U.S. import and export prices in 2003

Prices for imports and exports rose during 2003, with price increases for petroleum and petroleum products leading import prices; the overall export price index posted its largest gain since 1995

In 2003, overall U.S. import and export prices increased for the second consecutive year.\(^1\) Prices for imports rose 2.4 percent, following a 4.2-percent rise in 2002, while export prices gained 2.2 percent, up from a 1.0-percent rise in 2002. During 2001–03, U.S. economic indicators for prices suggested a marked slowdown in inflationary pressures, and in May of 2003, the Federal Reserve Board expressed concern over the possibility of an "unwelcome substantial fall" in inflation.\(^2\) Nevertheless, prices for agricultural and petroleum products—traditionally volatile price components—strengthened along with prices for other raw materials during 2003 to bring about overall gains for the year. However, the increases in prices for these two commodity areas, along with the depreciation of the U.S. dollar against many major foreign currencies, did not appear to have a significant impact on prices for imported finished goods.

Prices for imported petroleum and petroleum products led to the overall growth in import prices, but the 12.8-percent increase in the petroleum index was up far less than the sharp increase of 56.9 percent in 2002. The increase in the index for all imports excluding petroleum accelerated in 2003, rising 1.2 percent, compared with a modest 0.3-percent advance the previous year, as nearly all major categories of imports recorded price increases in 2003. The U.S. dollar’s depreciation against many major currencies appeared to have a small impact on the 2003 increases in prices for imported finished goods.

Agricultural and nonagricultural export prices both increased in 2003 by larger amounts than in 2002, triggering the largest gain in the overall export price index since 1995. Over the past year, agricultural export prices jumped 13.4 percent, while nonagricultural commodities prices, led primarily by increases in prices for raw materials, were up 1.3 percent. Both components marked their largest December-to-December increase in the index since 1995. Automotive and consumer goods prices also increased in 2003, while the index for the capital-goods component posted its eighth consecutive annual decline. (See table 1.)

Other price measures

The Bureau of Labor Statistics produces various price indexes that measure different aspects of inflation in product markets: import and export price indexes, which measure the change in the prices of imports and exports of nonmilitary goods exchanged between the United States and the rest of the world; the Consumer Price Index, which measures inflation as experienced by consumers in their day-to-day living; and the Producer Price Indexes, which are a family of indexes that measure changes in the selling prices received by domestic producers of goods and services at various stages of processing. The Consumer Price Index for All Urban Consumers (CPI-U) rose 1.9 percent in 2003, a slowdown from its 2.4-percent advance in 2002. The core CPI-U, which excludes energy and food prices, increased 1.1 percent in 2003, less than the 1.9-percent rise in 2002 and the 2.7-percent increase in 2001. Smaller increases in prices for shelter costs, motor vehicle insurance, and medical

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care, coupled with declines in prices for cigarettes and used cars, contributed to the increase in 2003.

The Producer Price Index (PPI) for finished goods increased 4.0 percent in 2003, following a 1.2-percent rise in 2002. Excluding food and energy prices, the PPI for finished goods was up 1.0 percent, and the PPI for intermediate materials was up 2.1 percent, in 2003. Prices for crude nonfood materials less energy increased 20.8 percent over the year. (See chart 1.)

**Import price trends**

**Energy.** Following a 56.9-percent spike in 2002, the index for petroleum and related products rose 12.8 percent in 2003, driven largely by a 12.0-percent increase in crude-oil prices. Tight world crude-oil supplies and geopolitical uncertainties in 2002 carried into 2003. In January, crude-oil prices rose sharply due to a shortage of imports from Venezuela, which faced a

### Table 1.

<table>
<thead>
<tr>
<th>End use</th>
<th>Description</th>
<th>Relative importance, November 2003</th>
<th>Percent change for 12 months ended in December—</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Foods, feeds, and beverages</td>
<td>4.144</td>
<td>14.7</td>
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<td>Industrial supplies and materials</td>
<td>26.501</td>
<td>12.9</td>
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<td>2</td>
<td>Capital goods</td>
<td>28.371</td>
<td>1.0</td>
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<tr>
<td>3</td>
<td>Automotive vehicles, parts, and engines</td>
<td>17.170</td>
<td>3.0</td>
</tr>
<tr>
<td>4</td>
<td>Consumer goods, excluding automobiles</td>
<td>23.794</td>
<td>1.1</td>
</tr>
<tr>
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<td>Petroleum and petroleum products</td>
<td>10.831</td>
<td>20.3</td>
</tr>
<tr>
<td>2</td>
<td>Capital goods</td>
<td>28.371</td>
<td>1.0</td>
</tr>
<tr>
<td>3</td>
<td>Automotive vehicles, parts, and engines</td>
<td>17.170</td>
<td>3.0</td>
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<td>4</td>
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<td>23.794</td>
<td>1.1</td>
</tr>
</tbody>
</table>

