funds is spent on butter promotion in the United Kingdom. Foreign travel is usually the greatest cost of market promotion work.

New Zealand Wool Board - The Wool Board spends most of its promotional money through the International Wool Secretariat (IWS). There is limited advertising of New Zealand carpets and yarn, but mostly, in conjunction with the IWS.

New Zealand Apple and Pear Marketing Board - The Board handles all apples and pears for export. The bulk of its promotion is in the EC (mainly in the United Kingdom), but it also conducts point-of-purchase and newspaper advertisements in the U.S. Apple promotion in North America will be increased this year, as domestic production is expected to almost double. Promotion of "Granny Smith" apples will be the main thrust.

Meat Export Development Co. (N.Z.) Ltd. (DEVCO) - This is a joint venture by the Meat Board and several of the larger lamb processors in New Zealand, set up for the purpose of exclusively marketing New Zealand lamb in North America. Money spent on promotion goes for advertising and point-of-purchase promotions as well as travel by DEVCO personnel.

Market development funds are generated mainly from levies on livestock processed for export, fruit marketed, wool sold, and processed dairy products. Control of the boards remains largely in producer hands.

Market development programs will accelerate with specific increases in (1) funds for development of potential lamb trade to the Middle East (with emphasis on Egypt), (2) lamb promotion in North America, and (3) apple promotion in North America.

Summary of Expenditures
Producer Boards and Government Agencies

	1974	1975	1976 (est)
	(Million Dollars)		
New Zealand Meat Board	3.0	3.2	3.1
New Zealand Dairy Board	2.4	2.2	2.0
New Zealand Wool Board	13.5	11.8	11.3
New Zealand Apple & Pear Board	.5	.5	.5
New Zealand Department of Trade and Industry	1.1	1.0	1.0
Total	20.5	18.7	17.9

Exchange Rates: 1974 US$1 = $NZ .7160; 1975 US$1 = $NZ .8163; 1976 US$1 = $NZ .9769.

SOUTH AFRICA

Promotion of wool, canned fruits and jams, fresh deciduous fruit, citrus fruit, marketed pelts, and mohair are conducted by various commodity boards. Included among these boards are the following:

The Wool Board - Wool is the most actively promoted product. Promo- [illegible] the International Wool Secretariat (IWS). [illegible] Wool Board's annual expenditure is to the [illegible] which is derived from [illegible] government grants.

IWS carries out market development programs in most major markets with emphasis on natural fiber--wool. A sophisiticated program is conducted, concentrating on final consumers and manufacturers. Some money is also spent on research and product development.

South African Canned Fruit Export Board - In a departure from brand name promotion, the local canned fruit industry, the South African Canned Fruit Export Board, and the Canning

Fruit Board decided to give financial assistance to British buyers for their advertising and promotional activities. The monies to be made available to British buyers are allocated on the basis of their 1974 and 1975 purchases of South African products.

The Boards also agreed in principle to begin a five year market development project in the United Kingdom, starting in 1976. The program will initially concentrate on promoting the general sales of canned fruit. A South African brand name may be used at a later stage. In the future the program will probably be expanded to the rest of the EC. The program will be funded by levies collected from producers and canners. No direct government aid is foreseen at this stage.

The Deciduous Fruit Board - All advertising and promotional programs in the United Kingdom and Europe were planned to strengthen the image of "Cape" fruit as a fresh quality product. This theme is stressed in all point-of-sale material and consumer advertising.

In the United Kingdom and Belgium, magazine advertising made use of the same full color material as was used for all other merchandising material to link the quality fresh fruit message from consumer to point-of-purchase. A strong trade press campaign was conducted through established fruit trade journals and newspapers.

Deciduous Fruit Board efforts were funded by producers without government assistance.

The Citrus Board - The Citrus Board markets under the "Outspan" name in overseas markets. It maintains a strong and progressive market development program financed from the proceeds of export pools that are generated from export levies.

The Karakul Board - Karakul pelts from South and Southwest Africa are marketed worldwide under the "Swakara" brand name. The Karakul board is funded by levies and interest on investments. The Board uses advertising agencies to handle their program in 17 countries. Consumer interest is maintained by the inclusion of Swakara in all the major fashion collections in Paris and Rome, editorial coverage, sustained public relations work and advertising campaigns.

