

# IPP 2008 year in review

*On the whole, import and export prices rose sharply during the first 7 months of 2008 and then plunged during the last 5 months of the year; energy goods, most notably petroleum, led the price increases and decreases*

Edwin Bennion

**I**mport and export price movements through the first 7 months of 2008 contrasted sharply with those seen in the last 5 months of the year. During the first 7 months of the year, import prices and export prices reached their highest levels since first being published in 1982 and 1983, respectively. Import prices climbed 15.9 percent over the period, while export prices rose 7.3 percent.<sup>1</sup> The respective increases in import and export prices over the first 7 months of 2008 were larger than any annual price increase dating back to the inception of both the import and export price indexes. The largest annual increase for imports, a 10.6-percent rise, occurred in 2007, and the largest increase for exports, a 6.0-percent rise, also took place in 2007. Large price gains for fuel and precious metals, as well as a decline in value of the U.S. dollar, contributed towards the increases in both import and export prices. Large increases in the prices for agricultural commodities also contributed to the overall advance in export prices.

Prices for both imports and exports peaked in July 2008 and then, in August, began a precipitous drop that continued through the end of the year. During the final 5 months of the year, the drop in both import and export prices left each index down overall for 2008. Between August and December, import prices de-

clined 22.4 percent and export prices fell 9.5 percent. For 2008 as a whole, import and export prices were down for the first time since 2001, with the import index and the export index each exhibiting its largest decline since it was first published. Price decreases for fuel and precious metals, a turnaround in the value of the U.S. dollar, and drops in agricultural export prices were the major contributors to the overall price declines in the final 5 months of the year.

## Other price measures

In addition to the Import Price Index and the Export Price Index, the Bureau of Labor Statistics publishes other indexes that track monthly price changes. Two of these are the Consumer Price Index for all Urban Consumers (CPI-U), which measures the prices of goods and services purchased by urban households; and the Producer Price Index (PPI), which measures the prices that domestic producers receive for their output.

Although the magnitudes of the changes differed, both the CPI-U and the PPI experienced changes similar to those of the Import and Export Indexes. Increases throughout the first 7 months of the year, due to surges in prices for fuel and precious metals, were followed by decreases in the prices of the same commodities; the result was overall declines in the indexes for the year. Many of the market forces that were affecting import and export

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prices in 2008, especially volatile energy prices, also affected the CPI-U and PPI. The similarity in movement among the four indexes is evident in chart 1.

During the first 7 months of the year, the CPI-U increased 4.7 percent. Contributing towards the overall increase in the CPI-U were rapidly increasing prices for energy. During the first 7 months of the year, the energy price component of the index rose 29.1 percent, led by gasoline prices, which climbed 35.3 percent. This was a continuation of trends that took place in 2007, when the CPI-U increased 4.1 percent, driven by a 17.4 percent increase in energy prices.

With the onset of August the CPI-U began to decline. Over the course of the final 5 months of the year, the CPI-U fell 4.4 percent, ending the year up 0.09 percent. After leading the index on its way up over the first 7 months of the year, the energy component was responsible for the fall of the index over the remaining 5 months of the year, decreasing 39.1 percent over that period and 21.3 percent for the year.

The movement of the Producer Price Index was similar to the movements of the other three indexes throughout 2008. From January 2008 through July 2008, the PPI increased 15.1 percent, largely because of higher fuel prices. Prices for fuels and related prod-

ucts rose 39.5 percent. The summer brought about a change in the movement of the index. From August to the end of the year, the PPI declined 16.8 percent overall while prices for fuel and related products fell 45.8 percent. For the year, the PPI decreased 4.3 percent, the first annual decline since 2001.

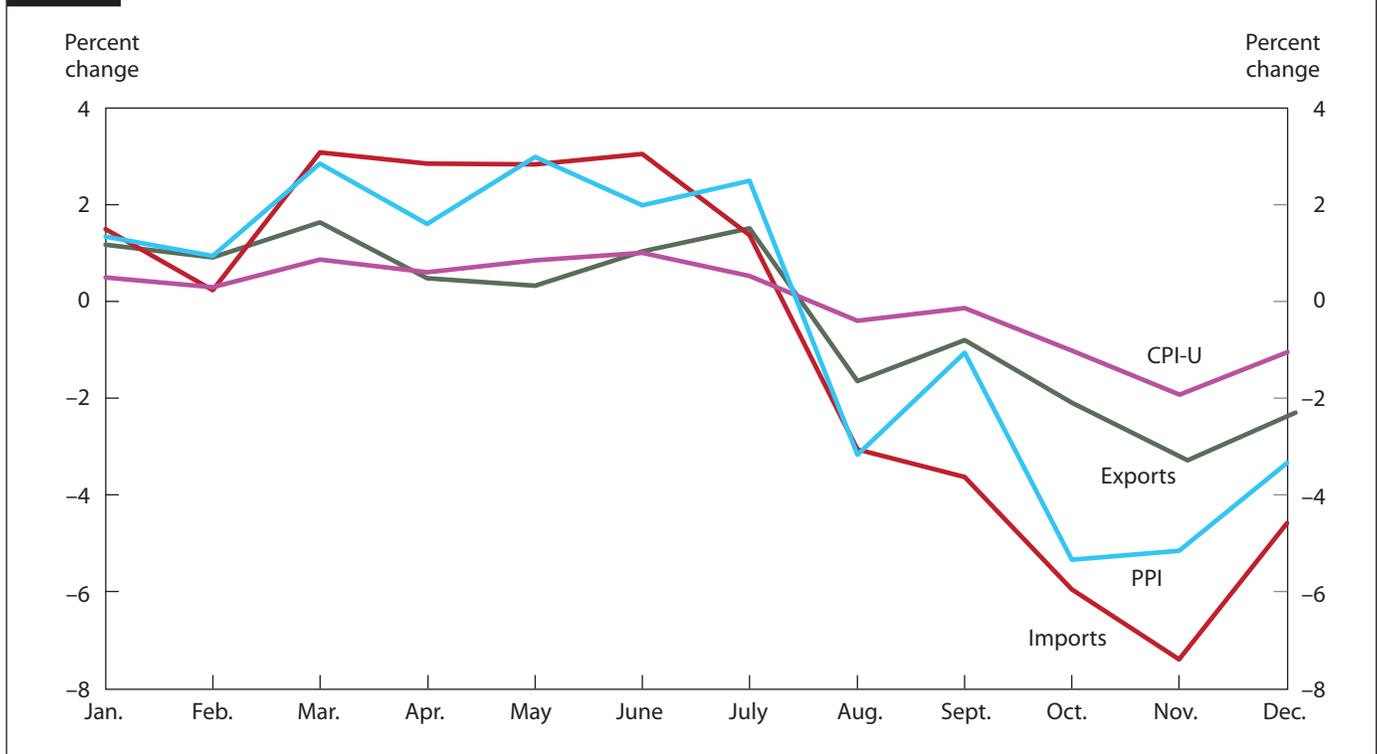
### Import price trends through July

During the first 7 months of 2008, import prices increased 15.9 percent, a larger increase than had occurred throughout 2007. The rapid rise in energy prices from March through July of 2008 was a major contributor to the overall increase in import prices, and price gains for precious metals also contributed to the rise in import prices.