1 Bureau of Economic Analysis category.
2 Relative importance figures are based on 2000 trade values.

**Note:** Dash indicates data not available.
work stoppage at its State-owned oil company Petróleos de Venezuela from late 2002 into the early part of 2003. Venezuela ranks as the world’s fifth-largest oil supplier and fourth as a supplier of crude oil to the United States. As a result of the work stoppage, U.S. refineries conserved existing crude inventories by reducing inputs into refinery production, thereby drawing down the inventories, which remained extremely low through February. Furthermore, strong seasonal demand, combined with Middle East supply disruptions and cuts in production levels from the Organization of Petroleum Exporting Countries (OPEC), pushed petroleum and related products prices higher in 2003. At the same time, natural-gas prices spiked 93.0 percent in the first 3 months of the year. Tight oil markets and bitterly cold temperatures early in the year sent demand for natural gas soaring, and by April, storage was more than 45 percent below the 5-year average.

By March, Venezuelan oil imports resumed, causing crude-oil prices to drop slightly. Then, in April, the U.S. advance in Iraq and an abundance of crude imports—a record average of 10.6 million barrels per day—led crude-oil prices to plummet 15.5 percent. Inventories in the United States subsequently increased by more than 12 million barrels, but remained at least 40 million barrels below 5-year averages. Similarly, prices for petroleum products and natural gas dropped due to a slackening oil market and moderating temperatures. By summer, however, seasonal travel demand pushed up gasoline prices, while demand for cooling increased natural-gas prices. Meanwhile, a 7-percent production cut announced by OPEC, coupled with a temporary decline in crude exports out of Iraq, kept crude-oil markets tight. Gasoline prices pushed higher in the summer due to a pipeline rupture in Arizona and a shutdown of three Midwest refineries as a result of the August power blackout. By fall, declines in demand allowed both natural-gas and crude-oil inventories to build back up somewhat; however, an announcement by OPEC that it would cut exports by a further 900,000 barrels of crude oil per day effective November 1 affected energy spot markets, and crude prices of imports rose 8.7 percent over the last quarter of 2003. Thus, despite the sharp increase during the first quarter, natural-gas prices fell 38.4 percent throughout the remainder of 2003, to finish up 18.8 percent overall over the year.

Nonfuel industrial supplies and materials. This component—which excludes petroleum, natural gas, coal, and nuclear and electrical energy—made up nearly 14 percent of the U.S. import price index for all commodities. The price index for nonfuel industrial supplies and materials finished up 6.3 percent for the year, compared with a 3.6-percent increase the previous year. Prices for every subcomponent of nonfuel industrial supplies and materials advanced in 2003, with chemicals and unfinished metals prices having the largest impact. In the chemicals area,
which was up 4.5 percent for the year, fertilizers, insecticides, and pesticides prices, along with plastics prices, were the major contributors. Higher energy prices increased feedstock costs, which in turn pushed chemicals prices up. Unfinished metals also increased for the second consecutive year, by 8.4 percent, following an 11.4-percent rise in 2002. Gold and silver prices increased over the year due to speculative fund buying, as investors saw these metals as a safe alternative to other financial assets. Furthermore, favorable economic news, such as improvements in GDP growth and a declining unemployment rate, in the latter part of the year helped push up spot prices for platinum and other base metals, such as copper, nickel, and aluminum, reflecting hopes for a pickup in future demand for these production inputs. In addition, an expansion in manufacturing in Asia, particularly in China, helped boost demand for metal inputs, thereby creating upward pressure on world prices.

Higher base-metal prices affected prices for finished metals, which rose 4.3 percent in 2003 after declining 1.1 percent in 2002. Prices for steelmaking and ferroalloying materials, along with prices for iron and steel products, increased over the year, up 19.4 percent and 6.2 percent, respectively. Although inclement weather early in the year, political nervousness over Iraq and Venezuela, and high energy prices affected the supply side of the world steel market, international demand for scrap was heavy, particularly in Asia. Domestically, a weak dollar and tariffs on imported steel caused the quantity of imported steel products to decline by more than 40 percent in 2003.

