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## Shrimp Disease in Asia Resulting in High U.S. Import Prices

### Abstract

[Excerpt] Shrimp has become a popular purchase for American consumers, with U.S. consumption of shrimp reaching 3.8 pounds per person in 2012. Demand for shrimp has increased over the years, and shrimp is currently the largest imported seafood species, accounting for 29 percent of seafood imports by dollar value. In 2013, consumers and businesses found themselves paying higher prices with less product available in supermarkets and restaurants. For example, the popular restaurant chain Red Lobster recently saw a 35-percent increase in the price the company paid for shrimp. The price hike contributed to a 3.1-percent increase in the company's overall food costs and, more recently, an 18-percent decrease in earnings during the quarter that ended in February 2014. Similarly, Noodles & Company noted that the cost of shrimp in its pasta dishes would rise 29 percent this year.

### Keywords

shrimp prices, Asia, imports, seafood

### Comments

#### Suggested Citation

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## Shrimp disease in Asia resulting in high U.S. import prices

*By Kristen Reed and Sharon Royales*

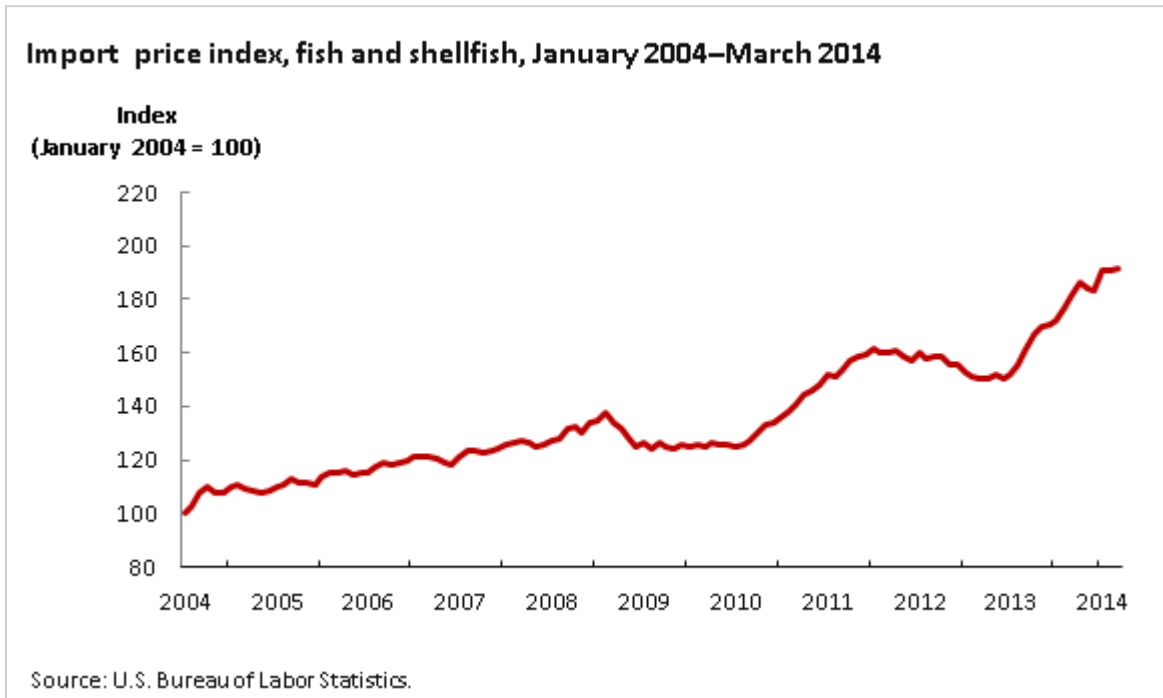
Shrimp has become a popular purchase for American consumers, with U.S. consumption of shrimp reaching 3.8 pounds per person in 2012.<sup>1</sup> Demand for shrimp has increased over the years, and shrimp is currently the largest imported seafood species, accounting for 29 percent of seafood imports by dollar value.<sup>2</sup> In 2013, consumers and businesses found themselves paying higher prices with less product available in supermarkets and restaurants. For example, the popular restaurant chain Red Lobster recently saw a 35-percent increase in the price the company paid for shrimp. The price hike contributed to a 3.1-percent increase in the company's overall food costs and, more recently, an 18-percent decrease in earnings during the quarter that ended in February 2014.<sup>3</sup> Similarly, Noodles & Company noted that the cost of shrimp in its pasta dishes would rise 29 percent this year.<sup>4</sup>