The Mohair Board - Limited activities include advertising in collaboration with the British and French spinners and the German and French weavers.

The Board also participates with the Department of Commerce exhibitions and in overseas trade missions. Expenditures by the Mohair Board are financed by a levy on producers.

Summary of Expenditures

	CY 1974	CY 1975 (est)
	(Million Dollars)	
Wool	5.94	5.46
Canned Fruit and Canning Fruit	-	.68
Deciduous Fruit	1.47	1.36
Citrus	3.08	3.00
Karakul	1.91	1.91
Mohair	.10	.10
Total	12.50	12.51

Exchange Rates: CY 1974 US$1 = R .6823; CY 1975 US$1 = R .7327

OTHER COUNTRIES

Italy

Federal funds earmarked for foreign market development of agricultural products in 1975 totaled $1.79 million,(Exchange rate: US$1 = Lit 672) including $.67 million for citrus and fresh fruits and vegetables, and $.77 million for wines. Approximately 40% of federal funds budgeted for 1976 will be used for trade shows, 40% for trade missions, and 20% for support type activities, such as research and publications. The Ministry of Agriculture promotes wine in Ireland, the United Kingdom, and West Germany, for which it is authorized to spend $2.90 million in 1975/76.

Other groups include : Confederazione Generale Dell' Agricoltura Italiana (CONFAGRICOLTURA), an association of large farmers, which spends about $.22 million annually for promotion of various agricultural products and wines, and $.07 million for flowers; the Institute of Foreign Trade (ICE), which provides all public organizations with technical services for organizing and coordinating Italian participation in fairs, exhibits, and technical promotional meetings ; and regional councils.

Promotion efforts will continue to focus on fresh fruits and vegetables including citrus and wine. Programs will be centered in Europe with the exception of wine, which will focus on non-European countries such as Japan and the U.S.

Spain

The Ministry of Commerce supports trade teams, trade missions, and trade fairs. The Trade Fairs Commission, in the Ministry of Commerce, considers four food fairs particularly important in its overall program. They include ANUGA in Cologne (most important), IKOFA in Munich, SIAL in Paris, and ROKA in Utrecht. Each of these fairs is held once every two years. Green Week is the other agricultural commodity show which the Ministry supports.

The Ministry also assists private associations with trade fairs and missions. Financial assistance, however, is granted on a case-by-case basis. Market development activities are limited to consumer items such as fresh and processed fruits and vegetables, table olives, wines and fish. Olive oil and citrus fruits are each promoted by separate non-governmental organizations. Although they may participate in government-sponsored fairs, they are given no direct assistance.

Overall market development activities will continue along the same lines, with increased budgets to compensate for inflation.

Summary of Expenditures

	1975	1976
	(Million Dollars)	
Trade Missions	.09	.09
Trade Fairs	.44	1.10

Exchange Rates: 1975 US$1 = Ptas 57.2; 1976 US$1 = Ptas 68.0

Markets

JAPAN

General - Promotion efforts of major agricultural competitors in FY 1975 included increased emphasis on point-of-purchase and consumer promotions in department stores and supermarkets; incoming foreign trade missions and outgoing purchasing and/or inspection teams; processed food promotions; tie-in promotional activities; and promotions of products from developing countries. In 1976 increased emphasis will be placed on promoting prepared and processed foods and increasing the number and scope of point-of-purchase and consumer promotions. Utilization of trade teams to promote bulk items will continue. Expenditures are expected to sharply increase because of a major exhibition at the Kobe Industry and Trade Hall under the sponsorship of the Tientsin City of the PRC.

Country Summaries:1/

Australia - Commodity marketing boards, with the Australian Embassy Trade Office promoted meat, dairy products, chilled beef, fruits, honey, jam, canned soups and vegetables, confectionery, candy, wine, beer, and frozen seafoods. Market development activities included demonstrations, samplings, in-store promotions, and special displays at hotels and department stores. The Australian Wheat Board hosted flour milling industry representatives, paying travel expenses in some instances.

Canada - Market development efforts were increased for meat, dairy products, frozen vegetables and seafoods, confectionery, jam, honey, fruit and tomato juices, soups, and wines, with particular emphasis on barley and wheat. Activities included trade team visits to Japan, hosting of Japanese flour millers to a Special Training Program, and promotion at major department stores, supermarkets, and hotels.