Prices for building materials (such as lumber and panels) also increased higher in 2003, up 13.7 percent for the year, following a modest 2.3-percent increase in 2002. Although demand was off in the first quarter of the year due to the slow winter season combined with market concerns over affairs in the Middle East, purchasing picked up in late spring because of low mortgage rates and strong housing starts, the latter up 15 percent for the year. In August, plywood prices surged due to a large U.S. Government purchase for rebuilding Iraq and an increase in demand with Hurricane Isabel’s arrival.

The price indexes for paper and paper base stocks, for textile supplies and related materials, and for agricultural industrial supplies and materials all increased in 2003. Woodpulp prices rose a sharp 16.6 percent, the result of a first-quarter turnaround in prices due to weather-related industry shortages and energy costs. Textile supplies prices increased 4.0 percent for the year, reflecting higher cotton and energy prices and a weakened U.S. dollar. Finally, prices for agricultural industrial supplies and materials increased 4.6 percent in 2003, led by a surge in rubber prices. World prices for natural rubber increased primarily in the last 4 months of 2003, due to strong demand from tiremakers, increased market demand from China, and heavy rains in Southeast Asia that constricted supplies.

Capital goods. Capital goods represent approximately 28 percent of U.S. imports and include many products, such as electrical generating equipment; computers, peripherals, and semiconductors; and transportation equipment, excluding motor vehicles. The capital-goods category was the only major import category to decline in 2003, falling 1.1 percent. This index has declined every year since 1995 and has trended with the steady decline in prices for computers, peripherals, and semiconductors—55.8 percent over the last decade. Since the end of the technology boom of the 1990s, computer and semiconductor sales have slumped along with sales of telecommunications equipment. Concomitantly, with rapid innovation keeping manufacturing costs low and the industry undergoing consolidation, prices have continued to decline steadily. Semiconductor sales showed a promise of rebounding in 2003, fueled by strong worldwide demand (particularly from Asia).

Prices for capital goods, excluding computers, peripherals, and semiconductors, increased 1.2 percent in 2003, reversing the trend over the previous decade. The price index for electrical generating equipment increased 2.0 percent over the year. This index, along with prices for nonelectrical machinery, excluding computers, peripherals, and semiconductors, which rose 0.9 percent over the year, was influenced by exchange-rate effects and higher costs for raw materials. Similarly, prices for transportation equipment, excluding motor vehicles, increased 1.8 percent in 2003, the result of higher input costs, higher fuel prices, and the depreciation of the dollar.

Consumer goods. Consumer goods account for approximately 24 percent of U.S. imports. In 2003, consumer goods prices rose a modest 0.1 percent, the first annual increase since a 1.8-percent rise in 1995. Price movements within the consumer-goods category were mixed; price increases for manufactured nondurables and for nonmanufactured consumer goods offset a decline in prices for manufactured durables. Manufactured nondurables prices were affected, in general, by raw materials costs, along with exchange rates, while the decline in prices for manufactured durables was the result of declines in home entertainment equipment prices.

Automotive vehicles, parts, and engines. This component makes up about 17 percent of U.S. imports, and prices were up 0.9 percent in 2003, following a 0.5-percent increase in 2002 and a 0.2-percent decline in 2001. All subcategories of automotives, parts, and engines had price increases in 2003. Historically, most increases occur in the fall of each year with the introduction of new models.
As with most other categories of manufactured goods, raw material costs and the U.S. dollar’s depreciation against many major currencies put upward pressure on prices for automotive parts and engines. However, import prices for automobiles did not increase as much as would be expected on the basis of the U.S. dollar’s depreciation, indicating that foreign manufacturers absorbed some of the exchange-rate effects to maintain market share, particularly in the lower priced models. Prices for imported parts increased 0.7 percent in 2003, but were still 0.7 percent below 2000 levels. With sales slow and competition, in general, intense, auto manufacturers continue to pressure their suppliers to keep parts prices low.

Foods, feeds, and beverages. The price index for foods, feeds, and beverages increased 3.0 percent in 2003, following a 5.9-percent increase in 2002. Prices for agricultural foods, feeds, and beverages increased 4.6 percent, while prices for non-agricultural foods posted a decline of 1.7 percent. Beef prices pressed higher due to a smaller U.S. herd and a shortage of livestock because of an embargo on Canadian cattle imports. Vegetables prices also increased in 2003, by 3.4 percent, countering declines in coffee and fruit prices. The decline in prices for nonagricultural foods was the result of shrimp continuing to be in oversupply, while lobster prices fell after winter 2002–03 highs.

Locality of Origin price indexes. Another avenue for analyzing import price movements—particularly when assessing the impact of exchange rate fluctuations—is to consider import prices by country or region of origin. The Bureau produces such price indexes according to seven major regional categories: Industrialized Countries, Other Countries, Canada, the European Union, Latin America, Japan, and the Asian Newly Industrialized Countries (NIC’s). Within the first five of these localities, the price indexes are further disaggregated by manufactured and nonmanufactured goods.

