

Rising export and import prices in 1987 reversed the trend of recent years

The falling value of the dollar played a large role in export and import price increases; exports were also affected by rising commodity prices and imports, by rising fuel prices

ROBERT BLANCHFIELD AND WILLIAM MARSTELLER

In 1987, both U.S. export and import prices broke the downward trend of recent years. Export prices rose 6.9 percent, the first increase recorded in the all-export price index which was begun in 1983. (See table 1.) Import prices turned sharply upward, rising 14.8 percent after falling every previous year since the all-import index was initiated in 1982.¹ (See table 2.)

The rise in export prices reflected the strong upward trend in commodity prices. Food and crude materials prices rose substantially in 1987 compared to previous years. (See chart 1.) For example, exported food prices were up 9 percent last year after falling 13.2 percent in 1986. Similarly, those for crude materials rose 20.7 percent in 1987 following a 2.5-percent increase in 1986. On the other hand, 1987 price increases for manufactured goods were only marginally changed from those posted in 1986. Price changes for intermediate goods were mixed.

Last year's 14.8-percent increase in the all-import index was a significant upturn from the 8.7-percent drop in 1986; however, when fuels and related products are excluded, the price changes for the last 2 years were very similar, 9.6 and 8.4 percent, respectively. This is indicative of the large influence that fuels exert on the all-import

index. Imported fuel prices rose 43.8 percent in 1987 after declining 51.5 percent in 1986.

Falling dollar and the trade balance

The falling value of the dollar continued to play a large role in the upward price movements for both exports and imports. For a better measure of the effect of the dollar's movement on the prices of imports and exports in foreign currency terms, the Bureau of Labor Statistics developed new indexes. They indicate that, while prices of nonfuel imports have risen 22.4 percent in dollar terms, the trade-weighted value of the dollar has fallen 32.8 percent since March 1985. (See chart 2.) Nonfuel import prices in foreign currency terms declined 17.7 percent during the same period. These offsetting price movements suggest that foreign exporters have been willing to absorb a substantial portion of the drop in the trading value of the dollar. In addition, the moderate increase in export dollar prices since the first quarter of 1985 suggests that U.S. exporters are using currency changes to improve their competitive position. As a result of a modest export price increase in dollar terms of 5.4 percent, and a 27.2-percent drop in the dollar's trade-weighted value, foreign currency prices of U.S. exports have fallen 23.2 percent since the first quarter of 1985.

The dollar began its fall in February of 1985. In September of that year, the decline was accelerated when

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the Group of Five countries—the United States, Japan, West Germany, Great Britain, and France—agreed to intervene in foreign exchange markets to bring the dollar down further. However, by February of 1987, the dollar had fallen 37.2 percent from its peak,² leading to a meeting of the Group of Five countries and Canada and a consensus (the Louvre Accord) to stabilize exchange rates at approximately the levels existing at that time. It was further agreed that, in order to alleviate the large trade imbalances, the United States would strive to reduce its budget deficit, and West Germany and Japan would stimulate their economies.

This program of exchange rate stabilization experienced initial success, but some economic analysts were concerned that the high interest rates necessary to maintain the value of the dollar would lead to an economic slowdown. Although both short-term and long-term interest rates were relatively stable through April 1987, both began an upward trend in subsequent months which continued until the dramatic fall of the stock market on October 19. For example, the rate on 3-month U.S. Treasury bills increased from approximately 5.5 percent in January 1987 to 7 percent in mid-October 1987. The 30-year U.S. constant-maturity rate rose over the period from 7.3 to 10 percent.³

Fear of an economic downturn led to an easing of monetary policy and, hence, to lower interest rates. In the 9 weeks following the fall of the stock market, the dollar dropped another 7.6 percent,⁴ setting postwar lows in

world money markets numerous times.⁵ Finally, on December 22, 1987, the Group of Seven (the Group of Five countries plus Canada and Italy), determining that the dollar had fallen far enough, “agreed that either excessive fluctuations of exchange rates, a further decline of the dollar, or a rise in the dollar to an extent that becomes destabilizing . . . could be counterproductive by damaging growth prospects in the world economy.”⁶

In addition to the falling dollar, the Nation's persistent trade deficit was once again a major story in U.S. international economic relations in 1987. Although the deficit decreased by 5 percent in constant dollars,⁷ in nominal terms it set a new high in 1987 for the fifth consecutive year at \$171.2 billion, up from \$156.2 billion in 1986. Significant deficits were registered against Japan, \$59.8 billion; the so-called Four Tigers (Singapore, Hong Kong, South Korea, and Taiwan), \$37.7 billion; Western Europe, \$30.2 billion; the Latin American Free Trade Association countries,⁸ \$14.9 billion; and Canada, \$11.7 billion.⁹ West Germany (\$16.3 billion) accounted for over half of the U.S. deficit with Western Europe, while Mexico and Brazil accounted for \$10.3 billion of the deficit with the Latin American Free Trade Association countries. The deficits recorded with the Four Tigers individually were: Singapore, \$2.3 billion; Hong Kong, \$6.5 billion; South Korea, \$9.9 billion; and Taiwan, \$19 billion.¹⁰ Chart 3 shows the relative shares of the U.S. trade deficit by region.

Table 1. Changes in Export Price Indexes for selected categories of goods, 1986-87

SITC category	Commodity	Percentage of 1980 trade value	Annual percent change		Quarterly percent change			
			December 1985 to December 1986	December 1986 to December 1987	December 1986 to March 1987	March 1987 to June 1987	June 1987 to September 1987	September 1987 to December 1987
	All commodities ¹	100.000	-0.5	6.9	1.0	2.8	0.3	2.6
0	Food	12.786	-13.2	9.0	-1.7	4.5	-4.6	11.2
04	Grain and grain preparations	8.341	-25.6	11.6	-2.9	5.7	-6.6	16.4
2	Crude materials	10.948	2.5	20.7	2.4	9.5	2.6	4.9
22	Oilseeds	3.024	-1.6	17.0	-4.0	13.6	-6.3	14.5
24	Wood	1.417	5.8	32.8	2.6	5.2	19.0	3.4
25	Pulp and wastepaper954	30.7	21.0	9.7	4.3	2.8	2.8
26	Textile fibers	1.813	-5.6	24.1	8.1	15.3	3.7	-4.0
28	Metal ores and metal scrap	2.062	2.5	28.6	1.9	10.3	9.9	4.1
5	Chemicals and related products	9.578	-4.5	17.8	4.8	6.7	1.0	4.3
51	Organic chemicals	2.289	-6.0	29.5	11.3	14.9	-2.0	4.2
56	Fertilizers, manufactured	1.036	-23.7	36.7	9.8	6.6	9.5	6.7
58	Artificial resins, plastics, and cellulose	1.767	.0	27.6	5.2	7.5	5.4	7.0
6	Intermediate manufactured products	10.544	3.6	6.7	1.7	2.3	1.6	1.0
7	Machinery and transport equipment, excluding military and commercial aircraft	35.261	1.3	1.6	.5	.1	.3	.7
74	General industrial machines, parts, n.e.s.	4.939	2.1	2.6	1.5	.1	.1	.9
75	Office machines and automatic data processing equipment	3.990	-1.3	-2.8	-2.0	-1	-5	-1
77	Electric machines and equipment	4.738	1.1	3.7	1.4	.3	.2	1.3

¹ This category includes indexes in addition to those shown here. For all of the indexes available in each category, see "U.S. Import and Export Indexes," Release 86-36 (Bureau of Labor Statistics, Jan. 28, 1988).

n.e.s. = not elsewhere specified.

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			December 1985 to December 1986	December 1986 to December 1987	December 1986 to March 1987	March 1987 to June 1987	June 1987 to September 1987	September 1987 to December 1987
	All commodities ¹	100.000	-8.7	14.8	6.5	4.0	1.6	2.0
	All commodities, excluding fuels and related products ¹	67.223	8.4	9.6	2.5	2.6	1.3	3.0
3	Fuels and related products	32.776	-51.5	43.8	29.4	10.3	2.9	-2.1
33	Crude petroleum and petroleum products	30.653	-52.7	48.3	31.7	10.6	3.8	-1.9
6	Intermediate manufactured products	13.520	4.5	13.3	2.0	3.7	3.7	3.3
67	Iron and steel	3.127	0.2	17.2	3.2	3.9	3.9	5.1
68	Nonferrous metals	3.123	1.5	24.9	1.0	10.3	7.3	4.5
7	Machinery and transport equipment	25.442	12.0	7.7	3.1	1.8	.2	2.4
72	Machinery specialized for particular industries	1.998	15.3	13.1	5.4	2.0	.0	5.3
74	General industrial machinery and parts, n.e.s.	1.645	16.2	13.0	5.8	2.3	-.7	5.1
78	Road vehicles and parts	10.887	13.1	6.4	2.9	1.6	.3	1.5

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A number of explanations have been put forward in recent years for the seemingly contradictory trends of a rising U.S. trade deficit and the falling dollar. They include the *j*-curve effect, the international debt crisis, a larger relative share of trade with the newly industrialized countries whose currencies are pegged to the dollar, and the willingness and ability of foreign exporters to cut profits, costs, or both to limit dollar-denominated price increases.