*Energy.* Energy prices were the primary contributor in driving import price measures to record-high levels through the first 7 months of 2008. Prices for petroleum, petroleum products, and natural gas climbed steadily through the first 7 months of the year. Petroleum prices climbed 51.6 percent, continuing the upward trend of 2007 when the index rose 48.1 percent. The price of light, sweet crude oil surged to a record high on July 3, peaking at \$145.31 per barrel.<sup>2</sup>

Trade in the futures markets appears to have played a major role in the increase of oil and other commodity prices

**Chart 1. Monthly changes in the CPI-U, PPI, and import and export indexes, 2008**



through the first 7 months of 2008. In December of 2007 the Federal Reserve of the United States cut the Federal funds rate to a target range of zero to one-quarter of a percent, a level not seen since World War II. A number of other factors also helped spur global investment in the commodities markets; three of these factors were a weak U.S. dollar, concerns of impending inflation, and depressed real estate values. In the first quarter of 2008, global investments in commodities rose to more than \$400 billion.<sup>3</sup> An estimated \$70 billion in additional investment funds flowed into the global commodities market, much of it on a speculative basis from such sources as pension funds, commercial banks, and other large investors. The large volume of futures contracts being traded in 2008 bore witness to the increase in the amount of money being invested in a wide range of commodities, but especially in oil. Noncommercial traders, as defined by the U.S. Commodity Futures Trading Commission, accounted for approximately 20 percent of all long open-interest futures positions for crude oil on the New York Mercantile Exchange in February of 2007. Over a year later, in May of 2008, the number had risen to almost 37 percent of long open-interest futures positions. The New York Mercantile Exchange reported a 71.5-percent increase in the year-to-date volume of energy futures contracts during the same period. The number of energy futures contracts in 2008 was almost 339 million, up from a total of 190 million in 2007.<sup>4</sup> Such an influx in trading activity was also evident on the electronic exchanges. Intercontinental Exchange, a major electronic exchange for global commodity trading, also experienced large increases in trading volumes for petroleum futures. From May 2007 to May 2008, the volume of futures contracts for Brent Crude, a type of crude oil used as a benchmark in global oil pricing, swelled to 6.7 million futures contracts, a 23.5-percent increase from about 5.4 million.<sup>5</sup>

There were a number of factors that contributed to the increase in oil prices during the first several months of 2008. Falling crude inventories in the United States was one such factor. In March, the Energy Information Administration announced that crude inventories in the United States fell by 3.1 million barrels in the month of February to 305.4 million barrels, a level substantially lower than what many investors had expected.<sup>6</sup> This drop exacerbated fears that an already tight balance between supply and demand would grow more precarious.

Continued robust demand on the part of China, the world's second-largest oil-consuming market, also gave strength to prices throughout the first 7 months of 2008. Chinese demand for crude oil in March 2008 had in-

creased by 25 percent from a year earlier, as reported by the Customs General Administration of China.<sup>7</sup> Some of this increase in demand was attributed to agricultural needs as the planting season began. The approach of the Olympic Games, held in Beijing, also contributed to increased demand on the part of China. China stockpiled large reserves of fuel to ensure a steady and uninterrupted supply of petroleum to provide for transportation and energy needs during the games.

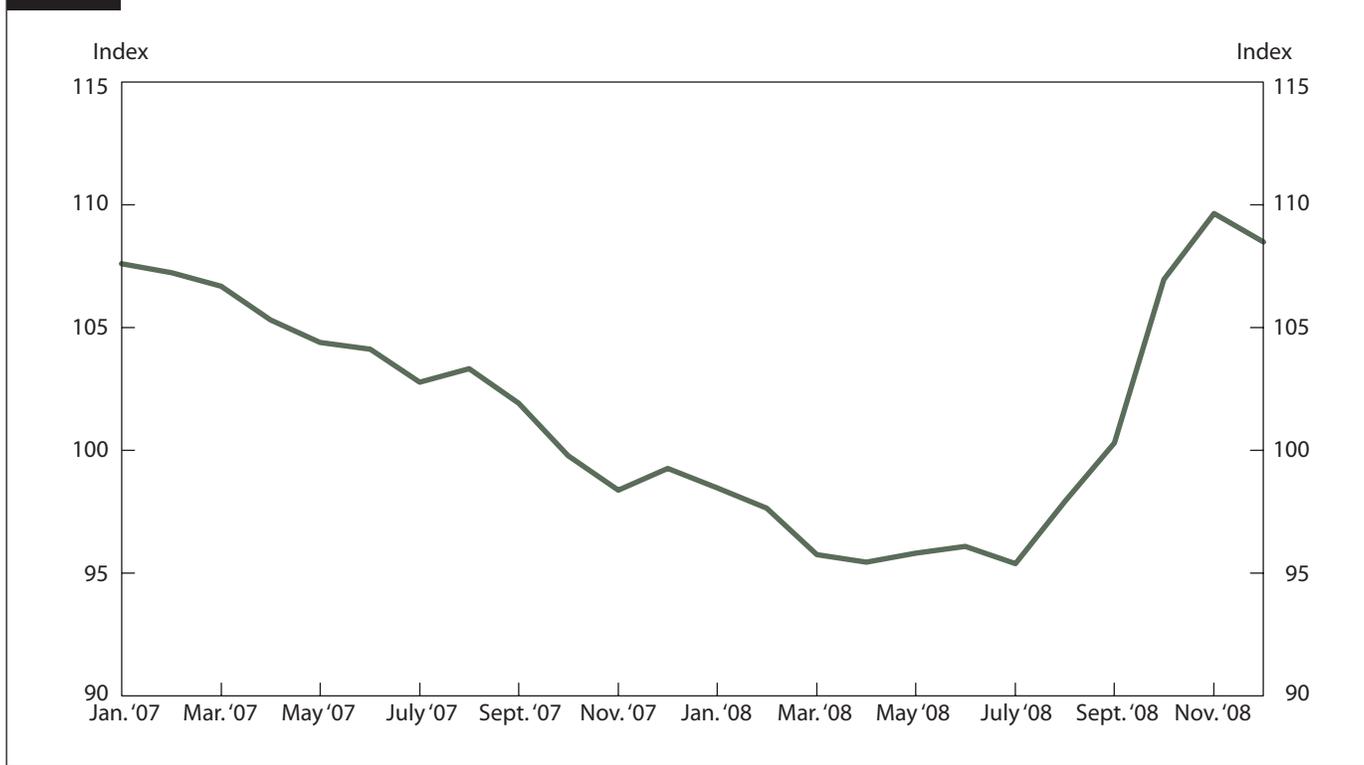
A number of geopolitical incidents affected the price of oil in the first half of 2008. In March, the United Nations Security Council issued sanctions against Iran in response to its nuclear program. Increased tensions between Iran and the United Nations raised fears that Iran might retaliate by disrupting the flow of oil coming from the Persian Gulf nations, especially those which ship petroleum through the Strait of Hormuz. The 16.5 million to 17 million barrels of petroleum that pass through the Strait of Hormuz on a daily basis make the Strait the world's most important transit route for oil, and any disruption of this route would have had a significant impact on the flow of oil to the global market.<sup>8</sup>

Supply disruptions caused by militant attacks in the Niger River delta and on offshore production facilities in Nigeria helped drive prices of oil higher throughout the spring of 2008. Though not a major threat to world supply, the attacks in Nigeria, the world's 14th-largest producer of oil in 2008, rattled the market.<sup>9</sup> Geopolitical incidents such as the Nigerian attacks and the increased tension between Iran and the United Nations drove prices for petroleum higher as the markets reacted in a fearful manner to the news rather than reacting in a way more consistent with the actual impact that the aforementioned events were having on the supply of petroleum to the international market at the time.