### Supply shortages

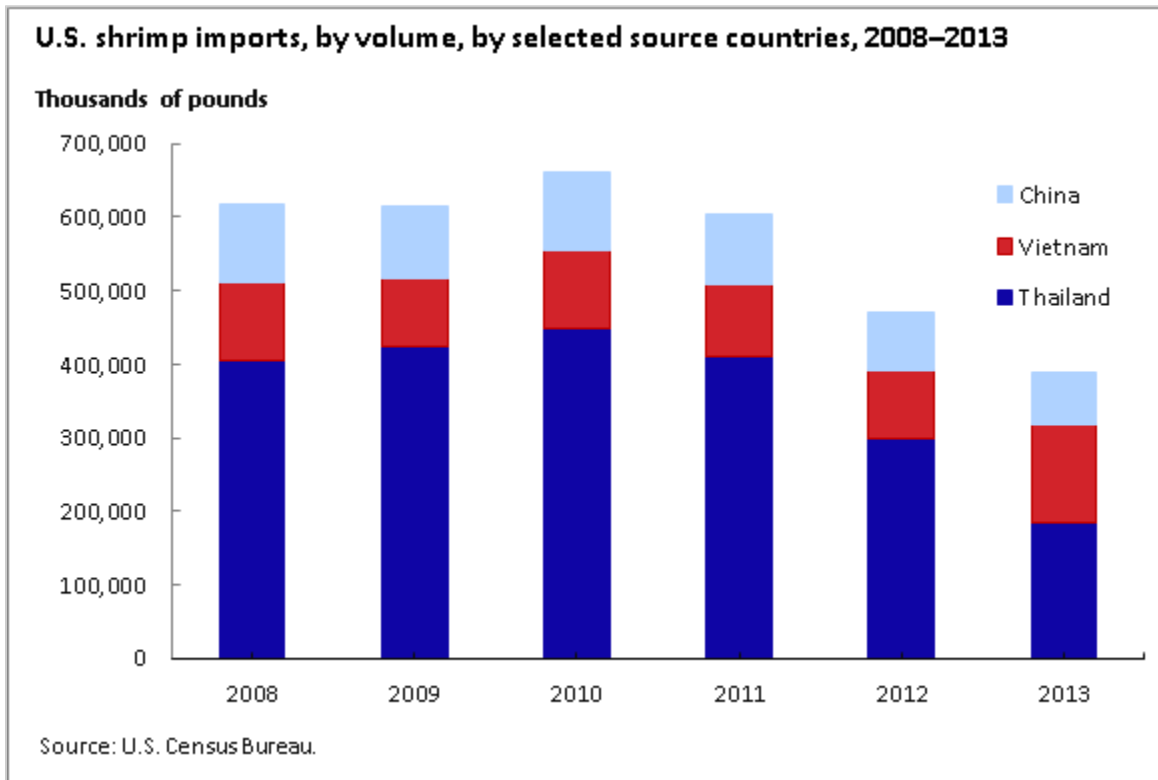
The reason for the higher shrimp prices is a shortage of imports from the top shrimp producers in Southeast Asia. With about 90 percent of shrimp consumed in the United States coming from imports, any change in foreign supply affects both U.S. import prices and overall consumer prices.<sup>5</sup> From 2005 to 2009, the import price index for fish and shellfish increased 3.0 percent, on average, on a year-over-year basis. (See chart 1.) During this period, the United States was importing approximately 50 percent of its shrimp from Southeast Asia. In 2010, however, the index jumped 18.1 percent because of the Deepwater Horizon oil spill in the Gulf of Mexico, an event that shut down a significant part of the Gulf's fishable area, and because of the appearance of diseased shrimp in China and Vietnam, two of the biggest suppliers to the United States. Import prices moderated somewhat in 2012 but still remained high before climbing again, after which they reached a record high year-over-year increase of 25.5 percent in January 2014. Similarly, consumer prices for fish and other seafood rose 6.0 percent from January 2013 to January 2014.

Chart 1



A large contributor to the seafood price increases was a disease-related decline in supplies from the top three shrimp-producing countries: Thailand, Vietnam, and China. Chart 2 depicts the volume of U.S. shrimp imports from those countries. Compared with 2012 data, total shrimp imports from Thailand to the United States were down 38.2 percent, and total imports from China were down 8.9 percent, in 2013. After declines in 2011 and 2012, there was a 45.2-percent increase in import volumes from Vietnam in 2013. According to data from the U.S. Department of Commerce, total U.S. shrimp imports by volume decreased 4.8 percent from 2012 to 2013. In contrast, according to the U.S. Department of Agriculture, the total dollar value of U.S. shrimp imports increased 18.9 percent during the same period.