Import prices for the European Union increased 3.4 percent in 2003, following a 3.6-percent increase in 2002. The U.S. dollar depreciated significantly against major foreign currencies in 2003: over the year, the dollar fell against the Euro by 17 percent.10 After rising 6.4 percent in 2002, the price index for Canadian imports increased 5.2 percent in 2003, a year in which the U.S. dollar fell against the Canadian dollar by 16 percent. Also in 2003, prices for imports from Japan edged up 0.1 percent, following a decline of 2.5 percent in 2002. The U.S. dollar declined against the Japanese yen by 12 percent in 2003. In general, currency effects have not been fully passed on to import prices, for a variety of reasons, including worldwide excess capacity preventing prices from rising; foreign exporters holding their prices steady to maintain market shares; and an increasingly integrated and competitive global economy weakening companies’ power to pass on higher costs to customers.11

In contrast, the Asian NIC’s price index fell 0.4 percent in 2003 after declining by 2.7 percent in 2002 and 5.5 percent in 2001. Prices for finished goods—particularly capital goods—were the primary contributors to the downward trend in this index. Furthermore, the Asian NIC’s price index is unaffected by currency fluctuations, because the respective currencies are either pegged to the U.S. dollar or managed within a specified range.

Energy prices also affected the Locality of Origin price indexes, including the index for Latin American imports, which rose 3.7 percent in 2003. Prices for nonmanufactured imports from Latin America rose 10.6 percent over the year. Oil and gas imports from Canada and the European Union totaled nearly $30 billion in year-2000 weights, and the respective 8.7-percent and 14.1-percent increases in those commodities’ (non-manufactured imports) prices reflect higher energy prices.

Services. The Bureau publishes a set of services price indexes, primarily transportation related. The U.S. import price index for air passenger fares, which measures fares paid to foreign carriers by U.S. residents for international travel, declined 0.2 percent in 2003 after rising 1.4 percent in 2002. The price index for import air freight, which measures changes in rates paid for the transportation of freight from foreign countries to the United States on foreign air carriers, increased 7.5 percent in 2003. Unlike the index’s 11.8-percent gain in 2002—the result of the West Coast port shutdowns—the 2003 increase parallels the U.S. dollar’s depreciation and demand-driven increases in shipment volumes.

Inbound ocean liner rates picked up in 2003, increasing 26.3 percent over the year. The majority of the increase occurred worldwide, concomitantly with contract renegotiations in the second quarter. The renegotiations came about out of attempts to compensate for unanticipated industry growth and high demand that began in 2002, particularly from China, the United States, and Europe.12 Inbound crude-oil tanker freight rates also increased in 2003, by 16.8 percent. Prices surged in the first quarter due to diminished tanker availability. Thereafter, a reversal in tanker freight rates was followed in late fall by a resumption of rate increases, driven by seasonal stockpiling and weather-related transit problems.

Export price trends

Agricultural goods. Prices for foods, feeds, and beverages rose 12.6 percent in 2003, following an 8.0-percent increase in 2002. Substantial increases in soybean and meat prices contributed to the rise in the overall foods, feeds, and beverages index. Soybean harvest shortages due to hot, dry weather in South America and Europe led to diminished world supplies, and significant demand from China and Europe pushed soybean prices higher. Meat supplies, particularly beef, have been tight due to the ban on imports of live cattle from Canada. Moreover,
concerns about avian flu in Asia led to a widespread slaughter of chickens on that continent.

Agricultural industrial supplies and materials increased 15.3 percent in 2003, following a 9.2-percent rise in 2002. Prices for cotton and tallow were the primary contributors to the 2003 increase. Also, China’s demand for cotton imports has grown by nearly 600 percent in the last year.\(^1\) Meanwhile, world stocks of cotton were low in 2003, and the combined result of this, together with China’s rising demand, was an increase in cotton prices. Prices for tallow, which is an animal fat and a substitute for soybean and other oils, followed increases in soybean oil prices. Relatively low slaughter counts resulting from the Canadian cattle embargo added to the upward pressure on tallow prices.\(^1\)

**Nonagricultural industrial supplies and materials.** The category of nonagricultural industrial supplies and materials accounts for about 22 percent of U.S. exports and includes goods such as energy, metals, paper, chemicals, industrial textiles, rubber, and building materials. The price index for this category rose 6.3 percent in 2003, up from a 4.8-percent increase in 2002. Prices for chemicals and metals were the major contributors to the annual increase; prices for fuels and building supplies increased in 2003 for reasons similar to their import counterparts.