Another factor that contributed to higher fuel prices in the spring and early summer of 2008 was the weak U.S. dollar, which had declined 3.9 percent during the period as measured by the Federal Reserve's Nominal Broad Dollar Index.<sup>10</sup> (See chart 2.) The dollar reached its lowest value in July of 2008, the same month that petroleum set its record-high price. Because oil is priced in U.S. dollars, the declining value of the U.S. dollar mitigated the rise in oil prices in many other currencies.<sup>11</sup>

Prices for natural gas followed the same trend as those for petroleum. During the first 7 months of 2008, prices for natural gas climbed 59.3 percent, reaching a level not seen since the closing months of 2005. The large price increase of 2008 does not appear to have been caused by the same market forces that typically shift the price

**Chart 2. Nominal Broad Index of the U.S. dollar, January 2007–December 2008**



of natural gas, because the rise in price was at odds with usual price trends for imported natural gas. Under normal seasonal patterns prices climb in the winter months, fall in the summer, and rebound as winter approaches towards the end of the year. According to the Energy Information Administration, consumption in the United States was little changed from 2007, increasing only 0.1 percent, and temperatures through the first 7 months of the year were fairly mild.<sup>12</sup> A substantial force behind the large increase in natural gas prices was the large amount of investment in energy commodities that took place in 2008. As appeared to be the case with petroleum, the volume of natural gas futures contracts rose significantly from 2007 to 2008. On the New York Mercantile Exchange, the volume of futures contracts for natural gas increased by 20.0 percent, from 29,786,318 in 2007 to 38,730,519 in 2008.<sup>13</sup>

*Raw materials.* The index for imports of raw materials and industrial supplies excluding petroleum, natural gas, coal, and other energy commodities increased steadily over the first 7 months of 2008. From January through the end of July, prices for raw materials and industrial supplies increased 16.9 percent. This increase continued the trend from the previous year, during which prices had increased 7.4 percent. The major contributors to the overall increase

were metals, both precious and nonprecious, and chemicals.

Nonmonetary gold prices increased 10.2 percent through the first 7 months of the year, continuing a steady rise in price dating back to 2001. Gold became a very attractive investment when the U.S. Federal Reserve cut interest rates to record-low levels. Gold has traditionally been viewed as a reliable store of wealth and a hedge against inflation. As concerns regarding the state of the U.S. economy and the relative strength of the U.S. dollar mounted, investors turned to gold as a perceived safe investment.<sup>14</sup>

Other precious metals excluding gold also experienced large price increases during the first 7 months of the year. Prices for these metals, which include silver, platinum, palladium, and rhodium, rose 29.1 percent during the first 7 months of the year, with platinum prices increasing to record levels. Supply shortages in South Africa, the world's largest producer of the platinum group of metals, were a major contributor to the increase in platinum prices. Unlike gold, platinum is much more of a commercial commodity than an investment. Of the 239,000 kg of platinum sold in 2006, 130,000 kg were used in the production of automobile emissions control devices and a large percentage of the remaining platinum sold went to-

wards other industrial applications.<sup>15</sup> Prices for platinum are therefore driven largely by supply and industrial demand. Production in South African mines fell by over 10 percent as Eskom, South Africa's national power generator, was unable to meet the demand for electricity. Many mines were forced to operate with only 80 to 90 percent of their power supply, and as a result production suffered.<sup>16</sup> Owing to South Africa's position as the world's largest producer of platinum, the decrease in production on the part of South Africa's mines drove platinum prices higher.

Steel, iron, and other nonferrous metals such as copper experienced significant price increases through the first 7 months of 2008 as well. Prices for iron and steel climbed 41.1 percent during the period after having risen 8.1 percent in 2007. The world's leading iron ore producer, Brazil's Vale, set the prices for iron ore significantly higher at the beginning of February.<sup>17</sup> One of the causes of the price increases of 65 percent to 71 percent was continued high demand on the part of China's robust steel industry. While North American and European demand for steel was tepid at best, demand was still robust in many developing nations such as India and China where construction continued at a strong pace. Copper prices, which plummeted at the start of the year, climbed 22.2 percent from February through the month of May and, despite a decline in July, were still up 17.6 percent at that time compared with prices in January. In April labor unrest in three mines in Chile helped drive copper prices up on the London Metal Exchange.<sup>18</sup> As with other metals, and commodities in general, copper rose in price during the first 7 months of the year, driven up in part by the depreciation of the U.S. dollar against major world currencies along with fears of impending inflation.

Prices for chemicals excluding medicinals climbed 19.3 percent through the month of July, after an increase of 10.6 percent in 2007. Fertilizers, pesticides, and insecticides, which increased in price by 59.2 percent, were a major contributor to the overall increase of chemicals prices. As agricultural commodities climbed in price, farmers turned to fertilizers as a means of increasing crop yields.<sup>19</sup> Both the U.S. and world fertilizer industries were unable to quickly adjust to the surging demand for fertilizers. Rising energy prices also contributed to the rise in prices for fertilizer, because higher energy prices drove up production costs for fertilizers.

*Finished goods.* Prices for imports of finished goods, including capital goods; automotive vehicles, parts, and engines; and consumer goods also were on the rise during the first 7 months of 2008. Prices for passenger vehicles

continued to increase through July of 2008, continuing a trend that started in the mid 1990s. Prices rose 0.3 percent from January 2008 to July 2008 after a 2.4-percent annual increase in 2007. Auto parts, engines, bodies, and chassis increased in price by 1.6 percent during the first 7 months of 2008. Several factors helped drive up import prices for these goods. One of the factors was the depreciation of the U.S. dollar against the Canadian dollar, the yen, and the euro. As was previously mentioned, the Federal Reserve's Nominal Broad Dollar Index declined 3.9 percent for the period.

Rising prices for inputs such as steel also pushed up prices for auto parts and passenger vehicles.<sup>20</sup> Steel manufacturers, dealing with higher costs for iron ore and energy, raised prices for items such as sheet steel, which is used in the manufacturing of autobodies, to reflect the higher costs of manufacturing. In response, several auto manufacturers raised vehicle prices to offset erosion in earnings brought about by the higher price of steel.<sup>21</sup>

After rising steadily throughout 2007, prices for capital and consumer goods continued to rise throughout the first 7 months of 2008. A major contributor to the increases was increasing petroleum and metals prices. The weakening of the U.S. dollar against such currencies as the yen and the euro also drove prices higher as many businesses renegotiated contracts at the beginning of the year in order that they reflect the weaker dollar.

Prices for computers and home entertainment equipment were exceptions to the upward trend: prices for computers declined by 2.9 percent from January 2008 to July 2008, while home entertainment equipment prices declined by 1.3 percent. Increasing worldwide sales and economies of scale are two of the reasons for falling HD and flat-screen television prices.<sup>22</sup> It was mainly a combination of weakening demand and increased competition that drove down computer prices.

