

# U.S. foreign trade prices in 1982: import index falls, export indexes mixed

*Import-export prices were affected by the appreciation of the dollar and the worldwide recession; crude oil led the import price decrease, export prices of nonferrous metals, grain, and intermediate manufactured goods recorded decreases*

MARK J. JOHNSON

U.S. import prices<sup>1</sup> fell 2.8 percent in 1982, as the worldwide economic slowdown and the strong U.S. dollar placed downward pressure on U.S. import prices. (See table 1.) The import price drop contributed to the sharply reduced rate of increase in U.S. domestic prices, as measured by the Consumer Price Index and the Producer Price Index.

Crude petroleum import prices, which account for 25.8 percent of the weight of the all-import price index, fell 3.7 percent during the year, and were a major factor in the overall drop in import prices. Some other categories which contributed to this decline were intermediate manufactured products and telecommunications equipment.

The price indexes for exports cover 71 percent of the value of all exported products. For those exports measured, price increases were concentrated mainly in categories of finished manufactured goods. (See table 2.) Most semifinished goods and primary products showed price declines. These results were greatly influenced by the worldwide economic slump, the strong dollar, which tended to raise the prices of U.S. goods in foreign mar-

kets, and the drop in demand for U.S. exports by debt-affected nations. Grain and nonferrous metals were key categories which showed price declines, falling 7.3 and 4.3 percent, respectively. The index for machinery and transport equipment, which accounts for 35.3 percent of all exports, rose 3.9 percent.

The appreciation of the dollar against the currencies of major U.S. trading partners was a key factor in the behavior of import and export prices in 1982. (See table 3.) During 1982, the U.S. dollar appreciated 13.3 percent against all major currencies on a trade weighted basis. It appreciated 10.5 percent against the Japanese yen, 7.1 percent against the West German deutsche-mark, and 465.2 percent against the Mexican peso. The dollar's appreciation was especially pronounced during the first 11 months of 1982, when its weighted average exchange rate rose 18.1 percent. During December, the dollar's weighted average exchange value fell 4.1 percent.<sup>2</sup>

As U.S. import prices fell in 1982, the nation's merchandise trade set a record deficit. Along with the weakened economy, the drop in import prices contributed to a decrease in the value of imports. However, the value of total exports declined even more. The result was a 1982 U.S. trade deficit of \$36.1 billion, compared with \$27.9 billion in 1981. U.S. merchandise exports of \$211.2 billion in 1982 were off 10.6 percent from their

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Mark J. Johnson is an economist in the Division of International Price Indexes, Bureau of Labor Statistics. This article is based on information provided by other Division economists.

level of \$236.3 billion in 1981. This marked the first time in 24 years that the nominal value of U.S. exports fell from 1 year to the next. U.S. merchandise imports of \$247.3 billion were down 6.4 percent from their level of \$264.1 billion in 1981.<sup>3</sup> An important factor in the fall in total imports was a substantial drop in the dollar value of crude oil imports, from \$77.6 billion in 1981 to \$61.2 billion in 1982.

In addition, the U.S. current account, which incorporates the balance on merchandise trade and the balance on services (which includes payments on investments abroad) was in deficit by \$8.1 billion in 1982, after recording a surplus of \$4.47 billion in 1981 and \$1.52 billion in 1980.<sup>4</sup>

Gross trade as a percentage of U.S. final goods production is a measure of the importance of foreign trade to the goods sector of the U.S. economy. Because of the decline in U.S. export and import merchandise trade dollar values, this measure dropped to 26.0 percent, from 28.6 percent in 1981. In 1960, the figure was 11.9 percent, and in 1970, it had increased to 15.2 percent.<sup>5</sup>

During 1982, U.S. exporters faced reduced demand from developing nations, which account for more than one-third of all U.S. merchandise exports. The United States exported \$82.7 billion of merchandise to developing countries, down 7.1 percent from 1981 shipments of \$89.0 billion. Debt problems were a factor in this drop: Mexico, Brazil, Peru, Indonesia, Zaire, and Argentina were all debt-affected during 1982. The drop in 1982 U.S. exports to Mexico, our third largest trading partner, was dramatic, declining to \$11.8 billion from \$17.8 billion in 1981, a 33.7-percent drop. The drop was especially pronounced in the fourth quarter, when the United States exported merchandise to Mexico at a \$6.9 billion annual rate.<sup>6</sup>

The 1982 price changes were measured by the Bureau of Labor Statistics' International Price Program.<sup>7</sup> The indexes, which are not seasonally adjusted, represent 100 percent of the value of all imported products, and 71 percent of the value of all exported products. Indexes are published for detailed and aggregate categories of imports and exports, and are based on transaction price information provided by a sample of importers and exporters and their products.<sup>8</sup>

#### Imports: crude oil price drops; food up slightly

The 3.7-percent drop in crude oil import prices in 1982 was a major factor in the decline in the all-import price index. The crude oil surplus on world oil markets throughout the year, combined with a reduction in demand due to the slump in economic activity in the United States and other major industrialized nations, created downward pressure on prices. (See table 4.) As a result, the Organization of Petroleum Exporting Countries (OPEC) cartel lost market share to non-OPEC producers such as Britain, Norway, and Mexico. At the same time, OPEC posted prices were continually undercut by both member and nonmember nations.