Denmark - Promotion continued for wine, cheese, ham, bacon, sausages, confectioneries, and cookies through in-store sampling and spot-sales at major department stores and supermarkets. Future expenditures, barring special promotions, are expected to [illegible]

France - Promoti[illegible] confectionery, [illegible] cooking [illegible] hotels, and the [illegible] ment expenditures are expected to increase gradually.

Italy - Wine, [illegible] jam, confectionery, chocolate, and canned [illegible] demonstrations, samplings, and spot-sales [illegible] and hotels.

1/ In addition to those described, countries which conducted market development programs in FY 1975 included: Austria, Brazil, Bul[illegible] (Mainland), Columbia, India, [illegible], Jamaica, [illegible] Pakistan, Philippines, Portugal, [illegible], Rumania, [illegible] Lanka, Sweden, and the Soviet Union.

New Zealand - Lamb, dairy products, confectionery items, canned vegetables, honey and seafoods were emphasized in market development promotion. The New Zealand Meat Board promoted lamb through television and other media advertising.

United Kingdom - Promotion was increased for confectionery, biscuits, chocolate, mixed candies, fruit and vegetable juices, coffee, tea, dairy products, processed meats, jam, and canned soups, through food fairs at department stores and supermarkets.

SWEDEN

General - Promotional expenditures of major competitors in this market increased, though the increase may not have kept up with inflation. The greatest competition is in fruits and vegetables such as oranges from Spain, Italy and Israel, orange juice from Brazil, and fresh vegetables from the Mediterranean. Meat imports from Eastern Europe and other Western suppliers are also increasing.

Country Summaries:1/

Israel - Oranges, orange juice and fresh vegetables are promoted through CMBI and AGREXCO. POS activities are jointly conducted with individual chains. Special attention is being given this year to grapefruit promotion. Vegetable and non-citrus items selected for promotion vary somewhat from season to season, depending upon supplies and quality.

Italy - Sixty percent of Italian oranges are promoted under brand names developed by Swedish importers and food chains through in-store promotion, newspaper ads, and price discounts. The Government carries out generic promotion for lesser known brands through subway car cards and similar ads. The attempt to use a standard logo by suppliers has been only partially successful. The Italian Institute promotes cauliflower, strawberries, watermelons, peaches, apples, and pears.

Netherlands - In addition to government efforts, several quasi-government producer associations promote their products funded from a checkoff under Dutch law. For the first time in years, participation in two Swedish trade fairs (one for the catering trade, and one for the food processing industry) will involve the largest portion of expenditures, and will emphasize canned hams, potato products, fish, liquors and beer, cheese, canned vegetables (peas and beans), cocoa products and other processed foods. Shrubs, bulbs and cut flowers are promoted by both the government and trade groups using various forms of advertising. These promotions are planned and funded jointly by the government, trade groups, and Swedish importers. Promotion of lettuce, peppers, and cucumbers is funded entirely from the trade association for fresh vegetables.

1/ In addition to those described, countries which conducted market development programs in FY 1975 included Finland, Poland, and Spain.

Denmark-While exporting fish and fish products, pork, beef and veal, oilcake, soybean oil, and fishmeal, the Danish government leaves promotional activities primarily to private firms.

South Africa - Citrus and deciduous fruits will be promoted through in-store promotions. Trade press servicing will be used to promote deciduous fruits, and brand name promotion under the "Outspan" or "Swaziland" label will be used for citrus.

Australia - Market development efforts will focus on meat, fresh fruit and canned fruit. Meat promotions, like those for canned fruit, are approved on a project-by-project basis. Increased meat promotion will include "Australian" identification on consumer magazine ads and informal meetings for the Swedish meat trade. Canned and fresh fruit promotion will include POP promotions.

UNITED KINGDOM

General - Market development activities of major agricultural competitors included consumer and press servicing, point-of-purchase activities, and consumer advertising. Expenditures on press and TV advertising by our major competitors increased in FY 1975 by 62% over the FY 1974 level.1/ Of particular note were increases of 168% and 70% by Australia and Denmark, respectively.