## Export price trends through July

Prices for exports increased significantly during the first 7 months of 2008, rising 7.3 percent. This 7-month increase was larger than any annual increase the index had experienced in the last two decades. Agricultural commodities such as soybeans and corn were major contributors to the overall increase in export prices. Rising prices for precious metals also contributed to the overall increase in export prices from January through July.

*Agricultural products.* As with petroleum, prices for exports of agricultural commodities were quite volatile

throughout 2008. During the first 7 months of the year, prices climbed 23.6 percent, which almost mirrored the 23.4-percent annual increase from 2007. During 2008 export price trends were dominated by rising prices for corn and soybeans.

Corn prices climbed steadily within the first 7 months of the year, increasing 63.7 percent. The influx of investment in futures markets that took place during the early part of 2008 and contributed to rising oil and gold prices also affected prices for agricultural commodities.<sup>23</sup> In May of 2008 noncommercial investors held nearly 463,000 long futures contracts in the Chicago Board of Trade corn futures. By comparison, at the end of May of 2007 there were slightly under 340,000 noncommercial long contracts.<sup>24</sup>

Weather also played a role in driving up corn prices during the first 7 months of 2008. Heavy rainfall during the spring delayed planting in the Corn Belt, stoking fears that there would not be sufficient acreage planted to meet growing demand. Flood waters inundated large areas of the Midwest in June, which further exacerbated fears of a diminished harvest. Iowa was especially hard hit, with approximately 1.2 million acres used for corn, or 1.5 percent of the country's anticipated harvest, waterlogged. These flooded acres were land either on which farmers needed to replant or on which they had not yet planted because of the water.<sup>25</sup> As a result of the heavy rainfall throughout the Midwest, the United States Department of Agriculture (USDA) lowered its forecast for the U.S. corn harvest by 3.2 percent. The original forecast of 12.1 billion bushels was reduced to 11.7 billion bushels.<sup>26</sup>

Increased export demand also drove up both corn and soybean prices in 2008. Because of the weakening of the U.S. dollar in relation to other currencies, foreign demand for U.S. agricultural products increased as they became much cheaper for foreigners to purchase in relation to agricultural products from many other countries. As global demand for meat rose, feed usage also increased, with much of the world turning to the United States as a source of animal feed. USDA increased its corn export forecast to 2.45 billion bushels, which was an all-time high.

Soybean prices rose 47 percent through the month of July despite an estimated 74.5 million acres planted, which was the third-largest area on record and a 17-percent increase from the previous year. The same factors that drove up corn prices also contributed to the rise in soybean prices. Increased investment in agricultural commodities, poor weather, the weakening U.S. dollar, and high export demand all played their part. In the month of July, soybean prices reached a record high of \$16 per

bushel. Flooding in the Midwest brought about a reduction in the percent of acres that would be planted, from 98.1 percent to 96.8 percent.<sup>27</sup> The flooding cut planted acreage by 3.7 million acres, and harvested acreage was expected to drop by 1.3 million acres. In June of 2008, soybean inventories were estimated to be 676 million bushels, down 38 percent from 2007 and the lowest level in 4 years. Prices for soybeans rose significantly in reaction to the news of low inventory.

*Raw materials.* Price trends for raw material exports were very similar to those of raw material imports, though of differing magnitudes. During 2007 prices for raw materials were steadily on the rise, increasing 10.5 percent, and the trend continued through the first 7 months of 2008. Through July of 2008 prices rose 15.4 percent, with especially large increases taking place in May, June, and July.

Prices for exported chemicals were on the rise, increasing 13.5 percent from January to July of 2008. As with their import counterparts, prices for exports of chemicals, specifically fertilizers and petrochemicals, were driven up by higher levels of demand, due to high agricultural commodity prices, and the rising price of oil. Fertilizer prices increased sharply in the early months of 2008 because of strong demand generated by exceptionally high global prices for agricultural commodities. In response to the high prices, farmers across the globe turned to fertilizers in an attempt to boost yields. Rising crude oil prices also drove up prices for petrochemicals such as benzene and ethylene, which in turn drove up prices for organic chemicals that are manufactured from them. Several gasoline additives also were increasing in price, mainly because these fuel additives routinely move in conjunction with petroleum prices.

Export metals prices also were on the rise through the month of July. The depreciation of the U.S. dollar against numerous world currencies coupled with rising global steel prices made U.S. exports of steel quite attractive for foreign buyers.<sup>28</sup> During the first 2 quarters of 2008, the United States exported 4.9 million tons of steel, a 19-percent increase from the same period in 2007, making the United States the 8th-largest steel exporter.<sup>29</sup> Most of the steel exported was destined for Asia and the Asian Near East (more commonly known as the Middle East), where demand remained strong throughout the early part of the year. Prices for exports of precious metals also were on the rise. The same factors that drove up prices for imported precious metals drove up prices for exported precious metals.

*Finished goods.* Prices for exports of finished goods all rose through the month of July. Prices for automotive vehicle parts, engines, and bodies increased 1.2 percent during the aforementioned period. As with imports, the main reason for the increase in prices of exports was materials costs. As steel and other metals rose in price, the production of automotive parts became more costly. The same was true for household and kitchen appliances, which increased 3.6 percent in price. Prices for industrial and service machinery also increased over the same period. The rising costs of materials such as steel were a driving force behind the increases. Consumer goods prices were on the rise as well, most notably in the form of rising jewelry prices. Increasing gold and other precious metals prices helped drive the price of jewelry higher.

### **Import price trends for August–December**

From August through the end of the year, the Import Price Index declined 22.4 percent and finished the year down 10.1 percent. Before 2008, the last decline in import prices took place in 2001, when import prices declined 9.1 percent for the year. It appears that the same commodities and products that drove the index up through the first 7 months of the year were responsible for the index's decrease over the final 5 months.

*Energy.* Prices of imported petroleum and petroleum products began their precipitous drop in August and, over the final 5 months of the year, fell 67.6 percent to end the year down 50.8 percent. Turmoil in the global financial sector brought about an overall slowing of economic activity across the globe, especially in developed countries, and thus decreased demand for energy.<sup>30</sup> In the United States unemployment figures rose to their highest levels in 25 years while GDP shrank, both of which indicated a worsening of the U.S. economy. Lower economic activity and concomitant softening demand for petroleum were significant factors in the decline of prices for petroleum.

Drivers in the United States reduced the number of miles driven as gas prices increased. Fifteen billion fewer vehicle miles were driven in August of 2008 in comparison with August of 2007, a 5.6-percent decline. By the end of the year, Americans had driven 108 billion fewer vehicle miles for the year 2008, a 3.6-percent decrease from the previous year.<sup>31</sup> The large decrease in miles driven, intensified by the growing global recession, bolstered fears of slackening demand for oil.

As economies around the world faltered and concerns of inflation subsided, the U.S. dollar underwent a very

large appreciation, which also contributed to falling petroleum prices. The popularity of the U.S. dollar as a safe haven in times of economic troubles helped it appreciate against the other major world currencies.<sup>32</sup> Because crude oil is priced in U.S. dollars, the appreciating value of the dollar made oil more expensive for buyers in foreign countries, resulting in reduced demand.