Most estimates indicate that the *j*-curve effect—that is, lagged improvements in the trade balance after a currency depreciation—should be seen within 12 to 18 months after the depreciation. The *j*-curve effect further assumes that, after the initial depreciation, the value of the currency in question is stable. However, since early 1985, the dollar has not been sufficiently stabilized to determine the *j*-curve effect. The effect of each successive fall in the dollar has spilled over into previous depreciations, blurring the effect of any one particular decline. Thus, the magnitude of the *j*-curve effect, if any, has been difficult to determine.

The international debt crisis has contributed to the Nation's inability to reverse its trade imbalance, especially with Latin American countries. External debt has forced these countries to tighten their belts domestically and promote substantial export growth in order to accumulate U.S. dollars to service their debts. This practice restricts the ability of U.S. firms to export to these countries.

A clear trend in recent years toward increased trade with the newly industrialized countries also is a source of the deficit. However, the contention that their currencies have not appreciated relative to the dollar did not hold true in every case last year. The currencies of three of the

Nation's major trading partners—Singapore, South Korea, and Taiwan—rose 8.8, 8.8, and 24.1 percent, respectively.¹¹ It is interesting to note that Taiwan had both the largest trade surplus and the largest currency appreciation vis-a-vis the United States of any of the newly industrialized countries.

Lastly, although it is apparent that import prices have not risen as much as might have been expected in the face of sharply appreciating foreign currencies, the reasons for this are less clear. When the dollar initially began falling, the standard assumption was that foreign exporters were narrowing profit margins significantly to maintain market shares. However, recent evidence suggests that, as foreign currencies have appreciated, the focus among U.S. trade partners has been on reducing costs rather than profit margins as a method of holding the line on import prices. Taking Japan as a prime example of a country whose currency has appreciated against the dollar, yet which has been able to maintain a high level of exports to the United States, one can examine the reasons for this occurrence.

When the value of the dollar falls against the currencies of surplus countries, the costs of the raw materials also fall, because many world markets for these products transact business exclusively in dollars. For example, the drop in the yen-denominated price of oil allowed the Japanese chemical industry to limit price increases to about 9 percent during 1987.¹² Lower interest rates in Japan also enabled the Japanese to enjoy relatively cheaper capital costs. In addition, some Japanese intermediate manufacturing has been relocated to countries whose currencies and wages are relatively low, such as Malaysia. Many Japanese firms also have taken steps to increase labor and capital productivity.

Recently, structural considerations have also been advanced to explain the inability of the falling dollar to induce a more favorable trade balance. The dollar's appreciation during 1980-85 allowed many foreign exporters to undercut the prices of their U.S. competitors. Thus, many U.S. producers were forced out of selected markets, causing domestic capacity in these industries to fall or be completely eliminated. For example, if there are no longer any U.S. manufacturers of a particular product, such as videodisk players, then no domestic substitute exists at any price. In such a scenario, a cheaper dollar alone may not be enough to return nominal trade flows to their previous levels. If the price elasticity of demand is less than 1, price increases of imported videodisks will actually worsen the deficit. Domestic manufacturers' ability and willingness to reenter the market depends on industry startup costs and forecasts of the future level of the dollar, as well as other factors particular to the industry.

On a macroeconomic level, another explanation for the persistent trade deficit is differential rates of growth in gross national product between the United States and some of the surplus countries. For example, since the last year of balanced trade, 1980, the cumulative GNP growth in the United States exceeded that of Western Europe and Japan by 12 percent.¹³ A higher growth rate implies a

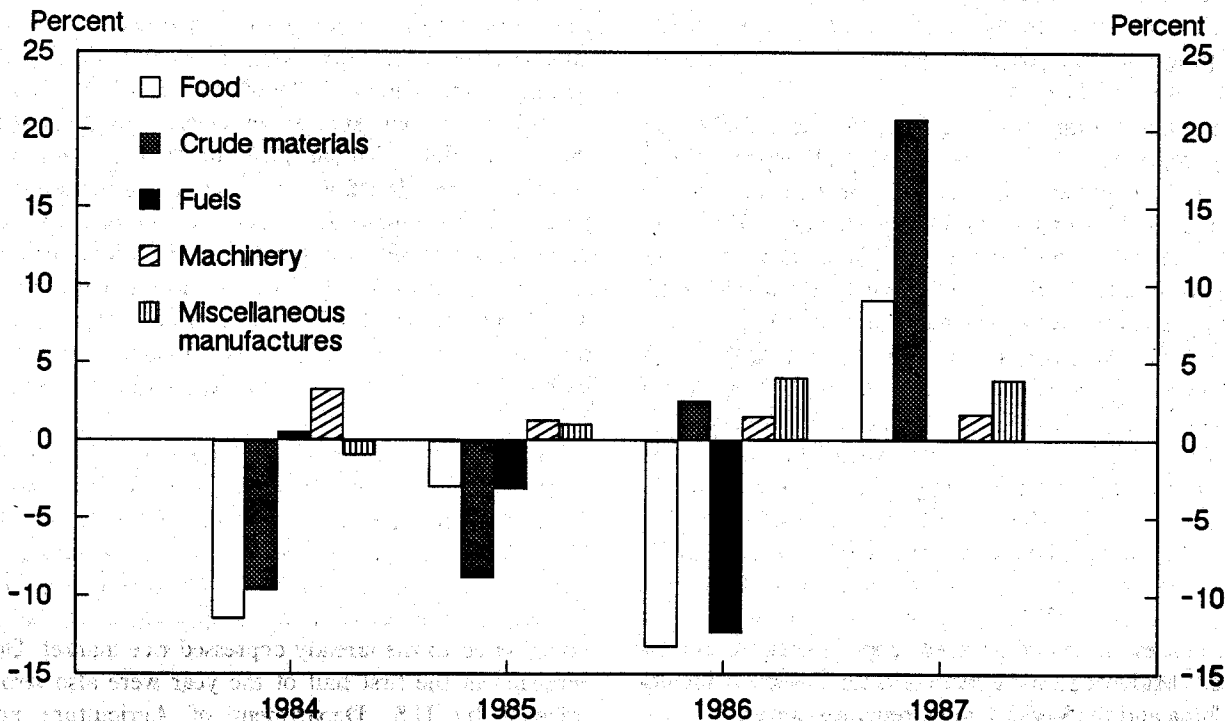
greater absorption of imports. In order to regain a trade balance, this trend must be reversed.

Export price developments

Food. The index for exported food products, which represents approximately 13 percent of the all-export index, rose 9 percent during 1987. This increase was due primarily to an 11.6-percent advance in the grain subcategory. Overall, 1987 was an unusually successful year for U.S. farmers, as their incomes hit record highs.¹⁴ Farm debt declined, land values stabilized, and export volumes rose in both real and nominal terms. In fact, 1987 was the first year since 1980 in which agricultural exports increased, with grains playing a major role in the turnaround. Japan continued to be the largest consumer of U.S. farm exports, as it had been since 1964.¹⁵

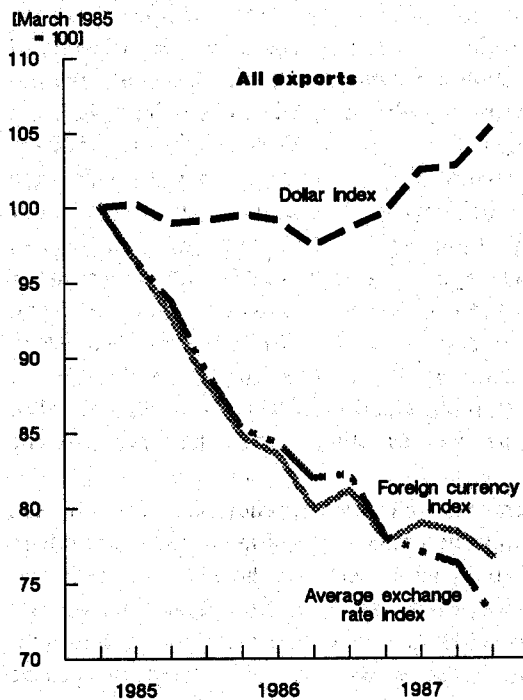
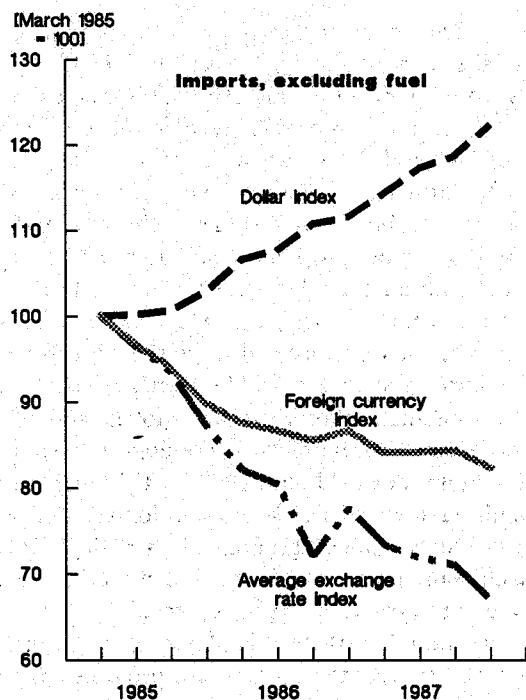
The combination of a weaker dollar and changing domestic agricultural policy contributed to the popularity of U.S. grain on world markets. The U.S. Department of Agriculture lowered the loan rates for selected agricultural products, including grains. This policy adjustment reduced many loan rates to near world-market prices and allowed U.S. agricultural products to be more competitive on international markets. The Agriculture Department's Export Enhancement Program also promoted exports by allowing farmers to sell their goods overseas at below