Chart 2



### Early mortality syndrome in Southeast Asian shrimp

The nature of shrimp farming makes the shrimp highly susceptible to disease. Eighty percent of world shrimp production takes place on small-scale, open-air systems in which water flows in and out between ponds. One of the leading factors behind the higher import prices is the early mortality syndrome (EMS) epidemic that has affected supplies in Southeast Asia. Specifically, a bacterial disease known as acute hepatopancreatic necrosis syndrome (AHPNS) causes EMS. AHPNS kills juvenile shrimp by destroying their hepatopancreas, an organ crucial to the animal’s digestion. The disease spreads quickly as shrimp eat and infect other shrimp, and it can wipe out a pond’s entire shrimp population within a matter of months. In addition, the syndrome’s onset takes place before the shrimp are mature enough to reproduce. First appearing in China in 2009, AHPNS spread to Vietnam in 2010, Malaysia in 2011, and Thailand, the world’s largest shrimp exporter, in 2012. AHPNS has affected shrimp supplies, particularly Pacific white shrimp and black tiger shrimp, in the latter three countries.

Although it is unclear how EMS emerged, a U.S. researcher has identified the pathogen responsible for the disease: a unique strain of the vibrio parahaemolyticus bacterium. Donald Lightner and his team at the University of Arizona are continuing to research the disease and are trying to determine how the bacterium spreads from pond to pond.<sup>6</sup> With the problem now identified, the shrimp industry is hopeful that production will start to increase. In the meantime, other countries, such as India, have increased their production to help ease some of the pressure. According to the U.S. Department of Agriculture, U.S. shrimp imports from India increased 42.8 percent in 2013.<sup>7</sup>

## What to expect

There have been signs of decreasing market pressures in the past few months, as scientists have determined the cause of the disease and imports have increased. As long as scientists can prevent the spread of EMS, an increase in supply from India and other countries can help ease supply pressures. Analysts do not expect demand to ease much, however, because there is no real substitute for shrimp in terms of consumer preference. There are wild-caught shrimp and farmed shrimp from other countries, but these shrimp are not available on any kind of scale necessary to replace what has been lost. Therefore, the anticipation is that, although the supply of shrimp might stabilize, demand for this popular seafood may not encourage either import prices or consumer prices to fall back to pre-AHPNS levels anytime soon.<sup>8</sup>

## Current price trends: first quarter, 2014, highlights

### *Import prices*

During the first quarter of 2014, import prices increased 1.9 percent, after declining 1.4 percent during the final quarter of 2013. A 7.6-percent rise in prices for fuels and lubricants drove the first-quarter advance. Prices for nonfuel imports also contributed to the increase in import prices: the price index for nonfuel imports rose 0.5 percent for the 3 months ended in March.