Geopolitical events, which had affected petroleum and energy prices during the first 7 months of 2008, appear to have had a relatively little impact on petroleum and energy prices over the final 5 months of the year. Supply disruptions in Nigeria, due to continued militant attacks; OPEC production cutbacks; an explosion on a portion of the Baku-Tblisi-Ceyhan pipeline in Turkey; and Tropical Storm Edouard, which made landfall south of Port Arthur, Texas, all did little to hinder the fall of oil prices. Starting in June many investors exited the energy markets. By October of 2008, the number of open-interest futures contracts held by noncommercial traders, as defined by the Commodity Futures Trading Commission, had fallen by 19.7 percent from May and accounted for only 29 percent of all positions for crude oil on the New York Mercantile Exchange.

*Raw materials.* Prices for imports of raw materials spent the final 5 months of 2008 steadily declining. During these 5 months, prices for raw materials declined 14.7 percent, ending the year just 0.2 percent below where they began the year. After a slight increase in the price of gold in August, prices declined for the rest of the year, with notably large decreases in September and December. Investors flocked to gold during the first few months of 2008, but, as signs mounted that the economies of the United States and other developed nations were headed for or already in a recession, concerns of inflation quickly evaporated. Investors removed hedges against high global inflation and abandoned many positions on commodities such as oil and gold.<sup>33</sup> As the fear of inflation dissipated, the U.S. dollar staged a large recovery in value against the other major world currencies, making gold an even less attractive investment.

Other precious metals such as silver, platinum, and palladium experienced even more precipitous price declines over the final 5 months of the year. Platinum, which is used primarily as an industrial metal, especially in the construction of automobile emissions control devices, fell in price by more than 50 percent in the final 5 months of the year, from a record high of over \$2,000 an ounce. As the global economy fell into recession, demand for the metal declined as production of automobiles, especially

large SUVs, fell.<sup>34</sup> The attractiveness of silver as an investment in the same guise as gold also lessened as the specter of inflation from earlier in the year dissipated.

Prices for steel and iron continued to climb through the month of September and then quickly plummeted during the final 3 months of the year, falling 26 percent from the highs reached in September. Dwindling demand, due to the onset of the global recession, helped drive down steel prices as construction and manufacturing activity declined. Copper prices also plummeted, falling 43.3 percent. The struggling housing market in the United States had severely reduced copper prices, due to copper's important role in residential construction. Large surpluses of copper on the international market helped bring about lower prices and, as construction in Asia started to decline, copper prices fell even more. By August there was a surplus of 125,000 metric tons in the market.<sup>35</sup> From the start of August through the end of the year, copper prices declined 43.3 percent and finished the year down 41.8 percent compared with a year earlier.

*Finished goods.* Prices for finished goods imports over the final 5 months of 2008 were in line with those of other imports, save a few exceptions. As with the other categories of imports, price declines in finished goods were gradual through the summer and fall but by the end of the year had become quite pronounced.

After climbing by 1.6 percent through the first 7 months of the year, prices for capital goods peaked in July, remained unchanged in August, and then began a steady decline through the rest of the year, falling 0.7 percent. A resurgent U.S. dollar played a significant role in the decline of import prices. The Federal Reserve's Nominal Broad Dollar Index increased 13.7 percent over the final 5 months of 2008. The strengthening of the U.S. dollar, especially against the euro, Canadian dollar, British pound, and several currencies from Asian countries (although not the yen), helped drive down import prices.

Worsening economic conditions, in both the United States and the rest of the world, also contributed to the decline of import prices for finished goods. Both domestically and internationally, economies started to falter, which brought about a decline in consumer expenditures, contractions within the manufacturing sector, and falling prices. The GDP of the United States, as measured by the Bureau of Economic Analysis at the U.S. Department of Commerce, began its decline in the third quarter of 2008 and dropped steeply in the final quarter of the year, evident in chart 3. By the end of the year, GDP had receded to a level not far from that of the first 2 quarters of 2007. A

wide range of factors such as job loss, a severe reduction in credit, falling home prices, and a declining stock market put consumers under severe stress in the latter 2 quarters of 2008. Declining personal consumption expenditures in the final quarter of the year went hand in hand with marked decline in GDP. Consumers spent an estimated \$210 billion less in the fourth quarter of 2008 than they had a year earlier.

### Export price trends for August–December

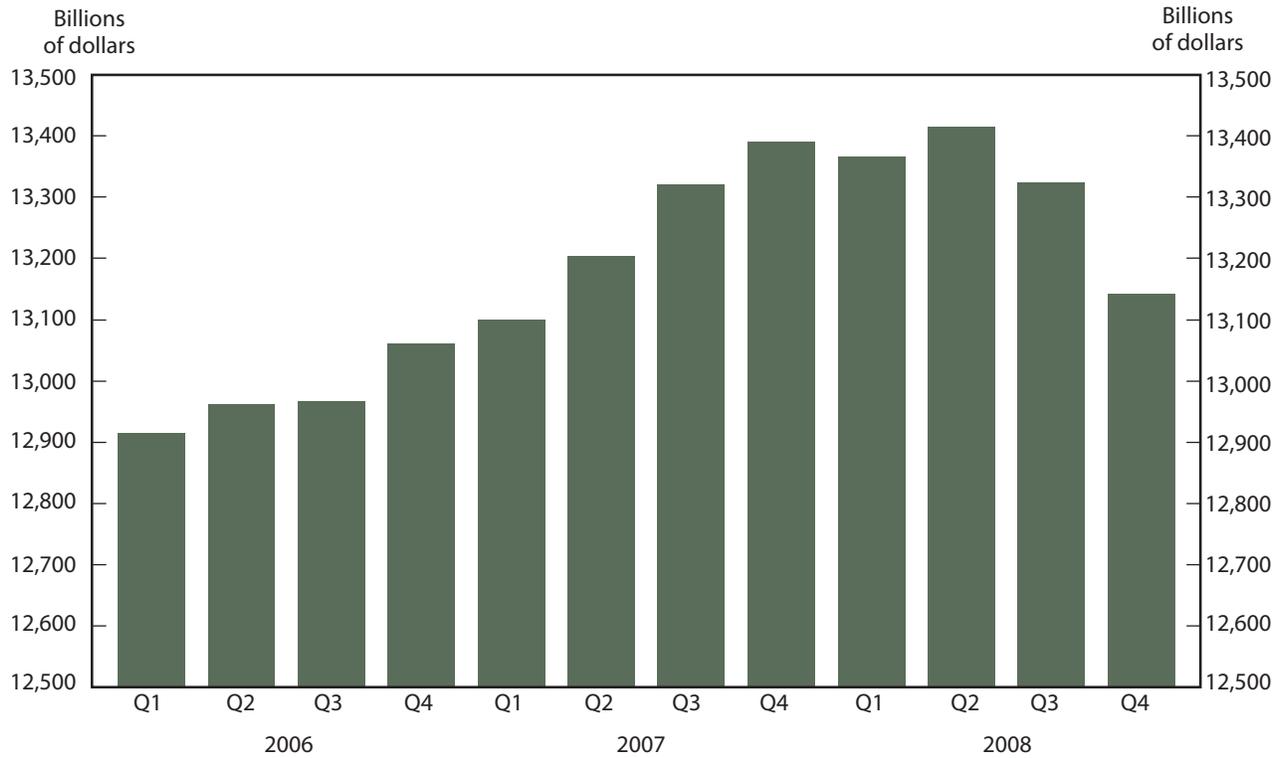
The final 5 months of 2008 bore witness to declining import and export prices, as well as a decline in the U.S. trade deficit. Overall levels of both imports and exports of goods and services also fell during the closing months of the year, as is illustrated in chart 4. After growing steadily during 2007 and the first 7 months of 2008, both imports and exports declined sharply with the onset of autumn. From August through the end of the year, imports fell 23.8 percent and exports declined 19.2 percent. Waning demand for both imports and exports, due to poor economic conditions both domestically and abroad, was responsible for the declines. Falling crude oil prices were a major contributor to the reduced trade deficit in the closing months of 2008, though a resurgent dollar did lessen the impact to some extent. Even with the strengthening of the U.S. dollar, the U.S. trade deficit was the smallest it had been in 6 years as of December of 2008.