Domestic consumption of petroleum products fell 4.9 percent in volume from the preceding year, with the drop falling primarily on imports.<sup>9</sup> Deregulation spurred exploration and drilling activities boosted domestic production, and imports of crude oil dropped to 3.5 million barrels per day, off 21.4 percent from 1981.<sup>10</sup> Demand for residual fuel fell in 1982, as utilities (which use 40 percent of all residual fuel in the United States) continued to switch to such nonoil fuel sources as coal and nuclear power.<sup>11</sup> Domestic gasoline consumption fell 0.6 percent in 1982, as improved vehicle efficiency, the in-

**Table 1. Change in selected import price indexes in 1982 and proportion of trade value**

Commodity	Share of total 1980 trade value	Total change	First quarter	Second quarter	Third quarter	Fourth quarter
<i>All commodities, except chemicals</i> <sup>1</sup> .....	96.524	-2.8	-1.1	-1.1	-0.5	-0.1
<i>Fuels and related products</i> <sup>1</sup> .....	32.776	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	-5	0
Crude petroleum .....	25.799	-3.7	-1.9	-1.3	-2	-4
<i>Machinery and transport equipment</i> <sup>1</sup> .....	25.442	-1.3	0	2	-1.6	1
Automobiles .....	7.201	-1	-3	-2	-1.3	1.7
Metalworking machinery .....	.755	-5.1	-1.4	3.2	-4.4	-2.5
Electrical machinery and equipment .....	3.392	-2.9	-1.3	-6	4	-1.4
Telecommunications equipment .....	2.789	-6.8	-1.3	-2.0	-2.3	-1.4
<i>Intermediate manufactured products</i> <sup>1</sup> .....	13.520	-7.5	-8	-3.0	-2.0	-2.0
Iron and steel .....	3.127	-12.6	-1.3	-3.5	-2.7	-5.6
Nonferrous metals .....	3.123	-14.0	-3.4	-9.5	-3.5	2.0
Silver and metals of the platinum group .....	1.037	( <sup>2</sup> )	( <sup>2</sup> )	-12.4	7.3	17.9
Textiles .....	.998	-5.6	-1.1	-2.0	-1.9	-6
Woven cotton fabric .....	.180	-6.7	-9	-2.4	-2.6	-1.1
Woven man-made fabric .....	.167	-6.8	-1.7	-4.9	-1.4	9
<i>Miscellaneous manufactured articles</i> <sup>1</sup> .....	9.794	3	-9	0	1.8	-6
Footwear .....	1.232	-2.3	-7	0	-1.1	-8
Watches and clocks .....	.437	-13.0	-3.9	-3.0	-4.6	-2.2
Miscellaneous manufactured articles, not elsewhere specified, including gold and silver coins .....	3.286	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	9.9	3
<i>Food</i> <sup>1</sup> .....	6.554	2	0	-5.2	2.8	2.8
Meat .....	.977	-3	-1.9	2	4	9
Fish .....	1.068	1.7	2.1	-1	-1.7	1.4
Shellfish .....	.459	14.2	6.1	3.8	9	2.6
Fish in airtight containers .....	.126	-13.4	-3.6	-3.2	-4.4	-2.6
Sugar and honey .....	.925	( <sup>2</sup> )	( <sup>2</sup> )	-17.3	36.6	-2
Coffee, tea, and cocoa .....	2.241	-8	3.9	-5.7	-1.4	2.6
Coffee and coffee substitutes .....	1.746	6.0	5.9	-2.5	-1.1	3.9
Tea .....	.054	4.6	1.3	-1.2	6.7	-2.2
<i>Beverages</i> <sup>1</sup> .....	.880	2.6	7	1.0	.6	3
Alcoholic beverages .....	.867	2.6	7	1.0	.6	3
Beer .....	.152	1.7	-2	.1	-4	2.1
Distilled alcoholic beverages .....	.425	2.4	1.0	.9	.7	-3

<sup>1</sup> This category includes indexes other than those shown here. For all of the indexes available in each category, see *U.S. Import and Export Price Indexes, USDL-83-77* (Bureau of Labor Statistics, Feb. 16, 1983).

<sup>2</sup> Not available.

crease in the diesel fleet, the economic recession, and continued conservation dampened consumption.<sup>12</sup> Retail competition among vendors of petroleum products in the U.S. market caused the average pump price of major brand gasoline to fall 7.2 cents per gallon in 1982 to \$1.281 per gallon, from \$1.353 per gallon in 1981.<sup>13</sup>

This competition in a weak market placed pressure on refiners and others to reduce prices paid for crude oil. As a result, those OPEC nations which held to the official posted prices, such as Saudi Arabia, shipped much smaller volumes of crude. Most OPEC nations, in particular, Iran, Libya, and Nigeria, offered discounts from the posted prices. Also, oil was available on the spot market throughout the year at prices below those officially posted.

The United States imported a larger percentage of crude from non-OPEC sources in 1982 than in previous years. Mexican and British crude prices dropped significantly, and Mexico moved ahead of Saudi Arabia as the leading foreign crude supplier to the United States, at 660,000 barrels per day. Saudi Arabia was next at 552,000, with Nigeria third at 538,000, and Britain fourth at 420,000.<sup>14</sup>

*Food and beverages.* Imported food prices rose 0.2 percent in 1982, while imported beverage prices rose 2.6

percent. The food index is one of the most volatile components of the all-import index because of the uncertainties associated with food production, the varying impact of weather conditions, and the great shipping distances for many food products imported into the U.S. market.

Imported meat prices fell 0.3 percent. International meat production declined, as livestock producers responded to the low profits that existed from mid-1979 to 1981 by reducing breeding herds and grain feeding fewer animals for slaughter. Beef and veal prices fell 3.5 percent in 1982, as U.S. consumers shifted to less costly substitutes. Pork was in abundant supply, as producers sought to provide a less expensive alternative to higher priced beef and veal.

Imported fish prices rose 1.7 percent: prices for fish in airtight containers fell 13.4 percent and shellfish rose 14.2 percent. The price of fish in airtight containers fell consistently during the year because of lower beef prices which reduced demand for such popular import products as canned tuna and anchovies, and lower operating costs (for example, price of fuel for boats). Price increases for such shellfish as lobster and shrimp were due to the relatively inelastic demand for these items and the traditional low supply levels.