Chart 1. Annual percent price changes for selected export product groups, 1984-87



NOTE: Solid bars denote categories of unfinished goods; patterned bars denote categories of finished goods.

Chart 2. Quarterly indexes of U.S. dollar prices, foreign currency prices, and dollar exchange rate values for all imports, excluding fuel, and all exports, 1985-87



market rates and receive a government subsidy equal to the difference between the sale price and market price. This program was particularly effective in promoting sales of wheat and barley.

In the major grain subcategories, the index for wheat, which represents 3 percent of the all-export index, advanced 6.8 percent during 1987 because of reduced plantings and stronger worldwide demand. However, index movements during the year were inconsistent as prices rose during the first quarter, fell significantly during midyear, and climbed again at yearend.

The initial price rise was primarily due to large wheat purchases by the Soviet Union, North Africa, Latin America, Japan, and China. Normal seasonal price declines and a large U.S. winter wheat harvest helped dampen midyear prices. (Winter wheat is planted in the fall and harvested in the spring.) Record yields caused the harvest to increase 1 percent from 1986, despite government programs that idled more than one-fifth of the Nation's cropland.¹⁶ These programs were designed to reduce excess stocks of selected crops in order to bolster prices.¹⁷ Midyear demand from selected countries, including China and the Soviet Union, remained strong.

Export wheat prices advanced 8.9 percent during the fourth quarter owing to a smaller world crop and

heightened world demand for wheat. Demand was especially strong from countries that experienced crop shortfalls because of inclement weather, such as China, India, and the Soviet Union. Reduced plantings in Canada and Australia, both net exporters of wheat, caused harvests in those countries to fall and allowed U.S. exporters to pick up much of the shortfall. An increased willingness on the part of some countries to rely on imports to satisfy domestic needs also contributed to the wheat industry's success during 1987. Ultimately, world demand for U.S. wheat exceeded the 1987 supply at the prices prevailing at the beginning of the year. This imbalance resulted in higher yearend prices, and reduced domestic stocks by 30 percent.

Rice export prices soared 81.3 percent during 1987. Early in the year, however, prices were flat due to sagging demand which reflected increased self-sufficiency in Asia, lack of economic growth in Africa, and declining revenues in the Organization of Petroleum Exporting Countries.¹⁸ Increased supplies, especially from Thailand, contributed to the already depressed rice market. Developments in the first half of the year were also strongly affected by U.S. Department of Agriculture policy changes of 1986. In April of that year, regular Government-loan rates, which set a floor for the U.S. price for

rice, were changed to those of marketing loans, which more accurately reflect world prices. This change sent U.S. prices tumbling to the world-market level and was still affecting prices during the first half of 1987.

Tightened world supplies, however, characterized the remainder of the year. In response, prices rose 6.7 percent during the third quarter and 77.4 percent during the fourth quarter. Production in many of the leading rice-producing nations, including Thailand, India, Bangladesh, China, Nepal, and Burma, was reduced significantly because of inclement weather. Particularly hard hit was the harvest in Thailand, the world's leading rice exporter. Because world stocks of rice are traditionally not as high as those of other crops, rice prices rose quickly, as did the quantity of U.S. exports.

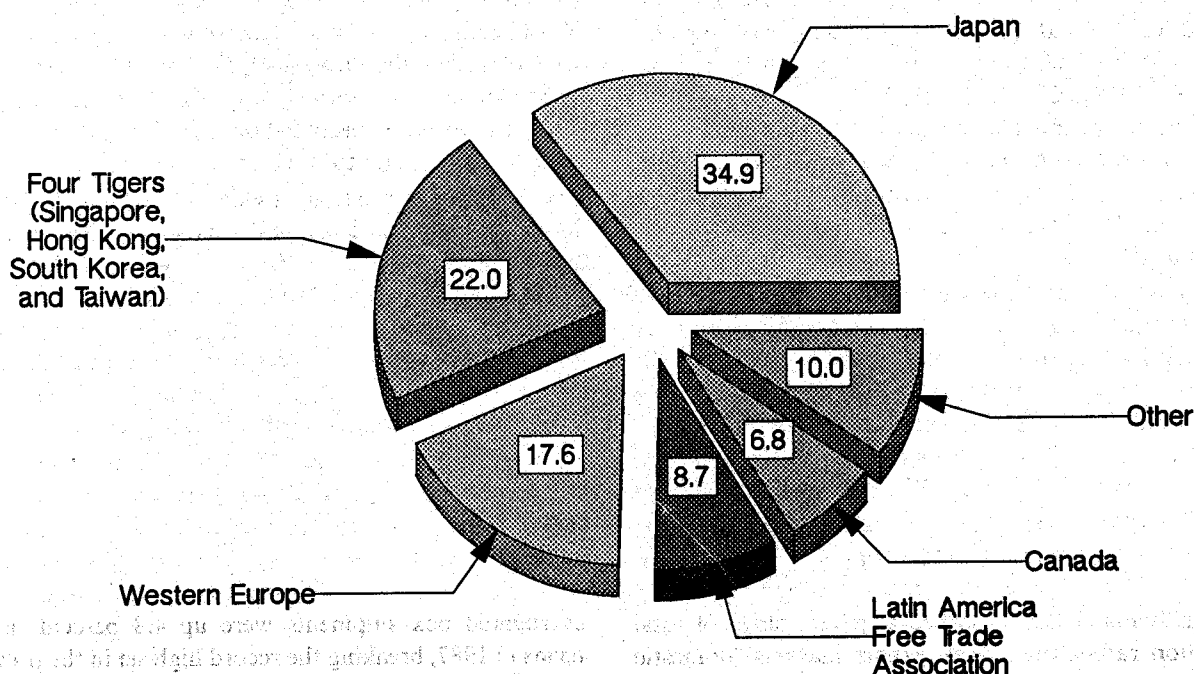
Like the indexes for wheat and rice, the index for exported corn, which represents approximately 4 percent of the all-export index, rose during 1987 by 10.3 percent. Export prices were volatile during the year, falling in the first and third quarters and rising significantly in the second and fourth quarters. The fall of prices early in the year can be attributed to burgeoning supplies of feed grain and a 5-billion-bushel carryover from 1986.¹⁹ However, the combination of unusually large second-quarter purchases by the Soviet Union and tight supplies bolstered midyear prices. Restricted supplies in the United States

were largely due to the Agriculture Department's "Acreage Reduction Program," in which 88 percent of American corn growers participated.²⁰ A seasonal drop in prices took place in the third quarter. Record yields of summer harvest also had a dampening effect on prices. Prices rebounded strongly in the fourth quarter due to heightened demand and reduced harvests by two major producers, Argentina and Thailand. Thailand's exports were reduced by attempts to substitute corn for rice in domestic consumption. U.S. farmers also contributed to higher prices as they withheld crops from the market in anticipation of increasing prices. Market speculation was based on the fact that the crop in 1987 was 1 billion bushels lower than in 1986.

The U.S. grain industry experienced strong advances in both exports and prices for the first time in several years.²¹ Farmers appeared to be better positioned to weather economic fluctuations than they were during the early 1980's, because of reductions in debt, lower interest rates, and the 1987 farm bill which shored up the ailing farm credit system and created a number of debt restructuring opportunities.²²

Crude materials. After a moderate 2.5-percent rise in 1986, prices of exported crude materials advanced 20.7 percent during 1987. Although all product categories,

Chart 3. Percent distribution of U.S. trade deficit by region, 1987



except crude minerals, showed price increases, the product groups contributing most to this large increase were wood, metalliferous ores and scrap, textile fibers, pulp and wastepaper, and oilseeds.