As has already been noted, the index for export prices peaked in July of 2008. During the final 5 months of the year, the index fell steadily and, by the end of the year, reached a level that had not been seen since the opening months of 2007. As was the case with imports, the major contributors to the index's rise during the first 7 months of the year were also those primarily responsible for the index's decline during the last 5 months of the year.

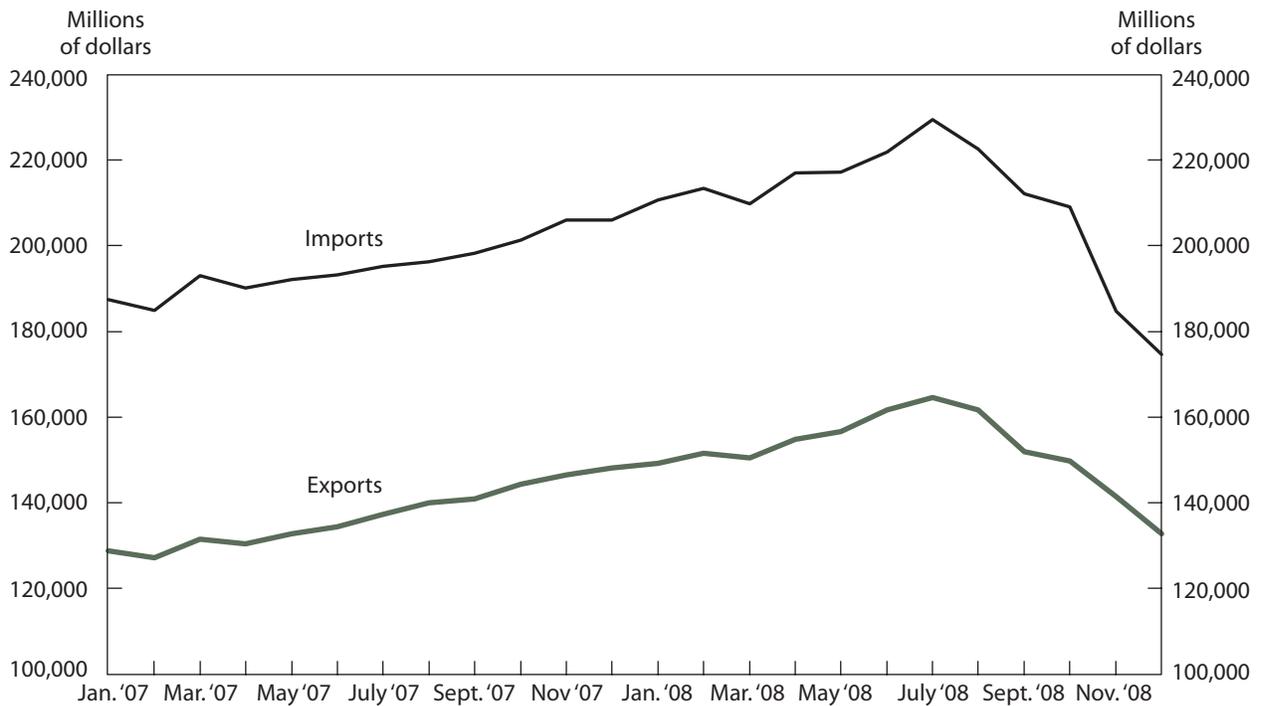
*Agricultural products.* Declining corn prices were a major contributor to the overall decline in export prices. After reaching record highs during the first 7 months of 2008, a period in which prices experienced some of the largest gains of the last decade, prices dropped precipitously over the final 5 months of the year. From the start of August through the end of the year, prices fell by 51 percent, to a level not seen since autumn of 2006. A number of factors contributed to the decline in corn prices.

In August 2008, USDA's National Agricultural Statistics Service released new estimates for spring-planted row crops. Corn production was forecast to total 12.3 billion bushels, with expected yields to average 155 bushels per

**Chart 3. Gross Domestic Product of the United States, 2006–08**



**Chart 4. Levels of imports into and exports out of the United States, January 2007–December 2008**



acre, the second-highest yield on record.<sup>36</sup> Earlier in the year the USDA had reduced its crop forecasts for corn because of deluges that had severely affected the Corn Belt through much of the planting season. The forecasts of August greatly allayed fears that the 2008 crop would be significantly lower than the previous year and did much to relieve pressure on prices. During the month of August prices fell by 28.6 percent.

As summer gave way to fall and fall to winter, prices for corn continued to decline. Prices declined by 17 percent in October and 16.7 percent in December. Uncertainty regarding the overall global economic outlook helped dampen demand for grain.<sup>37</sup> As signs of a global economic downturn grew stronger, the attractiveness of commodities as an investment was greatly reduced. Along with the decline in export demand, the strengthening of the U.S. dollar over the last 5 months of the year helped drive down the price of corn.

Prices for soybeans and other oil seeds followed much the same trend as corn prices. After reaching never-before-seen highs in July of 2008, in the final 5 months of the year prices for soybeans and other oil seeds receded to levels in line with those of late 2007, completely erasing the record gains of 2008. Many of the same factors that contributed to the decline in corn prices also drove soybean prices down. In August, the National Agricultural Statistics Service forecast soybean production at 2.97 billion bushels for 2008, up 15 percent from the previous year.<sup>38</sup> Fears had persisted that the worst flooding to hit the Midwest since 1993 would severely hamper planting and would result in a lower-than-anticipated crop yield. The strengthening of the U.S. dollar coupled with the overall decline in the attractiveness of commodities also helped drive down soybean prices.

*Raw materials.* Over the final 5 months of 2008, export prices for raw materials steadily declined, falling 21.5 percent to a level on par with that of December of 2006. Prices for raw materials finished the year down 9.4 percent from a year earlier; 2008 was the first year that prices had declined since 2001.

Exported metals dropped in price significantly over the last 5 months of 2008. Prices for steel and iron products declined 9.9 percent. Demand for American steel declined in the latter half of 2008 as economies around the globe started to slow and the likelihood of a global recession loomed. China, in particular, scaled back demand for steel in the fall of 2008 because of the slowdown of construction in China and the rest of the world. Demand on the part of automobile manufacturers also declined as

the number of vehicle sales slowed.

Prices for nonmonetary gold and other precious metals also declined during the final 5 months of the year. Gold declined in price by 14.8 percent, and prices for other precious metals fell 45.6 percent. Many investors turned away from gold as concerns of inflation subsided, economies around the world started to slow, and the U.S. dollar regained some of the value it had lost in the early months of 2008. Prices for the platinum metals group also fell sharply through the latter part of 2008, though not for the same reason as gold prices. The demand for platinum fell sharply as automobile sales, especially of larger vehicles, declined.