The index for sugar, which was first published in the

Table 2. Change in selected export price indexes in 1982 and proportion of trade value

Commodity	Share of total 1980 trade value	Total change	First quarter	Second quarter	Third quarter	Fourth quarter	Commodity	Share of total 1980 trade value	Total change	First quarter	Second quarter	Third quarter	Fourth quarter
<i>Grain</i> <sup>1</sup>	8,341	-7.3	-3.4	-0.8	-5.8	2.7	Internal combustion piston engines, parts	1,697	6.7	2.0	1.2	2.9	.5
Wheat	2,943	-8.4	-7.2	-6.1	.7	4.4	Road vehicles and parts	6,726	6.1	2.1	1.7	1.3	.8
Hard winter ordinary wheat	1,243	-9.8	-8.1	-8.8	4.0	3.3	Motor vehicle parts	3,499	6.3	2.6	2.4	1.1	-.1
Barley	.094	-17.6	5.7	-2.3	-17.3	-3.7	Other transport equipment, excluding military and commercial aircraft	2,718	11.0	4.0	3.5	1.0	2.0
Yellow corn	3,956	-5.9	.5	2.0	-10.0	2.0	Aircraft and spacecraft parts	1,641	11.9	3.9	5.2		1.0
<i>Crude materials</i> <sup>1</sup>	10,948	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	Office machines and automatic data processing equipment	3,990	-3.6	-.8	-.8		-1.3
Oilseeds and oleaginous fruit	3,024	-9.5	-2.5	.4	-8.4	1.0	<i>Miscellaneous manufactured articles</i> <sup>1</sup>	7,397	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Soybeans	2,716	-10.5	-3.3	.4	-7.4	-.6	Measuring and controlling instruments and apparatus	2,067	8.6	5.4	1.6	1.2	.3
Raw hides and skins	482	-7.7	-2.4	.3	-1.8	-4.1	Photographic apparatus and supplies, optical goods, watches and clocks	1,187	3.3	3.6	-.3	.1	.0
Cork and wood	1,417	-9.1	4.9	-8.4	-3.7	-1.7	Miscellaneous manufactured articles, not elsewhere specified	2,730	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Crude fertilizers	234	-12.1	-7.8	.5	-6.4	1.4	Toys, games, and sporting goods	.470	5.2	1.1	1.8	.8	1.4
<i>Intermediates manufactured products</i> <sup>1</sup>	10,544	-1.8	-.1	-2.4	-.3	1.0	<i>Fuels and related products</i> <sup>1</sup>	3,691	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Leather and furskins	200	-12.9	-2.8	-4.5	-2.4	-3.8	Bituminous coal	2,088	1.5	2.8	.3	.1	-1.9
Paper and paperboard products	1,300	-5.7	.2	-3.0	-1.6	-1.4	<i>Chemicals</i> <sup>1</sup>	9,578	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Paper and paperboard	.998	-8.8	-.4	-4.1	-2.2	-2.1	Hydrocarbons and their derivatives	.799	-11.7	-2.5	-2.5	-6.1	-1.3
Kraft paper and paperboard	.442	-21.3	-5.3	-7.9	-6.2	-4.0							
Non-metallic mineral manufacturers	1,036	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )							
Glassware	0.109	11.2	3.9	2.6	3.2	1.0							
Nonferrous metals	2,280	-4.3	-2.7	-9.6	2.0	6.7							
Silver	.772	12.7	-5.9	-19.7	12.7	32.3							
Copper	.204	-1.8	-.6	-4.2	.3	3.0							
<i>Machinery and transport equipment</i> <sup>1</sup>	35,261	3.9	1.5	1.4	.6	.4							
Power generating machinery and equipment	3,943	4.8	1.9	1.1	1.7	.0							

<sup>1</sup> This category includes indexes other than those shown here. For all of the indexes available in each category, see *U.S. Import and Export Price Indexes*, USDL-83-77 (Bureau of Labor Statistics, Feb. 16, 1983).

<sup>2</sup> Not available.

**Table 3. Foreign exchange rate changes of currencies of selected U.S. trading partners**

Country and currency	Percent change relative to dollar in 1982 <sup>1</sup>
Australia/dollar	14.6
Belgium/franc	24.0
Brazil/cruzeiro	100.5
Canada/dollar	4.5
France/franc	20.0
Germany/deutschemerk	7.1
Hong Kong/dollar	16.1
Ireland/pound	12.5
Italy/lira	15.9
Japan/yen	10.5
Malaysia/ringgit	4.7
Mexico/peso	465.2
Norway/krone	21.7
Singapore/dollar	4.8
United Kingdom/pound	15.1

<sup>1</sup> A positive change indicates that the dollar has strengthened (appreciated) versus the foreign currency, while a negative change means that the dollar has weakened (depreciated) against the foreign currency.

Note: Figures are derived from averages of certified noon buying rates in New York for cable transfers.

Source: *Federal Reserve Bulletin* (Washington, D.C., Board of Governors of the Federal Reserve System), January 1983, p. A68, and June 1982, p. A68.

second quarter of 1982, rose by 12.8 percent for the last 9 months of the year. Underlying this increase was a 17.3-percent price decline in the second quarter, and a 36.6-percent rise in the third quarter. The fall was the result of plentiful inventories on world markets, and the inelasticity of demand by U.S. consumers of sugar. However, in late May, the U.S. Government imposed a sugar quota system apportioned by country of origin, discontinuing the combination of duty and import fee that had been levied on sugar imports. The quotas were followed by a runup in prices of raw sugar delivered to the United States in the third quarter, as the import fee was discontinued and exporting nations which possessed a quota allocation to ship to the United States raised their prices to new equilibrium levels.

The index for coffee, tea, and cocoa fell by 0.8 percent in 1982. Cocoa prices fell continuously over the year, as abundant supplies from other countries, especially the Ivory Coast, were available on the world market. Coffee prices rose 6 percent during the year, rising during the first and last quarters, and declining during the second and third, or warmer quarters. This is a normal pattern because coffee consumption declines during hot weather. Tea prices rose 4.6 percent for the year, with prices higher in the summer months when demand for tea is greatest.

The small rise in the beverages index resulted from slight rises for imported beer (1.7 percent) and distilled alcoholic beverages (2.4 percent).

#### Difficult year for imported machine tools

The 1.3-percent decline in the machinery and transport equipment index occurred primarily during the second half of 1982; the index increased slightly in the first half. The decline in domestic business fixed investment<sup>15</sup>

and reduced production levels in basic industries, along with the strong dollar, depressed prices. Many consumer end-use products are included in this index: autos, motorcycles, and household appliances, for example. Also included are many important components of manufacturing processes: electric motors, air pumps, compressors, valves, and roller bearings. These products were particularly affected by the 1982 downturn in U.S. business investment.