A lower dollar and strong overseas housing markets enabled wood export prices to increase 32.8 percent in 1987—the largest annual increase since 1978. The increase was propelled chiefly by the strength of a large third-quarter price rise—19 percent, the largest quarterly increase ever recorded in this index.

Indexes for the main categories of wood exports, softwood logs and lumber, rose 52.5 and 20.4 percent, respectively, largely due to the strength of very large third-quarter price increases (32.9 and 10.4 percent). These increases were facilitated by the highest quarterly level of log and lumber exports in at least 15 years.²³

Because Japan currently is the largest purchaser of U.S. softwood logs and lumber, its influence on the U.S. export market is significant. In 1987, the Japanese housing market was the main impetus for the large price increases in U.S. softwood log and lumber exports. Housing was one of the sectors successfully targeted in the Japanese Government's attempt to stimulate domestic consumption, and this development is an example of what the U.S. Government had hoped for from the Japanese and West German economies—stimulative growth leading to larger volumes of imports from the United States. Moreover, wood-based construction was specifically targeted in Japan.

U.S. log and lumber exporters were in an advantageous position to satisfy much of the additional Japanese demand for logs and lumber because of Japanese dissatisfaction with supplies from the Soviet Union, the banning by the Canadian Government of exports of high-grade hemlock logs, the raising of export taxes on other grades and species by the Canadians,²⁴ and, most importantly, the lower value of the U.S. dollar. In fact, log exports to Japan were 15 percent higher, and lumber exports 33 percent higher, than in 1986.²⁵

The year 1987 was an excellent one for producers of metal scrap. Large price increases for metal scrap outweighed a 7.1-percent decline in metal ores to raise the export price index for metalliferous ores and scrap by 28.6 percent. High rates of capacity utilization in primary steel, aluminum, and copper plants resulted in high U.S. scrap consumption.

Ferrous scrap export prices posted a 29.6-percent gain. Although exports fell to 10 million tons in 1987 from their level of 11.7 million in 1986,²⁶ this reflected a strong domestic demand that absorbed a greater share of total production rather than weak export markets (domestic ferrous scrap purchases rose 9.9 percent in real terms last year²⁷). Some traders claimed that high prices in the domestic market resulted in domestic sales of approxi-

mately 1 million tons of top-grade scrap that otherwise would have been exported.²⁸

Nonferrous base metal scrap prices rose 55.8 percent during 1987. A stronger aluminum market allowed consistently strong aluminum-scrap price increases throughout the year. Also, copper scrap prices, while less consistent, were a pleasant surprise for dealers. Prices for alloyed copper scrap were up 44.8 percent during the year, and those for unalloyed copper scrap soared 74 percent.

U.S. brass mills, which account for approximately 40 percent of domestic copper scrap consumption, stepped up production in 1987.²⁹ This increase reflected strong domestic demand and fewer imports resulting from a weaker dollar and the success of the anti-dumping efforts of the Copper & Brass Fabricators Council. Meanwhile, copper scrap exports through the first 11 months of 1987 were essentially the same as 1986 levels in real terms.³⁰ Also contributing to the tight market were declines of copper scrap supplies in recent years. Many manufacturers whose operations produce scrap as a byproduct have moved offshore, while the remaining firms produce less scrap as a result of more efficient production processes.³¹

In 1987, U.S. textile fiber manufacturers experienced the highest capacity utilization rates in 20 years.³² Textile fiber export prices rose 24.1 percent during 1987 on the strength of a 34.4-percent increase in exported raw cotton prices.

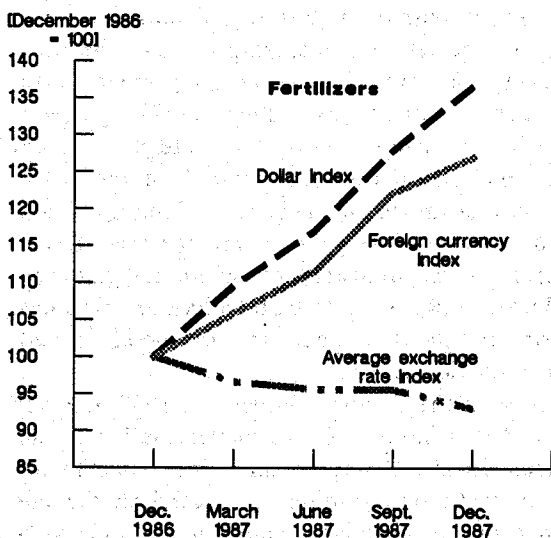
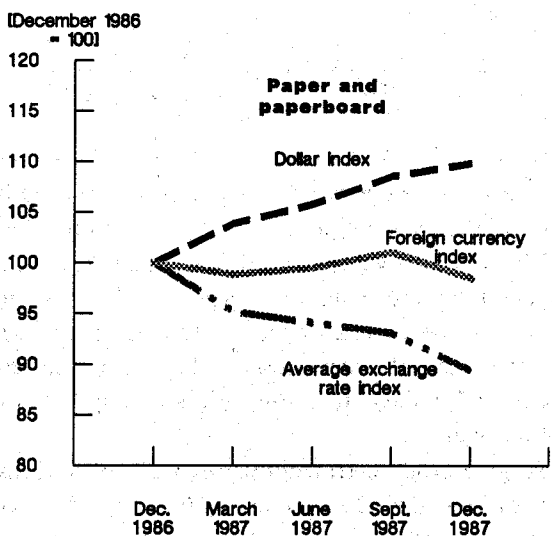
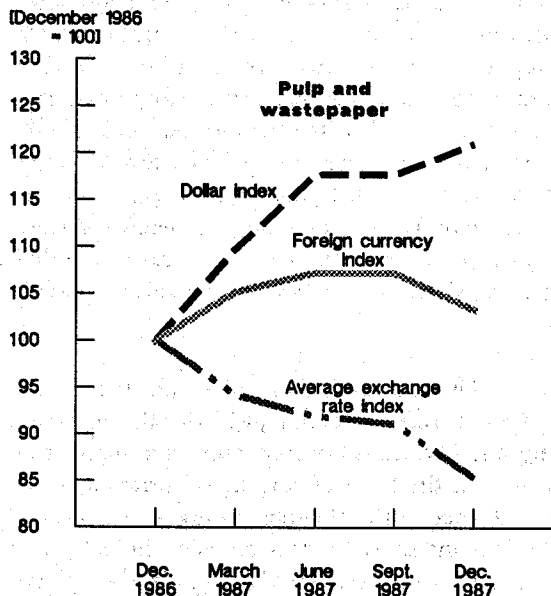
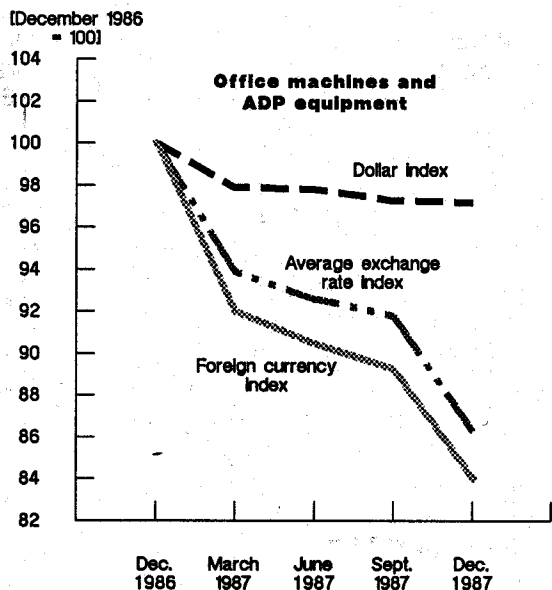
Strong production of finished cotton goods in Japan, the newly industrialized countries, and the European Community led to a healthy demand for raw cotton. World consumption of raw cotton was at a record-setting pace of 81.9 million bales in 1987. Moreover, 1987 world production levels were at 77.4 million bales, lower than in 1986 due to the expectation that the low prices of 1986 would continue and to poor weather in 1987.³³

U.S. pulp and wastepaper export prices rose 21 percent in 1987. Tight market conditions were reflected in the fifth consecutive record year of world shipments of chemical paper-grade market pulp, 7.3 million metric tons, and the lowest inventories of North American and Scandinavian producers in 8 years, 641,000 metric tons.³⁴

Sulphate woodpulp export prices were up 24.9 percent and accounted for over half the value of the pulp and wastepaper index. Sulphate woodpulp is used in the manufacturing of kraft linerboard, used primarily in making corrugated containers. A strong world economy requires the use of containers for shipping and, therefore, keeps demand for sulphate woodpulp healthy. U.S. corrugated box shipments were up 4.8 percent in real terms in 1987, breaking the record high set in the previous year.³⁵

Markets were so strong that U.S. exporters were able to raise prices substantially in dollar terms and, because of

Chart 4. Quarterly indexes of U.S. dollar prices, foreign currency prices, and dollar exchange rate values for selected categories of exports, 1986-87



the low level of the dollar, increase sales by undercutting other major producers, such as the Scandinavians. At the same time that pulp and wastepaper export prices rose 21.0 percent, the trade-weighted value of the dollar fell 14.6 percent. The result was that the price of exported pulp and wastepaper in foreign currency terms rose slightly in 1987—3.3 percent. (See chart 4.) This indicates that a tight world market for crude paper products has not made it necessary for U.S. exporters to take advantage of the sharp changes in relative prices that currency adjustments would have accomplished to increase sales.