As with metals prices, prices for chemicals were on the decline from August through the end of the year, falling 12.7 percent. Export chemicals prices finished 2008 down 0.9 percent for the year, which was the first annual decline since 2001. Prices for chemicals fell in tandem with prices of upstream products, namely petroleum and natural gas. The prices of benzene and ethylene, both petrochemicals, declined as crude oil prices dropped in price. This decline in turn drove down prices for a wide range of organic chemicals such as styrene, vinyl chloride, and methyl tertiary-butyl ether. Plastics prices also underwent a significant decline during the final 5 months of 2008, falling by 13.9 percent. As they were for the prices of organic chemicals, declining crude oil prices were the largest factor in the decline in prices for plastics.

*Finished goods.* Prices for finished goods exports declined much more slowly during the final 5 months of 2008 than prices for agricultural and raw material exports. Prices for capital goods declined 0.4 percent, with prices for computers and semiconductors falling 3.9 percent. Falling demand, which was brought about by the global economic slowdown, was exacerbated by oversupply, especially of components such as DRAM and NAND flash memory. In addition, technological innovations and competition kept manufacturing costs low and allowed for prices to continually decline.

It was not until the final 2 months of the year that prices for automotive vehicles and parts declined, and they did by only 0.2 percent. Prices for passenger cars and trucks rose in the late summer months and through October, when new (2009) vehicle models were introduced. After the introduction of the new models, prices remained stable through the close of the year. Prices for parts, engines, bodies, etc. began decreasing in November, falling 0.3 percent during the final 2 months of 2008. It took several months for the falling prices of inputs, especially steel, to

have an impact on the prices of parts. Auto manufacturers cut back production as the economy slowed and credit tightened, which dampened demand for vehicular parts.

Prices for consumer goods as a whole did not start to decline until November, when they began their 0.8-percent slide for the final 2 months of 2008. A wide range of factors contributed to falling prices for consumer goods. A number of categories of nondurable consumer goods such as pharmaceutical and medicinal materials along with books and magazines began declining in July and August as the U.S. dollar gained strength against the euro, British pound, South African rand, and Canadian dollar. Other consumer goods did not begin declining until November. Lower prices for materials finally began to drive down prices for goods such as recreational equipment, whose price declined 1.6 percent during the November–December period.

## Services and location of origin

*Services.* Price trends for the services indexes were in line with those of imports and exports for the first 7 months of 2008. During the spring of 2008 and into the summer months, prices steadily increased for both passenger fares and freight rates. The price index for export air passenger fares, a measure of passenger fares paid by residents of foreign countries to United States carriers, increased 16.9 percent through the first 7 months of the year. The index for export air freight, a measure of changes in the rates charged for the transportation of freight from the United States to foreign locations on U.S. carriers, increased 12.7 percent over the same period. Price increases were especially large in June and July. On the import side similar increases took place. The index for import air passenger fares, a measurement of passenger fares paid by U.S. residents to foreign carriers, increased 32 percent through the first 7 months of the year. The import air freight index, which measures the changes in rates charged for the transportation of freight from foreign countries to the United States on foreign carriers, increased by 14.7 percent. Rising fuel prices brought about by the sharp increase in the price for petroleum were responsible for a large part of the fare and rate increases. Many airlines and carriers responded to the higher price for jet fuel by increasing fares and add-

ing surcharges. The depreciation of the U.S. dollar also contributed to rising prices.

As with the other export and import price measurements, import and export air passenger fares and freight rates declined during the last few months of the year. Import air passenger fares and freight rates began declining in August. The former fell 11.9 percent from August to December, while the latter fell 14.8 percent. Export prices for the same services did not begin to decline until September of 2008. During the final 4 months of the year export air passenger fares declined 9.6 percent and import air freight rates declined 5.7 percent. Declining fuel prices brought about a reduction in passenger fares and freight rates along with surcharges. A resurgence of the dollar over the final 5 months of the year also contributed to declining prices.

*Location of origin.* The International Price Program publishes a set of import indexes known as location of origin indexes, each of which is based on a country or region of origin for goods and services. For a number of the locations the indexes are disaggregated by manufactured and nonmanufactured goods. The rise and subsequent decline of petroleum prices had a significant impact on the location of origin indexes of a number of countries and regions. Canada, Mexico, and the Asian Near East, more commonly known as the Middle East, are the three major sources for United States petroleum imports. The index for each of the three locations underwent large increases during the first 7 months of 2008 and then precipitous declines over the final 5 months. The most notable increase and decrease occurred in the index for the Asian Near East. From the beginning of the year through the month of July, prices for imports from that region climbed 38.5 percent. Over the last 5 months of the year, those prices declined by 55.2 percent. The Canadian index increased 22.1 percent during the first 7 months of the year and then declined 25.2 percent during the final 5 months. The location of origin index for Mexico increased 15.1 percent before declining 18.1 percent. Even the location of origin index for the United Kingdom, which exports a modest amount of petroleum to the United States from its North Sea fields, was affected by petroleum prices. During the first 7 months of the year index rose 14.2 percent, only to fall 17.9 percent over the final 5 months of the year. □

## Notes

<sup>1</sup> For every calculation in this article involving change over time, the base month is the month before the first month of the period that is referenced. In this example—in which change is measured over the first 7

months of 2008—the first month used in the calculation is December 2007 and the last is July 2008. For changes over the entire year of 2008, the change is calculated from December 2007 to December 2008.

<sup>2</sup> See the Cushing, OK WTI spot price for July 3, 2008, at the U.S. Energy Information Administration Web site: <http://tonto.eia.doe.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D> (visited Apr. 5, 2010).

<sup>3</sup> Stewart Bailey, "'Tidal Wave' in Commodities Rises to \$400 Billion," *Bloomberg.com*, Apr. 7, 2008, on the Internet at [www.bloomberg.com/apps/news?pid=20601081&refer=australia&sid=aq9xxwsBzf6k](http://www.bloomberg.com/apps/news?pid=20601081&refer=australia&sid=aq9xxwsBzf6k) (visited Apr. 5, 2010).

<sup>4</sup> Data on open-interest futures were obtained from the NYMEX Web site before the company was acquired by the CME group.

<sup>5</sup> See <https://www.theice.com/marketdata/reportcenter/reports.htm> (visited Apr. 5, 2010) and choose "Historical Monthly Volumes" for the category, "ICE Futures Europe" for the market, and "Historical Volumes – ICE Futures Europe" for the report.

<sup>6</sup> Sam Fletcher, "Fundamentals don't support \$105 oil," *Oil & Gas Journal*, vol. 106, issue 11, March 2008.

<sup>7</sup> Christian Schmollinger, "Oil Rises to Record on Mexico Terminal Closures, China Demand," *Bloomberg.com*, Apr. 15, 2008, on the Internet at [www.bloomberg.com/apps/news?pid=20601087&sid=aTSIUOgUhCFs&refer=home](http://www.bloomberg.com/apps/news?pid=20601087&sid=aTSIUOgUhCFs&refer=home) (visited Apr. 7, 2010).

<sup>8</sup> *World Oil Transit Chokepoints* (Energy Information Administration, January 2008), on the Internet at [www.eia.doe.gov/cabs/World\\_Oil\\_Transit\\_Chokepoints/Full.html](http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Full.html) (visited Apr. 7, 2010).