Prices for imported autos declined 0.1 percent in 1982, the net result of two nearly offsetting factors. The first was the competition which resulted from the dramatic slump in new car sales in the United States. In addition to the decline in consumer spending, high financing costs also contributed to the reduction in sales of new cars to 8 million, the lowest level since 1961.<sup>16</sup> These factors tended to lower prices. In the meantime, Japan, which accounted for 22.6 percent of all new car sales in the United States, continued the voluntary self-restraint quotas on cars it exports to the United States. This voluntary quota limited Japan to exports of 1.68 million cars to the United States during 1982. These cars were sold, indicating that the quotas were effective in limiting sales and, therefore, were a source of upward pressure on import prices of Japanese cars. Total import penetration of the U.S. auto market was 36.1 percent in 1982 (including imports from Canada under the U.S.-Canada Auto Parts Trade Agreement), up from 33.3 percent in 1981.<sup>17</sup> During 1982, numerous coproduction agreements were entered into between U.S. and foreign auto manufacturers, and between foreign manufacturers. These agreements involved the production of autos for the U.S. market using production facilities located in the United States and other countries.

The index for metalworking machinery declined 5.1 percent in 1982. The U.S. economic downturn, which cut business investment, and the strong appreciation of

**Table 4. Imported crude oil as a percent of total U.S. crude oil supply**

[Millions of barrels per day]

Year	Total supply	Crude oil imports	Domestic crude oil production	Imports as a percent of total supply
1970	10.50	1.32	9.18	12.6
1971	10.71	1.68	9.03	15.7
1972	11.22	2.22	9.00	19.8
1973	12.02	3.24	8.78	27.0
1974	11.86	3.48	8.38	29.3
1975	12.11	4.10	8.01	33.8
1976	13.07	5.29	7.78	40.5
1977	14.48	6.61	7.87	45.6
1978	14.71	6.36	8.35	43.2
1979	14.70	6.52	8.18	44.4
1980	13.47	5.26	8.21	39.0
1981	12.97	4.40	8.57	33.9
1982	12.13	3.46	8.67	28.5

Source: *Annual Report to Congress*, Vol. II (Washington, D.C., Energy Information Administration, 1981), p. 51, and *Monthly Energy Review* (Washington, D.C., U.S. Department of Energy, February 1983), p. 34.

the dollar against the yen were major factors behind the price drop.

The year was difficult for the machine tool industry. Because of the downturn in investment, new orders for metalcutting and metalforming machine tools declined 49.1 percent from the \$2.9 billion level established in 1981.<sup>18</sup> Imports of metalworking machinery declined in absolute terms, but gained a larger share of a smaller market, as import penetration (in dollar value) reached a record 27 percent in the first 9 months of 1982.<sup>19</sup> Import penetration was 16.7 percent in 1977 and 21.7 percent in 1978; by 1981, it had reached 26.5 percent. Of the import market, the share accounted for by Japan increased from 27 percent in 1977 to 46.4 percent in 1981, and declined slightly to 42.2 percent in a weakened market in 1982.<sup>20</sup> For the year, imports of products in metalworking machinery were approximately double the value of U.S. exports, as the U.S. trade deficit in this area continued to widen.

Japanese manufacturers have steadily narrowed the U.S. lead in machine tool technology, and in the implementation of cost-reducing measures and policies. During 1982, large U.S. machine tool makers entered licensing agreements or joint ventures with foreign concerns in an effort to recapture their technological lead in several product lines. Also, in response to the downturn in the industry, several less profitable smaller machine tool firms merged with larger firms.<sup>21</sup>

The price index for imports of electrical machinery dropped 2.9 percent in 1982, as the downturn in domestic construction activity and the slump in capital investment dampened demand for these products. The decline in residential construction reduced demand for electric appliances, while the decrease in commercial construction reduced demand for transformers. The decline in capital spending reduced demand for such important electric products as rectifiers, inductors, circuit switching equipment, and various types of integrated circuits and electronic components.

In addition, lower costs for such important inputs as copper, aluminum, steel, and tantalum helped in lowering production costs, while the dollar's strong appreciation against the currencies of major producing nations in the Far East and Western Europe helped exporters in those areas to lower the prices of their exports to the United States.

Prices fell across the entire spectrum of products in the telecommunications equipment index, as competition for U.S. sales among manufacturers in the Far East spurred the 6.8-percent decline in this index. Loudspeaker prices led the decline, as Taiwanese firms sought to gain greater U.S. market share and slashed prices to compete with Japanese firms. As a result, an increasing number of loudspeakers were imported from Taiwan. Prices of stereos declined because of slack de-

mand; sales of videotape recorders continued to increase, as consumers purchased videotape recorders rather than stereos. Foreign producers also cut prices of color televisions, as they competed heavily for sales in the U.S. market. The fact that the dollar appreciated significantly against the currencies of Taiwan and Japan helped these two largest suppliers of telecommunications equipment to the United States to lower their prices here.

### Quota on steel from European Community

*Intermediate manufactured articles.* Steep declines in prices for imported steel and nonferrous metals led the 7.5-percent decline in intermediate manufactured products. These products include metals, cork, wood, textiles, glassware, paper, paperboard, and other basic inputs into manufacturing processes.

Import prices for iron and steel fell 12.6 percent in 1982, as a sharp drop in demand and the removal of the "trigger price mechanism" (which set minimum prices on imported steel) in January 1982 placed downward pressure on prices. Demand for steel is closely related to the overall level of production in the general economy; hence, when industrial output declined during the economic downturn, steel mills experienced a slow year. By December 1982, U.S. mills were operating at 29.8 percent of capacity.<sup>22</sup> Import penetration of the U.S. market was 21.8 percent in 1982, and U.S. producers sold steel at discounts of up to \$100 per ton off list prices to compete with imported steel for available business.<sup>23</sup> (See table 5.)