Prices of exported oilseeds were up 17 percent in 1987, the first increase since 1983. This rise was driven by an 18.4-percent rise in soybean prices, also the first increase in 4 years. The index was volatile, falling 4 and 6.3 percent in the first and third quarters, while rising 13.6 and 14.5 percent in the second and fourth.

Soybean prices began 1987 at the depressed levels characteristic of the 2 previous years, largely a result of a high level of world supplies. However, when the price descended toward the U.S. loan rate (a Government-set rate which effectively acts as a minimum price), the price

strengthening mechanism took effect. A price level at or below the loan rate encourages U.S. farmers to forfeit their crops to the Department of Agriculture's Commodity Credit Corporation stocks in lieu of repaying their Government loans. Because these crops do not reach the market, supplies are tightened. In addition, Brazil, a major competitor, underestimated its own domestic demand and, therefore, had fewer soybeans available for export. Lastly, in the fourth quarter, the Soviet Union reentered the U.S. market with major purchases of soybeans and soybean meal. This surge in demand pushed prices up 14.1 percent during a time of year when they usually fall, resulting in the first annual price increase since 1983.

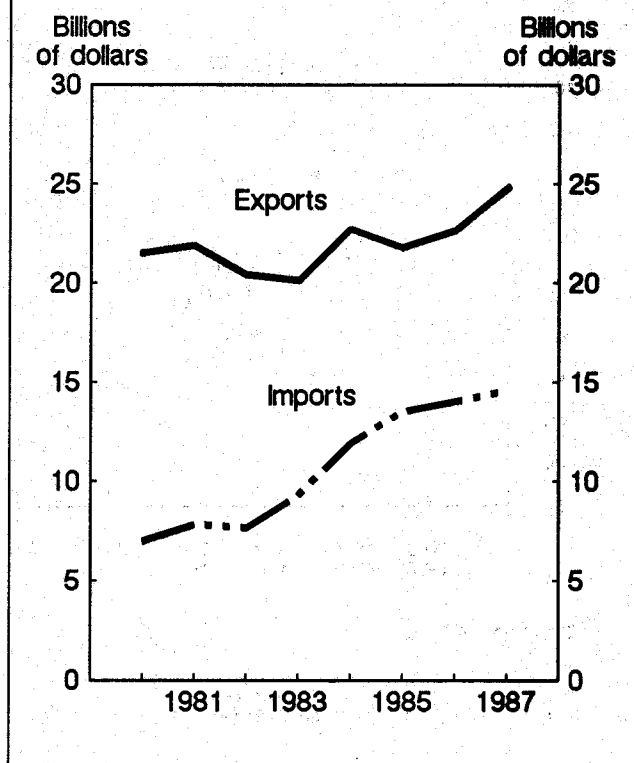
Chemicals. The index for exported chemicals and chemical products rose 18 percent in 1987 following years of relatively stability. Capacity constraints and higher raw materials costs in the form of surging oil prices contributed to the advance in the chemical index. After years of depressed prices and sales, the U.S. chemical industry was revitalized during 1987 because of the fall in the dollar's value and heightened worldwide consumer and industrial demand.³⁶ In response to these factors, export prices rose in all major subcategories, including organic chemicals (29.5 percent), inorganic chemicals (42.4 percent), fertilizers (36.7 percent), and resins and plastics (27.6 percent).

Chemicals, which represent approximately 10 percent of the all-export index, trail only oil and automobiles as America's largest smokestack industry.³⁷ Products manufactured by the chemical industry provide materials to many sectors of the industrial economy, ranging from industrial process chemicals to high-technology products. The industry also provides many consumer goods, including drugs, cosmetics, and paints.

The success of the chemical industry in 1987 occurred as a result of that industry's vast transformation during the previous decade. Rising demand, increasing prices, and greater profit opportunities characterized the late 1970's. In response, chemical manufacturers worldwide expanded capacity. However, higher oil prices and the economic downturns of the early 1980's resulted in overcapacity and caused profits to fall precipitously.³⁸ The industry responded by cutting capacity and investing heavily in research and development to develop specialty chemicals such as drugs, engineering plastics, and agriculturals.³⁹ These products typically enjoy higher profit margins and less cyclical demand than do bulk chemicals.⁴⁰

The combination of lower production and increased demand for both bulk and specialty chemicals helped make 1987 the most successful year in the domestic industry since 1980. As chart 5 illustrates, the dollar value of chemical exports increased 10 percent in 1987 to reach \$24.8 billion. While imports also rose marginally during

Chart 5. Dollar volume of U.S. Imports and exports of chemicals, 1980-87



the year, the trade surplus in chemicals was the largest since 1980 at \$10.2 billion, up \$1.6 billion from 1986.⁴¹

The declining value of the dollar clearly had a positive effect on the trade balance in chemicals. The combination of the 18-percent advance in the price of exported chemicals and the increase in real exports reflected U.S. producers' ability to raise prices without sacrificing market share.

Surging crude petroleum prices were an obvious contributor to higher chemical prices during 1987. Petroleum feedstocks, prices of which skyrocketed due to the rising cost of crude oil, account for approximately 70 percent of total production costs of organic chemicals.⁴²

Heightened demand for products manufactured from chemicals such as synthetic rubber, plastics, paints, fertilizers, and drugs also helped bring about the advance in chemical prices. This demand placed a strain on many chemical producers, which already were operating at 85-95 percent of capacity. Rather than invest heavily to open new plants, many firms chose to install more efficient equipment to increase an existing plant's productivity. In addition to being influenced by high costs, domestic chemical producers have been reluctant to open new plants, because they feared an appreciation of the dollar or an increase in petroleum feedstock prices.⁴³

Similar to that for bulk chemicals, the index for exported fertilizers surged 36.7 percent during 1987 and was also up 27.1 percent in foreign currency terms, as chart 4 illustrates. The dramatic rise in foreign currency prices indicates that factors other than exchange rates affected the decision of U.S. exporters to raise prices. These factors included capacity limitations, higher raw materials costs, and moderately increased foreign demand.

Capacity limitations were caused by the combination of low fertilizer prices in recent years and technical problems which caused plant shutdowns during 1987. In addition to U.S. capacity constraints, a labor strike in Turkey rendered that country incapable of exporting its usual large quantities of fertilizer.

Higher raw materials costs, in the form of increased urea and diammonium phosphate prices, also contributed to the 36.7-percent jump in exported fertilizer prices. Urea and diammonium phosphate are produced from natural gas and phosphate rock, respectively, which both were more expensive in 1987.

Finally, two atypical occurrences during 1987 caused demand for U.S. fertilizer to surge: First, the European Community eliminated specific duties on diammonium phosphate, which led to easier market access for U.S.