Country Summaries:

Australia - The Australia Publicity Committee with representatives of each commodity board directs promotion activities under the auspices of the Department of Trade and Industry, Australia House Organization. Individual boards conduct the following: Canned fruits are promoted through in-store promotions in the retail chains. Apples and pears are promoted through trade and consumer press advertising as well as assistance with in-store promotions. Honey is promoted through press advertising and bus and subway posters.

Canada - No promotional activity reported.

Denmark - Continues heavy above the line promotion, 2/ emphasizing bacon, cheese and butter. It announced a three month national bacon campaign with TV and press advertising, and promotions at retail outlets.

France - Emphasis is placed on cheese and apples through consumer and trade press advertising and POP material distribution. Current level of activity will continue. Food from France, a branch of SOPEXA, will initiate a late-season advertising campaign for French Golden Delicious apples this year for the first time.

1/ Figure includes expenditures of Spain. Expenditures of France (included in total) and Ireland and Morocco (not included in total) declined.
2/ Press and TV advertising.

Israel - Citrus is promoted through joint efforts with importers, large retail groups and greengrocers (switched from heavy across the board promotion of "Jaffa"). AGREXCO has announced plans to conduct a heavy promotion campaign on fruits and vegetables under the "Carmel" label during FY 1976.

New Zealand - Despite declining exports, New Zealand continues to maintain a comprehensive market development program. Continued emphasis is placed on lamb promotion through national TV and press distribution of POP materials.

South Africa - The Deciduous Fruit Board announced plans to substantially increase above-the-line activity during FY 1976. The Canned Fruit Board continues to establish quality controls and regulates producer prices for peaches, apricots, and pears in order to keep them competitive in the U.K. market. Outspan promoted citrus through TV and press advertising and joint promotions with retailers with a budget in FY 1975 approximately five-fold that in FY 1974. Outspan's activities will continue to increase.

Netherlands - The Dutch Dairy Bureau continues to carry-out in-store demonstrations, exhibits, and TV and press advertising. They announced a one million pound campaign for butter and cheese using TV and journal advertising with the slogan "Dutchness".

WEST GERMANY

General - Participation in trade fairs is strong; all exporters offer standard point-of-sale materials and "Week" or "Day" promotions for a variety of products. Producers of fresh produce use trademark stickers, provide seminars for the trade and the press, host trade teams, advertise their promotional services to the trade, and use various sales gimmicks.

Country Summaries: 1/

Belgium - Product emphasis is on fresh produce and horticultural products. The thrust of activities are trade fairs and campaigns for specific products. Activities are conducted through the Ministry of Agriculture, ONDAH (National Organization of Promotion of Agricultural and Horticultural Goods), and OBCE (Office of External Commerce.) In addition, a National Union of Belgium Exporters of Agriculture and Horticultural Products was formed in January to work with the Ministries of Agriculture, Foreign Trade, and Economics.

Denmark - Large trade fair exhibits during past year emphasized dairy products.

1/ In addition to those described, countries which conduct market development programs include: Algeria, Argentina, Bulgaria, Columbia, Cuba, Greece, Hungary, the Ivory Coast, Morroco, Mauritius, Spain, and African producers of off-season and exotic produce.

France - SOPEXA office in Duesseldorf handles activities which emphasize direct work with the trade (rather than fairs). Fair participation is characterized by large exhibits that emphasize individual firms. Advertising and fair promotional materials are brand, firm, or regionally oriented. Total market development budget increased by 18% from 1975.

United Kingdom - Spirits, confectionery goods, preserves, teas, and fish were emphasized in large fairs (Green Week, IMS-Confectionery, FOXA). Plans are underway to form an institution something like Centrale Marketing Gesillschaft der Deutschen Agrarwertshaft (CMA) on a much smaller scale.

Italy - Very little promotion is currently visible except for participation in ANUGA and Green Week. Bi-weekly advertising exists for fruit by VOG, a fruit cooperative.

Australia - The Apple and Pear Corporation places advertisments in trade magazines with shipment arrival notices.

New Zealand - Occasional apple and pear advertisments appear and in-store promotions are conducted. Lamb is also promoted.