The trigger price mechanism set minimum prices on imported steel based on production costs in Japan. Steel sold below this "trigger price" was presumed to be sold at less than cost, triggering an investigation by the U.S.

**Table 5. Domestic steel production and import penetration**

Year	Raw steel production by U.S. manufacturers (thousands of net tons)	Import penetration (percent) <sup>1</sup>
1970	131,514	13.8
1971	120,443	17.9
1972	133,241	16.6
1973	157,089	12.4
1974	145,720	13.4
1975	116,642	13.5
1976	128,000	14.1
1977	125,333	17.8
1978	137,031	18.1
1979	136,341	15.2
1980	111,835	16.3
1981	120,828	19.1
1982	74,577	21.8

<sup>1</sup> Calculated as follows:

$$\text{Import penetration} = \frac{\text{Steel imports}}{\text{Apparent supply}}$$

where:

$$\text{Domestic shipments} + \text{Steel imports} + \text{Exports} = \text{Apparent supply}$$

Source: American Iron and Steel Institute Annual Statistical Report (Washington, D.C., American Iron and Steel Institute, 1982) p. 8.

Department of Commerce. If the investigation determined that steel was being sold below cost, countervailing duties could be imposed. With the trigger price mechanism withdrawn in January 1982, the price floor for steel imports was removed, and steelmakers in other countries sold their products in the United States at prices below the discounted prices offered by domestic producers. Seven U.S. steelmakers charged that producers in 11 countries were selling subsidized steel in the United States. The Commerce Department then shifted from monitoring the trigger price mechanism to investigating specific charges. The investigation resulted in an agreement in October which placed quotas on imports from the European Community nations. No major trade complaints were made against other major steelmaking nations such as Japan, Brazil, and Korea.

For nonferrous metals producers worldwide, 1982 was a difficult year. Import prices of nonferrous metals dropped 14 percent in 1982—a sharp drop of 12.6 percent in the first half was followed by a modest 1.6-percent decline in the second half. Sharply rising silver prices in the second half helped to slow the fall in import prices for the nonferrous metals group as a whole.

Demand for nonferrous metals is closely related to the demand for the finished products of which these metals are a basic input. Thus, reduced levels of production in such industries as construction, autos, and machine tools, combined with abundant inventories of nonferrous metals, led to price declines for most of 1982. For copper, lead, and nickel, market prices were lower in real terms in 1982 than they were during the Great Depression, and were lower than production costs for many world producers.<sup>24</sup> The rise in silver prices in the second half was due to speculation and lower financing costs. The index for silver and platinum products, which accounts for 33.2 percent of the weight of the nonferrous metals index, rose 26.6 percent in the second half of 1982. Other nonferrous prices (most notably copper) began to firm during the last quarter of the year, as inventories shrank and financing costs decreased.

Imported textile prices declined 5.6 percent in 1982, a result of lowered world demand and excess production capacity. Woven cotton fabrics declined 6.7 percent; woven fabrics of manmade fibers, 6.8 percent. The overcapacity problem was exacerbated during the year as the People's Republic of China and the Eastern European nations added capacity for manmade fiber production. Falling petroleum feedstock prices also contributed to the price declines for manmade fibers.

### **Technology spurs fall in watch prices**

The miscellaneous manufactured articles index rose 0.3 percent in 1982. This index includes many products with important end uses for consumers and industry,

such as clothing, furniture, quartz watches, medical instruments, and sporting goods. Rising prices for gold and silver coins in the second half placed substantial upward price pressure on the index for miscellaneous manufactures. However, several key index components posted price declines: the index for footwear fell by 2.3 percent, and watches and clocks fell by 13.0 percent.

Watch and clock prices declined steadily, as new technologies like computer chip control and quartz oscillation were engineered into mass-produced products, with resulting lower unit costs. In addition, U.S. consumers curtailed spending on such discretionary items as watches and clocks, keeping competitive pressure on importers.

The decline in the footwear index was the result of lower prices for petro-chemical and leather inputs, and the decrease in demand for running shoes. In addition, the appreciation of the dollar against the currencies of the major producing nations in the Far East also helped lower prices. Finally, low labor costs in the nations of the Far East and the highly competitive U.S. footwear market placed additional downward pressure on prices.

### **Exports: record grain production, lower demand**

U.S. grain export prices fell 7.3 percent in 1982. This drop and the 8-percent decline in grain quantities exported represented a double blow to 1982 U.S. farm income. Prices fell in this index for the first three quarters, and then rose 2.7 percent in the last quarter. The 1982 decline in the grain index was led by drops in its two largest components, wheat and yellow corn, which fell by 8.4 and 5.9 percent. The drop in U.S. grain export prices resulted from historically high domestic inventories, back-to-back record U.S. wheat and feed grain harvests, and lower levels of world demand for U.S. grain products. As a result of the imbalance between demand and supply for U.S. grain, grain exports declined to 51 percent of total world grain trade, down from 54 percent in 1981 and 58 percent before the 1980 grain embargo. (See table 6.)

U.S. grain production set a record for the second consecutive year, largely due to U.S. Government programs which tend to stabilize prices by withholding excess production from the market, loaning the farmer part of the expected proceeds until prices rise sufficiently to warrant release for sale. This system resulted in excessive domestic reserve grain stockpiles in 1982. In addition, 1982 world grain production set a record for the second consecutive year.<sup>25</sup> Canada, the European Community, the People's Republic of China, Turkey, and Argentina produced abundant wheat crops in 1982. The United States and Eastern Europe had record feed grain crops, and production improved from the previous year in the U.S.S.R. and the European Community.

The most important factor limiting demand for U.S.