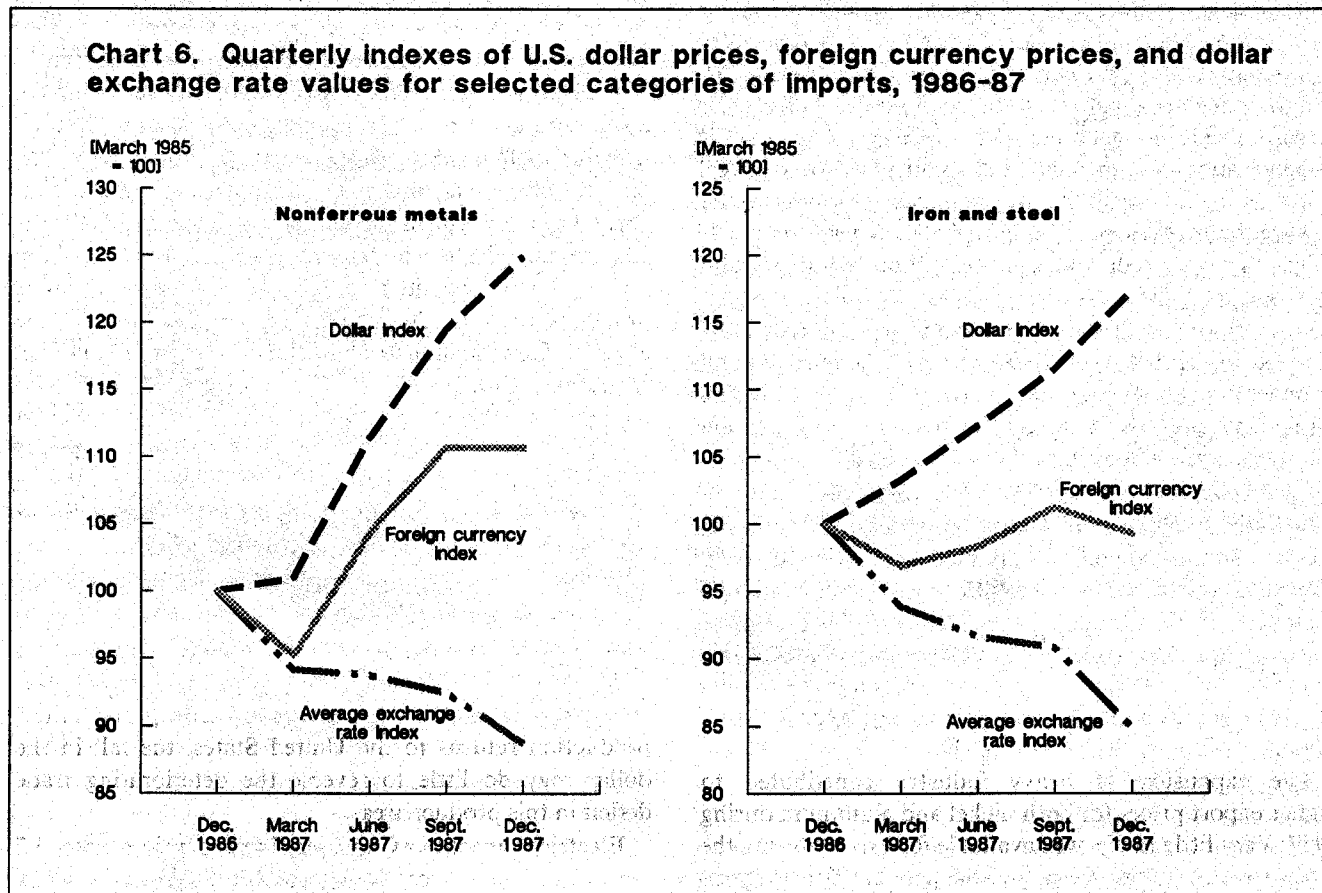
exporters. Second, China and India both entered the market as buyers after depleting their own inventories.

After nearly a decade of decline, the U.S. plastics industry rebounded strongly in 1987. Like producers of its chemical feedstocks, the plastics industry during the early 1980's was characterized by increasing raw materials costs, falling profits, and excess capacity. In response, many firms closed mills and laid off workers during the mid-1980's in order to lower production capabilities.⁴⁴

Lower oil prices in 1986, the continued decline of the dollar, and the expansion of the packaging industry led to increased U.S. plastics exports during 1987.⁴⁵ The greater use of plastic motor oil containers, disposable diapers, plastic grocery sacks, and other plastic consumer goods helped bring about the renewed health of the domestic plastics industry.

The combination of capacity constraints, soaring petroleum prices in mid-1987, and heightened consumer demand generated a 27.6-percent advance in the index for exported plastics. This price climb allowed many plastics producers to increase profit margins lost during the recessions of the early 1980's.⁴⁶ The continued substitution of plastics for metal, glass, paper, and wood in various industrial and consumer applications should ensure industry vitality.⁴⁷

Chart 6. Quarterly indexes of U.S. dollar prices, foreign currency prices, and dollar exchange rate values for selected categories of imports, 1986-87



Intermediate products. The export price index for intermediate manufactured products rose 6.7 percent during 1987. Although all major categories in this area experienced significantly higher export prices during the year, the major increases were for paper and paperboard products and nonferrous metals. One significant aberration was a small (0.9-percent) advance in the index for exports of miscellaneous metal manufactures. This relatively small increase was due to the strong competition the United States faces in world markets from many Pacific Rim nations. Competition is especially fierce in cutlery, handtools, fasteners, and wire products markets.

Export prices of paper and paperboard products advanced 9.9 percent during 1987, but actually fell 1.1 percent in foreign currency terms. (See chart 4.) The 9.9-percent increase was primarily the result of a 21.3-percent jump in export prices in the kraft paper and paperboard subcategory. This increase was largely the result of strong demand in the European and Asian markets which was augmented by a weaker dollar. U.S. producers continued to penetrate foreign markets, achieving a 9-percent increase in export shipments to approximately 5 million tons.⁴⁸ Although paper and paperboard production was up during the year, utilization rates were actually slightly lower than in 1986 because productive capacity increased during 1987.⁴⁹

Foreign demand was especially strong for unbleached and bleached grades of paperboard packaging. These materials are used in the manufacture of corrugated boxes and account for approximately 70 percent of all export shipments in the paperboard area.⁵⁰ Mill strikes and startup problems also affected prices during the year by causing supply shortfalls. U.S. paper manufacturers' adoption of new technologies, such as multi-ply forming, high-pressure presses, and preprinted linerboards, enabled them to reduce costs while improving product quality during 1987.

The export index for nonferrous metals rose 20.7 percent during 1987 as a result of tightened supplies and stronger world demand for most base metals. Strong foreign demand also allowed U.S. producers to increase the real dollar value of exports by 18 percent.⁵¹

Specifically, export copper prices increased 24.4 percent during 1987. Surging domestic demand for copper was the biggest reason for higher copper export prices and also contributed to the 82-million-ton decline in real exports.⁵²

The combination of strong demand from Japan and Europe, the stock market drop in October, and inflation fears led to a 23.5-percent advance in the export price of silver.

The expansion of heavy industry contributed to higher export prices for both nickel and aluminum during 1987. Very little nickel was available for export during the year because of greater domestic demand for stainless

steel.⁵³ Domestic capacity limitations forced many U.S. producers to ignore export opportunities and added to the 6.6-percent rise in exported nickel prices. Aluminum prices also climbed (24.3 percent) in response to the strengthening of the durable goods industries and a weaker dollar. The dollar's decline against the yen made U.S. exporters more competitive against Japan—their biggest rival in world aluminum markets. U.S. exports rose 18 percent during 1987, owing to the lower dollar and lower import tariffs on aluminum shipped to Japan and the European Community.

Machinery and transport equipment. The machinery and transport equipment index, which accounts for over one-third of the all-export index, continued its gradual upward climb, rising 1.7 percent in 1987. This was the third consecutive year in which it increased between just 1 and 2 percent. In only one category—office machines and automatic data processing (ADP) equipment—did prices fall, by 2.8 percent. The increases for the remainder of the indexes were limited to a relatively narrow range, from 0.9 to 4.3 percent.

The fall in prices for office machines and ADP equipment was predominantly driven by a 3.7-percent decline in ADP machine prices. Most significantly, central processing unit prices fell 7.2 percent. The trend toward mini and micro systems and personal computer networks has led manufacturers of central processing units to make significant price reductions. Declining demand amidst a very competitive market induced many companies to take advantage of the lower dollar to either maintain or increase their market share, rather than raise prices. In fact, for office machines and ADP equipment as a whole, the 2.8-percent dip in export prices, combined with the 13.7-percent decline in the trade-weighted value of the dollar in 1987, resulted in a 16-percent drop in export prices for these products in foreign currency terms. (See chart 4.) General industrial machines prices were up in all categories, leading to a 2.6-percent overall increase. The largest rise occurred for heating and cooling equipment and parts—4.9 percent. The trade balance for general industrial machines was in deficit for the first time in 1987. The forecast for 1988 is that the dollar volume of exports will be 27 percent lower than in 1982.⁵⁴

For many years, U.S. manufacturers of industrial machines have been moving production offshore in order to penetrate particular markets. Because these firms export to both the United States and other countries, this effectively raises U.S. imports and lowers exports. Unless production returns to the United States, the fall in the dollar may do little to reverse the deteriorating trade deficit in this product area.

Electrical machinery and equipment prices rose 3.7 percent in 1987. Prices in all product categories were up.

Electrical component prices rose 6.2 percent, the largest increase since 1984.

Increases in export prices of electrical components were driven by a strong domestic market. Dollar-volume shipments increased by an estimated 8.2 percent; shipment quantities were up 12.5 percent. Much of this growth was due to increased demand from the personal computer and defense industries.⁵⁵

Propelled by the strength of the personal computer market, shipments of U.S. semiconductors rose 13 percent in dollar terms in 1987.⁵⁶ A large portion of this growth occurred near the end of the year when unit shipments were running at a nearly 30-percent annual growth rate.⁵⁷ This increase helped to push semiconductor export prices up 4.4 percent—the largest annual increase since 1979. Higher raw materials costs also exerted upward pressure on prices.