Netherlands - Promotion is conducted by the Ministry of Agriculture and Fisheries with emphasis on quality, freshness, and healthfulness through elaborate trade fair participation. Efforts include trade advertising (mostly for fruits and vegetables for retailers), POS materials, and magazine and TV advertisements. Dutch Weeks and trade seminars are also carried out. Products stressed are dairy products, horticulture and bulbs, and fresh produce.

Israel - The Citrus Marketing Board (CMBI) provides trade servicing, seminars, hosting trade teams, agricultural materials and consumer advertising. AGREXCO (export company for all products other than citrus) hosts trade teams. Some promotion is conducted jointly with CMBI.

South Africa - Outspan and "Cape" Information Service promote citrus, apples, pears, grapes. Emphasis is on both trade and consumer promotion, including a variety of free POS materials.

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY
570 LEXINGTON AVENUE
NEW YORK, NEW YORK 10022

GEORGE J. STATHAKIS
VICE PRESIDENT

April 21, 1978

Hon. Harrison Schmitt
Committee on Banking, Housing and
Urban Affairs
United States Senate
Washington, D.C. 20510

Dear Senator Schmitt:

This is in reply to the questions in your March 8, 1978 letter, relating to my testimony on February 23rd before the Subcommittee on International Finance on U.S. competitiveness in exports.

The questions and answers are attached.

Please let me know if I can be of any further help.

Sincerely,

GJS/md
attachments

Reply by General Electric
Company to Questions By
Senator Harrison Schmitt

(1) Please discuss the nature of the impact on exports of the technologies developed by General Electric during its involvement in the building of the Panama Canal.

The General Electric involvement in the building of the Panama Canal related primarily to the design and manufacture of the electrical equipment and apparatus used in operating the canal: the generating equipment, lighting, locomotives, controls, wiring, etc. The equipment had to be highly specialized and reliable. The Company's successful completion of the Canal project contributed to the Company's continuing competitive success in domestic and foreign markets. Of particular value to exports were the technological improvements in insulation systems designed for use in areas of high humidity, switchboard controls, and electric locomotives.

(2) How much is General Electric currently spending on Research and Development as a percentage of its income?

Per 1977 Annual Report

Total 1977 expenditures on research and development, including both GE-funded and under contract, primarily for U. S. Government agencies	$1,156 Million
Total 1977 Sales	$17,519 Million
% R&D/Total 1977 Sales	6.6%
Total 1977 Sales, excluding International (U. S. exports to external customers and revenues of foreign diversified affiliates) and Utah International, Inc., acquired by merger in 1976	$11,891 Million
% R&D/Sales, excl. Int'l and Utah	9.7%

(3) Has General Electric increased or decreased its spending on R&D, as a percentage of total income,

1) in the last 10 years
2) in the last 20 years
3) Since 1900

R&D expenditures over the periods in question have increased in conjunction with the growth of the Company. In relation to total revenues, year to year, they have fluctuated, with somewhat lower percentages in recent years than formerly.

(4) What changes in Federal taxation policies will help American industries to more rapidly evolve new technologies and products? Please provide, if possible, specific recommendations and resulting effects.

The most effective approach to stimulating more rapid technological development and product innovation through tax policy is to initiate general incentives that will increase the propensity to invest. A vigorous growing economy that provides pull-through for technology is the most effective incentive. Policies that attempt to increase the supply of technology by reducing its cost are not as effective as those that stimulate demand. Industrial technology is not created as an end in itself, but rather as a means to an end - the profitable satisfaction of customer's needs.

Four modifications in tax policy would be especially helpful:

1) A permanent cut in corporate taxes to increase funds available for investment.

2) A permanent investment credit for capital investment to increase demand for new technical goods.

3) More rapid recovery of depreciation to counter the effects of inflation and to recognize more rapid technological obsolescence.

4) Continuation of the present provision for capital gains.

(5) When compared against many U.S. corporations, General Electric seems to have had notable success in its export efforts. What accounts for this success?

The reasons for GE's successful export performance were stated on pages 7 through 11 of G. J. Stathakis' February 23, 1978 testimony before the Subcommittee (copy of testimony is attached). It should be noted that GE's success depended - not only on its competitiveness in the price, quality, delivery, etc. area, its market development programs, and its capabilities to meet customer needs - but also on its foreign affiliates and their "pull-through" purchases from the U. S. In this connection, the demonstrated importance of DISC and "deferral" should also be noted.

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