**Table 6. Summary of world and U.S. grain production and trade**

[Millions of metric tons]

Item	July 1978 to June 1979	July 1979 to June 1980	July 1980 to June 1981	July 1981 to June 1982	July 1982 to June 1983 <sup>1</sup>
World production: . . . . .	1200.3	1164.1	1169.9	1212.0	1259.9
Wheat . . . . .	446.7	422.8	440.6	447.2	471.4
Coarse . . . . .	753.6	741.3	729.3	764.8	788.5
U.S. production: . . . . .	270.4	296.8	263.0	325.2	331.9
Wheat . . . . .	48.3	58.1	64.6	76.2	76.4
Coarse . . . . .	222.1	238.7	198.4	249.0	255.5
World trade: . . . . .	162.2	186.9	199.7	205.5	197.0
Wheat . . . . .	72.0	86.0	94.2	101.8	101.9
Coarse . . . . .	90.2	100.9	105.5	103.6	95.1
U.S. exports: . . . . .	89.2	108.8	114.3	110.5	101.3
Wheat . . . . .	32.3	37.2	41.9	49.1	43.5
Coarse . . . . .	56.9	71.6	72.4	61.4	57.8
U.S. exports as a per- cent of world trade: . . . . .	55.0	58.2	57.2	53.8	51.4
Wheat . . . . .	44.9	43.3	44.5	48.2	42.7
Coarse . . . . .	63.1	71.0	68.6	59.3	60.8
U.S. exports as a per- cent of U.S. produc- tion: . . . . .	33.0	36.7	43.5	34.0	30.5
Wheat . . . . .	66.9	64.0	64.9	64.4	56.9
Coarse . . . . .	25.6	30.0	36.5	24.7	22.6

<sup>1</sup> Data for January to June 1983 are estimated.SOURCE: *Foreign Agricultural Circular* (Washington, D.C., U.S. Department of Agriculture, Foreign Agricultural Service, Jan. 17, 1983), pp. 22-23.

grain exports was the decline in sales to the Soviets. Since the 1980 embargo, the Soviets have purchased much less U.S. grain, buying only the minimum required amount under the recently renewed Long-Term Agreement. To meet their needs, the Soviets have increased purchases from Canada, the European Community, Australia, and Argentina. Another factor limiting demand was that many Third World nations (especially those which were debt-affected) could not afford to purchase grain in 1982 because of economic difficulties. Finally, many traditional importers of U.S. grain improved their grain production, and as a result, bought less from the United States.

### Demand off for exported crude materials

Most major components of the crude materials product category showed sizable declines in 1982. Demand for these products, which are used in the early stages of production processes, was sharply curtailed by the worldwide slump in industrial production. Key indexes which posted declines were raw hides and skins (-7.7 percent), cork and wood (-9.1 percent), crude fertilizers (-12.1 percent), and soybeans (-10.5 percent).

The 10.5-percent drop in soybean prices in 1982 was paced by a 7.4-percent decline in the third quarter. World soybean production was up 9.8 percent in 1982, while the United States, which accounts for two-thirds of world production, increased soybean output 14 percent above 1981 levels.<sup>26</sup> U.S. exports of soybeans increased 21 percent in 1982.

Prices for raw hides and skins fell 7.7 percent in 1982, as European import barriers and the economic slowdown there cut demand sharply in this major market. U.S. producers faced strong competition for available business from Argentinian firms, which sold hides and skins on the world market at low prices in order to gain foreign exchange for the debt-affected Argentine economy. Another factor depressing prices of raw hides was the 14 percent rise in U.S. cattle slaughter, which contributed to plentiful supplies.

Cork and wood prices fell in the last three quarters after rising 4.9 percent in the first quarter. The large domestic timber surplus was the major factor in the 9.1-percent price decline for the year. Domestic timber producers generally sell most of their output on the U.S. market; wood is exported primarily when demand is weak in the United States. With U.S. construction activity depressed in 1982, U.S. wood producers sold their products to buyers in the major markets of Japan and Western Europe. Demand was down in Japan because of low levels of housing starts; the economic downturn in Western Europe reduced demand there. The demand for high-priced wood for furniture and cabinets in Italy, a major producer of these products, was also slack. As a result, U.S. producers had to cut prices in order to sell wood.

Crude fertilizer prices fell 12.1 percent, a result of foreign competition and reduced demand from the agricultural sector. Crude fertilizers are used extensively on feed grains to enhance quality and aid in early maturity of crops. Because of abundant world grain supplies, demand for crude fertilizers fell. Competition from such major phosphate producers as Morocco and the U.S.S.R. also provided downward pressure on fertilizer prices.

### Prices up for machinery, transport equipment

Machinery and transport equipment accounts for 35.3 percent of the value of all U.S. merchandise exports. Overall, this export price index rose 3.9 percent in 1982, increasing 2.9 percent in the first half. Because many of the products in this index require a high degree of technical sophistication, the United States has traditionally been a major exporter of products in this category. In 1982, the strong dollar and competition for sales during the worldwide economic downturn placed considerable moderating pressure on machinery and transport equipment prices. Important components which increased were internal combustion piston engines (6.7 percent), motor vehicle parts (6.3 percent), and parts for aircraft and spacecraft (11.9 percent). The index for office machines and automatic data processing equipment declined 3.6 percent in 1982.

Strong demand for aircraft engines and parts was an important factor in the increase in the index for internal combustion piston engines. Demand for these aircraft

products, especially parts, is inelastic because of the specialized nature of aircraft equipment. Prices for automotive and marine engines increased only marginally for the year, as demand by automobile manufacturers for these engines plummeted.

Sales of motor vehicle parts normally flourish during economic downturns, which helps to explain the 6.3-percent increase in this index in 1982. Replacement parts demand is inversely related to new car sales; thus, as world car demand fell in 1982, replacement parts supply business improved. The trend toward internationalization of design and sourcing of auto components continued in 1982. U.S. parts shipments to Mexico have increased substantially since 1977, and U.S. firms have traditionally exported large amounts of parts to Canada. Most of the rise occurred during the first half, as the index rose 2.6 percent in the first quarter and 2.4 percent in the second.

The 11.9-percent rise in the index for parts for aircraft and spacecraft consists of a 9.5-percent increase in the first half and a 2.3-percent increase in the second half. The overall increase was due to high demand levels and the high price inelasticity of demand for U.S. production. The smaller increase in the second half of the year was due to the dollar's moderating effect on export prices. A trend which grew in 1982 in the aerospace industry was counterpurchasing (also called offset), in which U.S. suppliers are sometimes required to buy back products from their customers, either for the suppliers' own use or for sale to others. This is required because the sale of aircraft and parts represent significant items in many countries' balance of payments accounts.