The strength of the global semiconductor market was apparent in increased revenues for the domestic industry, the largest backlogs in 2 years,⁵⁸ and a healthy ratio of new orders to actual shipments—known as the book-to-bill ratio. Market growth occurs when this ratio is greater than 1, as it was during 1987. U.S. exports of semiconductors, which have the largest trade weight in the electrical components category, were pushed up 20 percent in 1987.⁵⁹ Increased exports led to an 11-percent decline in the trade deficit for semiconductors, reducing it to \$1.01 billion.

The production of metal oxide silicon memory devices is characterized by significant economies of scale. This factor, in combination with an extremely competitive world market and technological improvements in the production process, has led to depressed world prices for these products in recent years. This has been particularly true of dynamic random access memory devices (DRAM's). Poor markets, particularly in 1985 when companies endured large losses, resulted in the suspension of production by many U.S. companies. A trade agreement enacted in September 1986 between the United States and Japan has contributed to more stable prices, but now there are few U.S. producers of market dynamic random access memory devices. Nevertheless, one of the objectives of the trade agreement was to ensure greater access to the Japanese market, which is especially important to U.S. exporters because Japan's electronics and automotive industries now consume half of the world's production of semiconductors.⁶⁰

Import price developments

Energy. The index for imported energy, which represents one-third of the trade value of the all-import index, soared 43.8 percent during 1987. This increase, in large part, reflected surging prices of petroleum, which constitutes 94 percent of the energy index. Higher petroleum

prices were related to the renewed commitment of OPEC to oil production quotas and a fixed-price system. Higher import prices were also a result of heightened U.S. demand for petroleum.⁶¹

Faced with rapidly decreasing world oil prices, the OPEC ministers met in December 1986 in an attempt to curb production and shore up prices. Prior to that meeting, the absence of quotas allowed many OPEC members, including Saudi Arabia, to discount prices in order to sell a large volume of crude petroleum. This practice sent prices falling during 1986. Faced with lower world oil prices, and therefore more limited profit opportunities, U.S. firms curtailed many exploration projects and U.S. drilling dropped significantly in the first quarter of 1987. Consequently, U.S. petroleum production fell from approximately 9.2 million barrels per day (mb/d) early in 1986 to about 8.3 mb/d during early 1987.⁶²

In response to declining prices, OPEC ministers agreed in December 1986 to lower production through country-specific quotas and to return to a fixed-price system that allowed crude petroleum prices to range from \$16.27 to \$18.92 per barrel.⁶³ First-quarter 1987 production responded, dropping 2.1 mb/d from the volume at the end of 1986.⁶⁴ Supplies tightened immediately, and the price of imported crude petroleum rose 31.7 percent during the first quarter. To avoid expensive purchases, petroleum firms worldwide immediately began drawing heavily on their petroleum stocks. In the United States, stocks of petroleum products were drawn down at a rate of 0.5 mb/d during the first quarter of 1987, the fastest pace since 1979.⁶⁵ However, this trend did not curb the import flow of crude petroleum, which rose approximately 1.1 mb/d during early 1987.⁶⁶

OPEC's continued adherence to production quotas was manifested in the 9.4-percent increase in import crude petroleum prices during the second quarter. In June 1987, the OPEC ministers agreed to keep the official benchmark price at approximately \$18 per barrel and to raise production 5 percent over second-quarter levels.⁶⁷ OPEC production levels, however, rose drastically during the third quarter, ending approximately 3.1 mb/d above quota levels, causing import prices to moderate.⁶⁸ Iran, Iraq, Kuwait, and the United Arab Emirates all produced well above established quota levels in order to export large volumes of crude petroleum. Fearing interruptions of petroleum shipments through the Persian Gulf, many importer nations, including the United States, purchased significantly higher volumes of OPEC petroleum during the third quarter. The United States, in fact, spent \$12.6 billion on crude oil and petroleum products during the third quarter, a 27-percent increase over the amount spent during the second quarter.⁶⁹

In an attempt to stem the excess flow of crude petroleum, OPEC called a stop-gap meeting of its monitor-

ing committee in September 1987. Little progress was realized from this meeting, however, and "overproduction" continued through the end of the quarter. Consequently, oil companies in the United States increased stocks of crude petroleum and petroleum products in land storage to 1.6 billion barrels by the end of third-quarter 1987.⁷⁰

Despite increased supplies, prices moved moderately higher (0.4 percent) during the fourth quarter owing to the increased demand for OPEC petroleum. OPEC's production fell, but was still approximately 2 mb/d above its quota of 16.6 mb/d. Demand for OPEC oil waned in the fourth quarter due to earlier stockpiling of petroleum by purchasers worldwide who feared an interruption in petroleum shipments.

Dissension among OPEC members at their December 1987 meeting led to an agreement that failed to address the problems of "overproduction" or discounted prices. OPEC ministers did agree to keep the production level at 16.6 mb/d and the benchmark price at approximately \$18 per barrel. However, production at yearend continued at approximately 18.6 mb/d (2 mb/d above quota level) and contributed to already burgeoning inventories.⁷¹ Some OPEC members chartered tankers to store crude petroleum in order to maintain relatively stable production levels as export sales fell during the winter months.⁷²

Despite higher prices during 1987, imports continued unabated, averaging 4.52 mb/d, or 12.3 percent higher than 1986 levels. U.S. dependence on OPEC oil increased during the year while domestic production declined 5 percent.⁷³

Ultimately, the combination of increased domestic consumption and lower U.S. production resulted in the second consecutive annual increase in petroleum imports, and made 1987 the most costly year for imported energy since 1980. The Nation's total bill for imported petroleum for the year was approximately \$45 billion, or one-fourth of the total trade deficit.⁷⁴

In sharp contrast to developments for petroleum, import prices of natural gas fell 11 percent during 1987. The index for imported natural gas rose moderately during the first half of the year and fell precipitously near yearend. Initial increases can be attributed, in part, to soaring crude petroleum prices, because natural gas competes with distillate fuel oil in the home heating market and with residual fuel oil in the power generating market. The large drop in prices during the second half of the year can be attributed to continued excess supplies. U.S. supplies of natural gas increased 3.4 percent during the year, largely due to an increase of 1.7 percent in U.S. production and a 32-percent rise in imports from Canada.⁷⁵ A fall in demand also helped bring about the price decline during the second half of the year. The drop in consumption in the industrial and commercial sector was partially explained by the fact that many U.S. firms were

still depleting their stocks of relatively inexpensive residual fuel purchased during 1986. The single bright spot for natural gas producers was the utility sector where U.S. demand rose from 1.777 trillion cubic feet in 1986 to 1.923 trillion cubic feet in 1987. The increased demand by this sector reflected a switch back to natural gas caused by the sharp increases in heavy oil prices.⁷⁶

Intermediate products. Although prices increased in all major subcategories of imported intermediate manufactured products, including leather, rubber, cork, and textiles, the overall rise of 13.3 percent was primarily caused by large advances in the indexes for nonferrous metals and iron and steel.

The index for imported nonferrous metals (except gold) jumped 24.9 percent during 1987, due largely to the fall in the dollar, tight supplies, and surging demand in U.S. manufacturing industries. It seems clear that factors other than exchange rates played a significant role in the increase as foreign exporters raised prices 10.7 percent in their own currencies, "passing through" the entire depreciation of the dollar. (See chart 6.)

Tight supplies had a significant impact on the index for imported nickel, which rose 39.3 percent during 1987. The closing of the primary American nickel smelter in 1986 made the United States almost totally dependent on foreign supplies. The combination of scarce domestic production and booming U.S. demand for stainless steel induced an 11-percent increase in the quantity of nickel imports during 1987. Increased production of stainless and other specialty steels did, in fact, raise U.S. primary nickel consumption to the highest level since 1974. Tight foreign supplies caused by mine closures and extended summer shutdown contributed to higher nickel prices during the year.

Tight supplies also contributed to a 50.1-percent surge in copper import prices during the year. Domestically, higher consumption of refined copper left U.S. inventories at a 13-year low.⁷⁷

After years of sluggishness, the U.S. aluminum industry rebounded sharply in 1987 due to a resurgence of demand from customers in heavy industries. Driven by exceptionally strong world demand, U.S. primary production rose 4 percent, to an estimated 3.2 million tons, during 1987.⁷⁸ Domestic demand was especially strong for packaging materials, particularly aluminum cans and foils.⁷⁹ Import prices responded, rising 37.8 percent during the year.

Despite lower domestic consumption, prices for imported zinc advanced 3.6 percent during the year due to lower U.S. production and the fall of the dollar. The galvanization of steel is zinc's largest application in the United States, and the auto industry is the largest domestic market for this product. The average weight of galvanized steel used per car has increased 34 percent

over the last 3 years. In addition, orders for galvanized steel during 1987 frequently exceeded capacity, fueling higher import prices.