<sup>9</sup> *The World Factbook* (Central Intelligence Agency, 2008). The current version of the *Factbook* is at <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2173rank.html> (visited Apr. 7, 2010).

<sup>10</sup> *Foreign Exchange Rates: Summary Measures of the Foreign Exchange Value of the Dollar* (Federal Reserve), on the Internet at [www.federalreserve.gov/releases/h10/Summary/](http://www.federalreserve.gov/releases/h10/Summary/) (visited Apr. 7, 2010).

<sup>11</sup> Pablo Gorondi, "Supply concern, weak dollar put oil above \$130 for first time," *USA Today*, May 21, 2008, on the Internet at [www.usatoday.com/money/industries/energy/2008-05-21-oil-prices\\_N.htm?csp=34&utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+UsatodaycomMoney-TopStories+\(Money++Top+Stories\)](http://www.usatoday.com/money/industries/energy/2008-05-21-oil-prices_N.htm?csp=34&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+UsatodaycomMoney-TopStories+(Money++Top+Stories)) (visited Apr. 7, 2010).

<sup>12</sup> *Natural Gas Year-In-Review 2008* (Energy Information Administration, April 2009), on the Internet at [www.eia.doe.gov/pub/oil\\_gas/natural\\_gas/feature\\_articles/2009/ngvir2008/ngvir2008.html](http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2009/ngvir2008/ngvir2008.html) (visited Apr. 7, 2010).

<sup>13</sup> Data on open-interest futures were obtained from the NYMEX Web site before the company was acquired by the CME group.

<sup>14</sup> Danielle Rossingh, "Gold Gains in London as Fed Rate Cut Speculation Spurs Buying," *Bloomberg.com*, Mar. 10, 2008, on the Internet at [www.bloomberg.com/apps/news?pid=20601082&sid=aIm5clqvOQGU&refer=canada](http://www.bloomberg.com/apps/news?pid=20601082&sid=aIm5clqvOQGU&refer=canada) (visited Apr. 7, 2010).

<sup>15</sup> Micheal W. George, *2006 Minerals Yearbook: Platinum-Group Metals* (U.S. Geological Survey, September 2007), on the Internet at <http://minerals.usgs.gov/minerals/pubs/commodity/platinum/myb1-2006-plati.pdf> (visited Apr. 7, 2010).

<sup>16</sup> *Platts Metals Week*, Mar. 17, 2008, pp. 5–6.

<sup>17</sup> "China accepts Vale's iron ore price hike," *The Boston Globe*, Feb. 22, 2008, on the Internet at [www.boston.com/business/articles/2008/02/22/china\\_agrees\\_to\\_vales\\_iron\\_ore\\_price/](http://www.boston.com/business/articles/2008/02/22/china_agrees_to_vales_iron_ore_price/) (visited Apr. 7, 2010).

<sup>18</sup> *Platts Metals Week*, Apr. 28, 2008, p. 5.

<sup>19</sup> "Fertilizer prices soaring in U.S.," *The Columbus Dispatch*, Apr. 23, 2008.

<sup>20</sup> Dan Caterinicchia, "Gasoline isn't only rising cost for drivers," Associated Press, May 25, 2008.

<sup>21</sup> Seonjin Cha, "Hyundai Raises Car Prices in U.S. on Material Costs," *Bloomberg.com*, July 7, 2008, on the Internet at [www.bloomberg.com/apps/news?pid=20601080&sid=adm5MneOGOWU&refer=asia](http://www.bloomberg.com/apps/news?pid=20601080&sid=adm5MneOGOWU&refer=asia) (visited Apr. 7, 2010).

<sup>22</sup> Erica A. Taub, "Flat-Panel TV Prices Plummet," *The New York Times*, Dec. 2, 2008.

<sup>23</sup> Drake Lundell, "Speculation Caused High Corn Prices: Report," *Ethanol & Biodiesel News*, Oct. 28, 2008.

<sup>24</sup> "Corn: Futures Only Open Interest and Its Components," (U.S. Commodity Futures Trading Commission), on the Internet at [www.cftc.gov/OCE/WEB/Report%20Data/futures\\_Corn.html](http://www.cftc.gov/OCE/WEB/Report%20Data/futures_Corn.html) (visited Apr. 7, 2010).

<sup>25</sup> "Midwest Floods Devastate Corn Crops, Could Raise Prices," Associated Press, June 14, 2008.

<sup>26</sup> Scott Kilman, "U.S. Lowers Its Corn Harvest Forecast 3.2%, Prices Rise," *The Wall Street Journal*, June 12, 2008.

<sup>27</sup> Jeff Wilson, "Soybeans Rise to Record as Floods Cut U.S. Acreage, Hurt Yields," *Bloomberg.com*, July 1, 2008.

<sup>28</sup> David Bogoslaw, "U.S. Steelmakers' Surprising Strength," *Business Week*, Mar. 24, 2008, on the Internet at [www.businessweek.com/investor/content/mar2008/pi20080323\\_620307.htm](http://www.businessweek.com/investor/content/mar2008/pi20080323_620307.htm) (visited Apr. 9, 2010).

<sup>29</sup> "US steel exports surged in first half," *Metal Bulletin*, July 25, 2008.

<sup>30</sup> Sam Fletcher, "Market fears drive down prices," *Oil & Gas Journal*, vol. 106, issue 45, December 2008.

<sup>31</sup> "August 2008 Traffic Volume Trends" (U.S. Department of Transportation, Federal Highway Administration), on the Internet at [www.fhwa.dot.gov/ohim/tvtw/08augvtv/index.cfm](http://www.fhwa.dot.gov/ohim/tvtw/08augvtv/index.cfm) (visited Apr. 9, 2010).

<sup>32</sup> Tim Bowler, "Dollar and yen benefit in crisis," *BBC News*, Oct. 27, 2008, on the Internet at <http://news.bbc.co.uk/2/hi/7693020.stm> (visited Apr. 9, 2010).

<sup>33</sup> "US dollar at 6-mth high as oil, gold decline," Reuters, Aug. 12, 2008, on the Internet at <http://uk.reuters.com/article/idUK-SP34161820080812> (visited Apr. 9, 2010).

<sup>34</sup> Millie Munshi, "Platinum Prices Fall to Lowest Since 2005; Palladium Drops 12%," *Bloomberg.com*, Oct. 16, 2008.

<sup>35</sup> *Platts Metals Week*, "Surplus 125,000 mt in August – ICSG," Nov. 24, 2008, p. 6.

<sup>36</sup> *USDA Forecasts Robust Corn and Soybean Crops, Despite Flooding* (United States Department of Agriculture), Aug. 12, 2008, on the Internet at [www.nass.usda.gov/Newsroom/2008/08\\_12\\_2008.asp](http://www.nass.usda.gov/Newsroom/2008/08_12_2008.asp) (visited Apr. 9, 2010).

<sup>37</sup> "U.S. corn tumbles nearly 4 pct to 10-month low," Reuters, Oct. 6 2008.

<sup>38</sup> *USDA Forecasts Robust Corn and Soybean Crops, Despite Flooding* (United States Department of Agriculture), Aug. 12, 2008, on the Internet at [www.nass.usda.gov/Newsroom/2008/08\\_12\\_2008.asp](http://www.nass.usda.gov/Newsroom/2008/08_12_2008.asp) (visited Apr. 9, 2010).