The 3.6-percent drop in prices for office machines and automatic data processing equipment followed a 4.9-percent price rise in 1981. The decreases were the result of efforts by U.S. firms to maintain competitive pricing, as the strong dollar pushed up prices of U.S. exports in foreign markets, and to increased production efficiencies in the United States.

### **Manufactured products' prices mixed**

*Intermediate manufactures.* Export prices for intermediate manufactured products fell 1.8 percent in 1982, led by declines in the indexes for nonferrous metals (-4.3 percent), leather and furskins (-12.9 percent), and paper and paperboard (-5.7 percent). Moderating influences were exerted by the indexes for glassware, up 11.2 percent, and the index for silver, up 12.7 percent.

The slumping world economy, competition from South American producers, and import barriers in foreign markets were major factors in the large decline in the price level of the leather and furskins index. U.S. manufacturers are vitally dependent on the export market, as there are few U.S. markets for leather manufac-

tures, other than the footwear industry. A bright note for exporters was the increase in leather exports in the form of wet blues that are further worked prior to being made into a finished product.

Exporters of paper and paperboard products faced stiff foreign competition and a lack of demand in Japan and Western Europe, the major markets for these products. The products in this index are closely tied to conditions in the packaging industry. In turn, the sales of the packaging industry are closely linked to gross national product growth. The decline in the export price index for paper and paperboard products was led by a 21.3-percent decline in export prices for Kraft paper and paperboard. Kraft is a heavy-duty paper which in unbleached form is used for shopping bags and many other applications. The Scandinavian nations and Canada, also major suppliers of Kraft products, competed intensely with U.S. exporters for the limited business in the major markets.

The 11.2-percent rise in the glassware index was the result of higher export prices for kitchen, decorative, laboratory, and pharmaceutical glass products. U.S. firms have a reputation for quality in the manufacture of higher-priced pharmaceutical and laboratory glassware. The 3.9-percent rise in the glassware index in the first quarter was due to the fact that many U.S. firms make one annual price adjustment on the first of the year.

U.S. nonferrous metals producers sustained large losses in 1982, as reduced sales led to excessive inventories and reduced prices. Exports fell for most metals as lack of demand in basic industries and high financing costs drove prices steadily downward for most of the year. The nonferrous index fell 12 percent in the first half, and rose 8.8 percent in the second half. The sharp runup in silver prices in the second half of 1982 was the key factor moderating the fall in export prices for the nonferrous metals group as a whole.

World prices during most of 1982 were below U.S. production costs for aluminum, copper, molybdenum, and lead. Many U.S. nonferrous producers shut down production operations for all or part of the year because of the low prices and high inventory levels. The silver index, which has 34 percent of the weight of the nonferrous metals index, rose 12.7 percent in the third quarter and 32.3 percent in the fourth, as lower interest rates and speculation fueled higher world prices. These third and fourth quarter increases followed a 24.4-percent price drop in the first half of the year. In the second half, copper prices began to stabilize.

*Miscellaneous manufactures.* Prices for the major components in the miscellaneous manufactured articles category rose in 1982. U.S. firms have a technological edge in the manufacture of many of the products in this index,



and were often able to pass through price increases. Increases were led by prices for measuring and controlling instruments and apparatus (8.6 percent), prices for photographic apparatus and supplies, optical goods, watches, and clocks (3.3 percent), and prices for toys, games, and sporting goods (5.2 percent).

Prices in the index for measuring and controlling instruments and apparatus rose 5.4 percent in the first quarter, and then rose by much smaller amounts in succeeding quarters. The industry practice is to raise prices at the beginning of the year. The price increase for the year is a reflection of the technological efficiency that these devices bring to the industrial workplace, and the consequent high level of demand for them. Export price rises were restrained slightly by the worldwide slowdown in industrial investment and capital formation and the strong dollar.

Film, cameras, and related photographic equipment account for the bulk of the weight in the index for photographic apparatus and supplies, optical goods, watches, and clocks. Most producers of photographic supplies adjust their prices in the beginning of the year. Viewed in this light, the 3.6-percent rise in the index in the first quarter was marginal. It was followed by a small net decrease during the last three quarters of 1982, reflecting slack worldwide demand and the strong dollar.

The index for toys, games, and sporting goods rose 2.9 percent in the first half and 2.2 percent in the second half. The increase resulted from the traditional U.S. technological lead in the manufacture of most sporting equipment,<sup>27</sup> and a comparative advantage in software technology for video games, both of which helped U.S. firms to raise prices in a period of high demand for these products. Video game export prices rose in the first half, as new models were introduced with foreign language audio. In the second half of the year, video game prices remained unchanged. Baseball and softball equipment prices rose in 1982, as the oversupply on

world markets ended. The international popularity of golf grew in 1982, and golf equipment prices rose. Exercise equipment prices also were up in 1982.

### Coal demand off; chemicals down

The index for bituminous coal rose in the first three quarters, followed by a decrease of 1.9 percent in the last quarter, for a net increase of 1.5 percent for the year. The small annual price rise reflected a disappointing year for U.S. coal exporters. The year had opened with high expectations, as foreign customers were lined up at U.S. ports to load coal. However, with the worldwide recession and a growing number of suppliers creating a coal surplus, U.S. coal exports fell 4.5 percent in volume in 1982, as compared with 1981. Poland reentered the coal market in 1982, and South Africa and Australia used larger ships to lower unit shipment charges to make up for the longer distances to the major markets. U.S. firms have historically been the highest cost shippers of coal, depending on reliability and the capacity to deliver additional tonnages to gain orders. However, in 1982, a buyers' market existed, and U.S. firms competed more heavily on price.