Export prices for steel, woodpulp, and synthetic rubber increased substantially in 2003. Rising energy prices and heavy demand from Asia—China in particular—caused ferrous scrap prices to soar. The export woodpulp industry similarly benefited from Chinese demand, offsetting the economic downturn of the domestic pulp and paper sector since the most recent U.S. recession. In addition, prices for synthetic rubber, a substitute for natural rubber, followed the upward movement of world prices for that commodity.

**Capital goods.** On the export side, capital goods represent approximately 46 percent of the volume of U.S. trade. As with the import side, prices for capital goods for export declined in 2003. The 0.6-percent drop followed declines of 0.8 percent and 1.3 percent in 2001 and 2002, respectively. Prices for computers, peripherals, and semiconductors, down 4.3 percent over the past year and 47.7 percent over the past decade, are the primary mover of capital-goods prices. Import and export prices for computers and semiconductors have behaved similarly, the result of a competitive industry and declining manufacturing costs. Also contributing to the annual decline in capital-goods prices were telecommunications equipment prices, which fell 4.3 percent in 2003 and 3.0 percent in 2002.

After finding themselves overinvested in infrastructure at the end of the technology boom of the 1990s, telecommunications firms have been forced to restructure debt and cut costs in the face of strong competition. Consumer demand, however, remains strong as well.\(^1\) The other components of capital goods—nonelectrical machinery (excluding computers, peripherals, and semiconductors) and transportation equipment (excluding motor vehicles)—posted annual increases of 0.4 percent and 3.1 percent, respectively. As with their import counterparts, higher input costs and foreign currency effects contributed to the increases.\(^1\)

**Consumer goods.** After falling 0.6 percent in 2002, prices for consumer goods rose 0.6 percent in 2003, as each subcategory of the consumer goods price index increased. Increases in the price indexes for household goods, for medicinal, dental, and pharmaceutical preparatory materials, and for recreational equipment more than offset modest price declines for apparel and footwear and for home entertainment equipment.

**Automotive vehicles, parts, and engines.** The price index for exported automotive vehicles, parts, and engines increased 0.5 percent in 2003. Domestic automakers faced higher costs for raw materials such as steel and rubber. Canada and Mexico are the largest markets for U.S. cars, trucks, and parts. Although up slightly in 2003, auto exports to Canada remain somewhat below 2000 levels. The volume of auto exports to Mexico dropped by more than 10 percent in 2003 and was nearly 18 percent below 2000 levels.\(^1\)

**Services.** The price index for export air passenger fares, a measure of changes in foreign travel fares paid to foreign carriers by U.S. residents, recorded an increase of 14.7 percent in 2003. During the first half of the year, the airline industry faced increases in jet fuel costs and a downturn in demand due to Middle East tensions and the outbreak of severe acute respiratory syndrome (SARS). In general, seasonal price changes tend to dominate the industry. The price index for export air freight, a measure of changes in rates paid for the transportation of freight from the United States to foreign countries on U.S. carriers, increased 0.2 percent last year, as adjustments to fuel surcharges led to increased prices in the early part of the year, followed by small declines thereafter.

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**Notes**

1. Annual percent changes are calculated from December to December, unless otherwise specified. Data are not seasonally adjusted.


3. The 2003 import and export price indexes are based on trade dollar values for the year 2000. Beginning with the January 2004 import and export price indexes, the Bureau has been updating its weights on an annual basis, with, however, a 2-year lag.

5 Fact Sheet (U.S. International Trade Administration, Jan. 27, 2004).

6 New Residential Construction (U.S. Census Bureau, December 2003).


8 See “Surging rubber prices put exporters in risky situation” (Thailand Department of Export Promotion, Nov. 10, 2003); on the Internet at http://www.thaitrade.com/exportnewssurging.shtml.


10 FRED (Federal Reserve Economic Data) II, database maintained by the Federal Reserve Bank of St. Louis.


16 Although most transaction prices collected by the Bureau are in U.S. dollars, some prices are reported in a foreign currency, and those prices must be converted into U.S. dollars for use in price index calculations. Currency fluctuations directly affect export prices when foreign-currency-based transactions prices are converted into U.S. dollars. Economic theory suggests that currency fluctuations should indirectly affect both import and export prices over time, depending on several factors, such as the magnitude and duration of the fluctuation, the nature of the industry for which the particular good is being priced, and the general state of the global economy.

17 Product trade data were obtained from the Foreign Trade Statistics Division of the U.S. Census Bureau.