After falling precipitously in 1986, imported tin prices rose 15.3 percent during 1987. Lower 1986 prices had forced the closure of many less efficient world producers, which resulted in reduced capacity. Lower production and the renewed health of the U.S. steel industry were the primary reasons for higher prices of imported tin during the year.

After years of relative stability, the index for iron and steel, which represents 3 percent of U.S. imports, rose steadily throughout 1987. The 17.2-percent advance in prices was largely a reflection of the weaker dollar. Foreign exporters lowered prices only 0.7 percent in foreign currency terms during the year, allowing nearly all of the dollar's fall to be passed through in the form of sharply higher U.S. import prices. (See chart 6.) Stronger demand, continued enforcement of the voluntary restraint agreements negotiated with foreign governments, and higher raw materials costs also contributed to the rise in imported steel prices during 1987. These factors led to a fourth-quarter price rise of 5.1 percent, the largest single quarterly increase since 1984. All major subcategories experienced price gains including: pig iron (19.3 percent); bars, rods, and angles (12.4 percent); plates and sheets (16.9 percent); hoop and strip (14.5 percent); wire (5.3 percent); and tubes, pipes, and fittings (19.7 percent). As a result of higher costs for imports, domestic prices of many steel products were actually lower than the prices of imports for the first time in several years.

Higher import prices during 1987 also reflected the continued decline of the dollar vis-a-vis the currencies of major steel-exporting countries, including Japan and West Germany. Higher import prices for products such as steel plates and sheets, which tend to originate in these countries, can be directly related to the fall in the dollar. Japan was especially hard hit by the dollar's decline as approximately 30 percent of Japanese steel output is directed toward the export market, and 25 percent is indirectly exported in the form of automobiles and machinery.⁸⁰ Because the dollar's fall made foreign steel less competitive on domestic markets, U.S. producers were able to regain some of the market share lost since 1980.

Demand also played a role in the advance of the index for iron and steel. During a typical year, steel orders slacken and backlogs are low by summer; however, during mid-1987, new orders were 24 percent higher and unfilled orders were 35 percent higher than 1986 levels. In response, delivery dates were stretched to the fourth quarter, and, in some instances, duplicate orders were placed with more than one steelmaker in order to ensure supply.⁸¹ Fearing the market strength was temporary,

domestic steelmakers were reluctant to reopen marginal plants because of the substantial cost. The temporary shutdown of some facilities for repair, and the slow return to the market of the largest U.S. steelmaker after a 6-month strike, also hampered domestic steel production during the year.

Along with the domestic supply shortfalls, import volumes also were lower due to the impact of voluntary restraint agreements. These arrangements are negotiated bilaterally and allow imports based on a percentage of forecast consumption. Because consumption was expected to decrease during 1987, allowable imports were reduced as well.⁸² The goal for 1987 was to reduce imports of finished steel from 26 percent to 20 percent of the U.S. market.⁸³ Voluntary restraint agreements were especially effective in reducing import quantity of steel wire, which fell 7 percent during the year. The decrease in shipments, combined with the lower dollar, led to a 12-percent rise in the index for imported wire.

Although import volumes fell during the year, import penetration remained high at approximately 22.5 percent, or 2 percent above the target of the administration's import restraint program. This was primarily due to surging imports from countries not covered by a voluntary restraint agreement, including Canada, Turkey, Argentina, and Sweden.⁸⁴

Rising raw materials costs also helped bring about the advance in the index during 1987. This was especially true for imported hoop and strip, for which prices increased 14.5 percent during the year as a result of rising worldwide scrap costs.

The dollar's large appreciation between 1980 and 1985 also indirectly affected the price and market share of imported steel during 1987. During those 5 years, the dollar's appreciation allowed foreign sellers to undercut the prices of rival U.S. firms in domestic markets. Many U.S. producers were driven out of the market, and domestic capacity fell 27 percent between 1982 and 1987. During 1987, the dollar's decline forced many foreign exporters to raise prices; however, the ability of U.S. manufacturers to exploit the market was hampered by capacity limitations. Ultimately, this structural change allowed foreign producers more freedom to raise export prices because of insufficient U.S. competition.

Factors contributing to the rise in imported steel prices during the year were numerous. In turn, these price increases allowed many domestic producers to expand sales to both American, and to a small extent, foreign purchasers. However, export activity was limited in some cases by capacity constraints and strong domestic demand. A positive fourth-quarter sign was an announcement by USX Corp. that it was reopening its export division, which has been largely dormant since 1984.⁸⁵

Machinery and transport equipment. The import price index for machinery and transport equipment, which accounts for approximately one-quarter of the all-import index, advanced 7.7 percent in 1987. This was the third consecutive year of higher prices. All eight product categories were up, with the smallest increase at 3.6 percent and the largest at 16.7 percent. The main movers of the index were specialized industrial machinery, general industrial machinery, electrical machinery and equipment, and road vehicles and parts.

Imported road vehicles and parts, which account for 42.8 percent of the machinery and transport index, rose 6.4 percent in 1987. This followed a 13.1-percent advance in 1986. The smaller increase was largely attributable to a slack automobile market in the United States. Automobiles account for approximately two-thirds of the product category, and despite the continued decline of the dollar, imported automobile prices rose only 4.3 percent—the smallest increase in 3 years.

The relatively modest increase in imported car prices was accomplished while maintaining profitability, albeit at narrower margins, largely due to the apparent ability of Japanese exporters to cut costs in order to maintain market shares. For example, Toyota reduced costs by close to 160 billion yen during the fiscal year ended June 30, 1987.⁸⁶ Toyota's cost-cutting measures included reducing the number of manufacturing stations on assembly lines, giving only modest annual wage increases to labor, enforcing a Saturday-to-Wednesday workweek at some factories to take advantage of cheaper weekend electricity rates, and getting agreements on price reductions from subcontractors who supply components.

Oversupply characterized the domestic automobile market in 1987, as both domestic and import inventories were at their highest levels in years.⁸⁷ Unit sales in the United States were below 1986 levels by 10.7 percent. Both domestic and import car sales fell, the former by 13.8 percent and the latter by 2.8 percent.⁸⁸ Market shrinkage allowed the share for imports to increase from 28.3 percent in 1986 to an unprecedented 31.1 percent last year. Japan's market share edged up to 21.3 percent from

20.7 percent in 1986 despite a drop in sales of 190,819 units.⁸⁹

Falling unit sales were not a uniform occurrence among importers. For example, Hyundai's sales rose 56.1 percent (moving the company from the sixth to the fourth largest importer); Yugo, 35.7 percent; and Acura, 107.1 percent.⁹⁰

The Japanese may have found that building plants in the United States dampens pressure on them to limit auto exports to this country. However, the current high value of the yen has also proven it to be an efficient cost-cutting measure. In fact, Japanese auto producers located in the United States will be exporting autos to Japan later in 1988. Sales from this transplanted production were 543,884 units in 1987, up 57.2 percent from 1986, while the market share rose from 3.0 to 5.3 percent. Japanese companies accounted for 88.8 percent of this type of production in 1987. In addition, for the first time, American Honda Motor Co.'s U.S. sales in 1987 actually exceeded exports to the United States by Honda Motor Co. Ltd. (the manufacturer located in Japan).⁹¹

Specialized industrial machinery prices advanced 13.1 percent. They were led by prices for textile machinery and parts, which rose 19.3 percent. European and Japanese exporters have acquired significant power in the U.S. market due to their superior development and commercialization of technological advances in most types of textile machinery.⁹² This has enabled them to pass along a large part of the exchange rate adjustment to U.S. importers, as evidenced by the sharply higher dollar prices.

Textile machinery imports increased 22 percent in 1987, to over \$1.1 billion. The leading importers were all countries with strong currencies: West Germany (41 percent), Switzerland (16 percent), Japan (15 percent), Italy (8 percent), and France (4 percent). Imports accounted for 59 percent of new supplies in the United States in 1987, up 50 percent from 1986 levels.⁹³

General industrial machinery import prices increased 13.0 percent on the strength of first- and fourth-quarter price increases of over 5 percent. □

—FOOTNOTES—

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¹Price developments discussed in this article are based on data from the BLS International Price Program (IPP). That program produces import and export price indexes based on the Standard Industrial Trade Classification scheme. Both indexes use a modified Laspeyres formula. Price data are collected for more than 22,000 products, and are not

seasonally adjusted. Price indexes are weighted by the value of trade in 1980. Beginning with the first-quarter 1988 release in April, the IPP indexes will shift to 1985 weights. In addition, the indexes will be recalculated from 1985 forward using the new weights. BLS also publishes these series by Standard Industrial Classification and end-use classifications.

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