The index for hydrocarbons and their derivatives fell 11.7 percent in 1982, with 6.1 percent of the drop occurring in the third quarter. A major contributor to this decline was lower prices for petroleum feedstocks, which are an important cost element for chemical products. Moreover, projections of increasing demand had led U.S. and foreign firms to build extensive new capacity in the last 10 years. Much of the new capacity came on line just as worldwide demand by the construction and auto sectors began to decline. Because chemical plants are highly capital intensive, production, even at slim profits or slight loss levels, is important in the short run to cover high fixed costs. Because chemicals of the same specifications are virtually identical regardless of source, lower prices were used to maintain volume in 1982. □

### FOOTNOTES

<sup>1</sup> In this article, the "all-import index" refers to the all-commodities import price index, excluding chemicals. This measure accounts for 96.5 percent of the value of all imports. A new all-import index which includes chemicals and covers 100 percent of the value of all imports is now available, starting with fourth quarter 1982 data.

<sup>2</sup> For details on the value of the U.S. dollar against currencies of other nations, see *Federal Reserve Bulletin* (Washington, Federal Reserve Board, January 1983), p. A68.

<sup>3</sup> Information on U.S. trade deficits is from *U.S. Department of Commerce News*, No. 83-06 (Washington, U.S. Department of Commerce, Bureau of Economic Analysis, Feb. 3, 1983), p. 5.

<sup>4</sup> Eileen Powell, "U.S. Trade Gap for Last Year Was \$8.09 Billion," *The Wall Street Journal*, Mar. 18, 1983, p. 4.

<sup>5</sup> The share of final goods production that is accounted for by gross trade (merchandise imports plus merchandise exports) is calculated as follows:

$$\frac{\text{Merchandise Imports} + \text{Merchandise Exports}}{\text{Final Goods} + \text{Merchandise Imports} + \text{Merchandise Exports}} \times 100$$

Computed using data from *Survey of Current Business* (Washington, U.S. Department of Commerce, Bureau of Economic Analysis), various issues.

<sup>6</sup> Data are from Bureau of the Census, U.S. Department of Commerce.

<sup>7</sup> For a detailed look at import-export price movements in the first half of 1982, see Mark J. Johnson, "U.S. import and export price indexes show declines during first half," *Monthly Labor Review*, January 1983, pp. 17-23.

<sup>8</sup> Import price indexes are weighted by 1980 import values and are published on an f.o.b. (free-on-board) foreign port or c.i.f. (cost, insurance, and freight) U.S. port basis. Export price indexes are weight-

ed by 1980 U.S. merchandise export trade values and are published on an f.o.b. factory or f.a.s. (free-alongside-ship) U.S. port basis. See "International Price Program" (Washington, Bureau of Labor Statistics).

<sup>9</sup> Robert J. Beck, "Demand, Imports to Rise in 1983; Production to Slip," *Oil and Gas Journal*, Jan. 31, 1983, p. 71.

<sup>10</sup> *Annual Report to Congress, Vol. II* (Washington, Energy Information Administration, 1981), p. 51, and *Monthly Energy Review* (Washington, U.S. Department of Energy, February 1983), p. 34.

<sup>11</sup> Beck, *op. cit.*, p. 76.

<sup>12</sup> *Ibid.*, p. 74.

<sup>13</sup> See "Gasoline Average Prices Per Gallon, U.S. City Averages Index," in *Consumer Prices: Energy and Food*, USDL-83-35 (Washington, Bureau of Labor Statistics, Consumer Price Index, January-December 1982).

<sup>14</sup> Beck, *op. cit.*, p. 73.

<sup>15</sup> Fixed business investment by U.S. businesses declined during 1982 from 1981 levels, and ended the year at a lower level than it had begun:

	<i>Fixed business investment</i>
1981:	
I .....	169.7
II .....	170.1
III .....	173.9
IV .....	174.2
1982:	
I .....	172.0
II .....	166.7
III .....	163.4
IV .....	160.9

(All figures are in billions of 1972 dollars, seasonally adjusted at annual rates.) See *Survey of Current Business* (Washington, U.S. Department of Commerce, February 1983).

<sup>16</sup> *Automotive News*, Jan. 10, 1983, p. 46.

<sup>17</sup> *Ibid.*, and *FSI Report* (Detroit, Mich., Motor Vehicle Manufacturers' Association, Feb. 7, 1983), p. 1.

<sup>18</sup> Gerry Khermouch, "Machine Tool Orders in December Jump 38% But Lag December, 1981," *American Metal Market/Metalworking News Edition*, Jan. 31, 1983, p. 4.

<sup>19</sup> The National Machine Tool Builders' Association calculates the percentages based on data contained in Bureau of the Census, "Current Industrial Report for Metalworking Machinery," MQ-35W; and IM146; EM522. This is the most conservative way of calculating the figure because imports are valued at the foreign port; these figures do not include shipping costs, duties, or commissions.

<sup>20</sup> Cynthia Jabs, "Japanese gain growing slice of market," *American Metal Market/Metalworking News Edition*, June 15, 1981, p. 14-15A, and *National Machine Tool Builders' Association: U.S. Foreign Trade in Machine Tools—Statistical Reports* (McLean, Va., Machine Tool Builders' Association), various issues, 1977-82.

<sup>21</sup> "The vise tightens on toolmakers," *Business Week*, Dec. 6, 1982, pp. 63-64; and "Machine Tools and Accessories," *U.S. Industrial Outlook 1983*, p. 20-1 to 20-8.

<sup>22</sup> "Steel: The Prospect of Major Bankruptcies," *Business Week*, Jan. 17, 1983, p. 64.

<sup>23</sup> "Steel Recovery Appears to Have Started But May Trail Earlier, Weak Forecasts," *The Wall Street Journal*, Feb. 10, 1983, p. 16.

<sup>24</sup> "The Crisis That Endangers Phelps Dodge," *Business Week*, July 26, 1982, p. 59.

<sup>25</sup> *Foreign Agriculture Circular—Grains* (Washington, U.S. Department of Agriculture, Jan. 17, 1983), p. 2.

<sup>26</sup> *World Agricultural Supply and Demand Estimates* (Washington, U.S. Department of Agriculture, Feb. 14, 1983), pp. 3-4.

<sup>27</sup> *Summary of Trade and Tariff Information—Sporting Goods* (Washington, International Trade Commission, June 1981), pp. 23, 31.