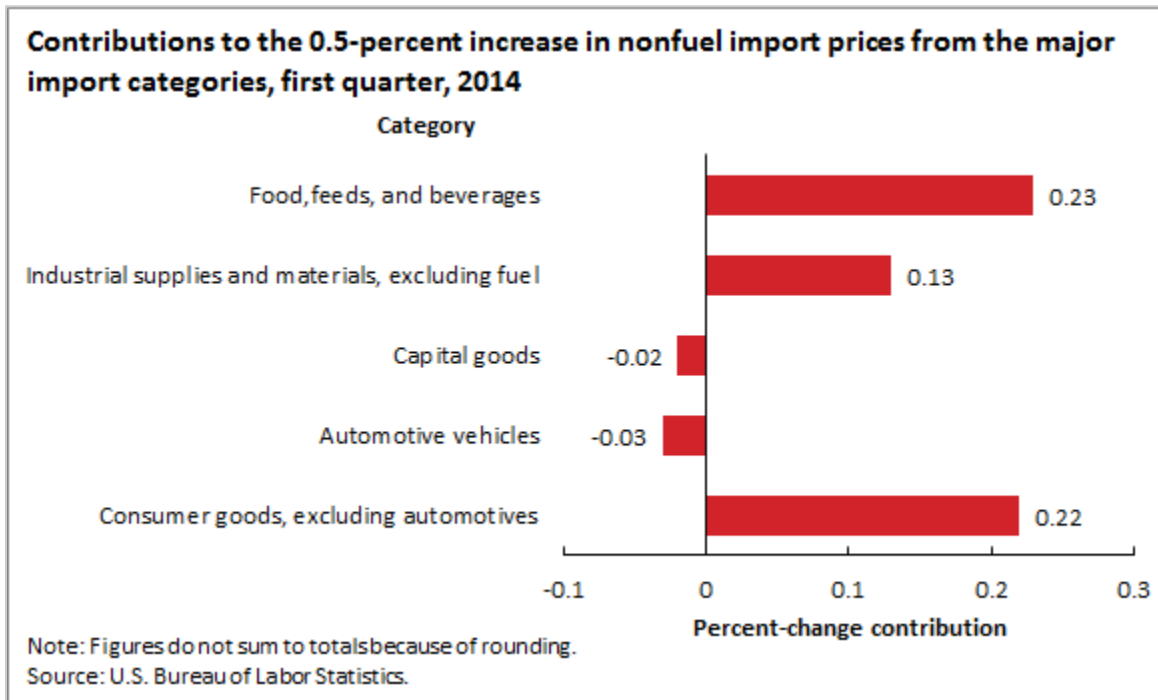
*Fuel imports.* The first-quarter advance in prices for imported fuels and lubricants followed a 6.6-percent decline during the final quarter of 2013. The increase was the largest quarterly advance since the index rose 8.0 percent during the third quarter of 2012. A 5.3-percent rise in February led the quarterly increase; the index also rose in January and March, up 1.0 percent and 1.2 percent, respectively.

Petroleum prices increased 5.2 percent in the first quarter, led by a 4.7-percent advance in February. A combination of shrinking petroleum-product stockpiles and higher demand in the United States, the top oil-consuming nation, drove the advance. Colder-than-normal temperatures in recent months have resulted in an increase in demand for heating oil.<sup>9</sup> Signs of higher employment and, in general, an economic recovery in the United States boosted demand for petroleum products as more people commuted to jobs.<sup>10</sup> Crude-oil stockpiles decreased by 2.4 million barrels, to a level of 380.1 million barrels, in the week ended March 28, according to the U.S. Energy Information Administration.<sup>11</sup>

Higher natural gas prices also contributed to the advance in fuel prices, increasing 75.7 percent over the first quarter of 2014. The first-quarter rise was the largest quarterly increase since the index began publication in September 1981. Depleted gas inventories, due to strong demand from the severe winter chill, pushed prices higher.<sup>12</sup>

*Nonfuel imports.* Import prices excluding fuel also rose during the first quarter of 2014, advancing 0.5 percent after recording no change during the final quarter of 2013. The increase was the largest quarterly rise since a 0.6-percent advance during the first quarter of 2012. Chart 3 shows that an increase in prices for foods, feeds, and beverages and a rise in consumer goods prices were the largest contributors to the overall advance in nonfuel prices. Prices for nonfuel industrial supplies and materials had a smaller contribution to the advance, while prices for capital goods and prices for automotive vehicles decreased for the quarter.

Chart 3



Prices for foods, feeds, and beverages rose 3.6 percent, the largest quarterly increase since the index advanced 7.5 percent for the 3 months ended in March 2011. Rising prices for fruit and fruit preparations (up 11.7 percent) and for coffee (up 16.3 percent) drove the increase in the index. A drought in California, the state with the highest fruit production, and a crop disease among Florida oranges have pushed fruit prices higher.<sup>13</sup> In Brazil, the country's hot and dry summer has resulted in difficult growing conditions for coffee. Brazil accounts for about one-third of the world's annual coffee output, as well as half of the world's orange juice supply, according to the U.S. Department of Agriculture.<sup>14</sup>

Nonfuel industrial supplies and materials prices increased 0.8 percent in the first quarter of 2014, after declining 0.4 percent in the fourth quarter of 2013. A 0.6-percent rise in March drove the quarterly increase, with higher prices for gold as the main contributor. Despite decelerating Chinese demand for gold, both political unrest in Ukraine and the Federal Reserve's commitment to low interest rates in the long term have propelled gold prices higher.<sup>15</sup>

Prices for the major finished goods areas were mostly down during the quarter. The price index for capital goods edged down 0.1 percent, while prices for automotive vehicles decreased 0.2 percent. In contrast, consumer goods prices increased 0.8 percent during the first quarter of 2014.

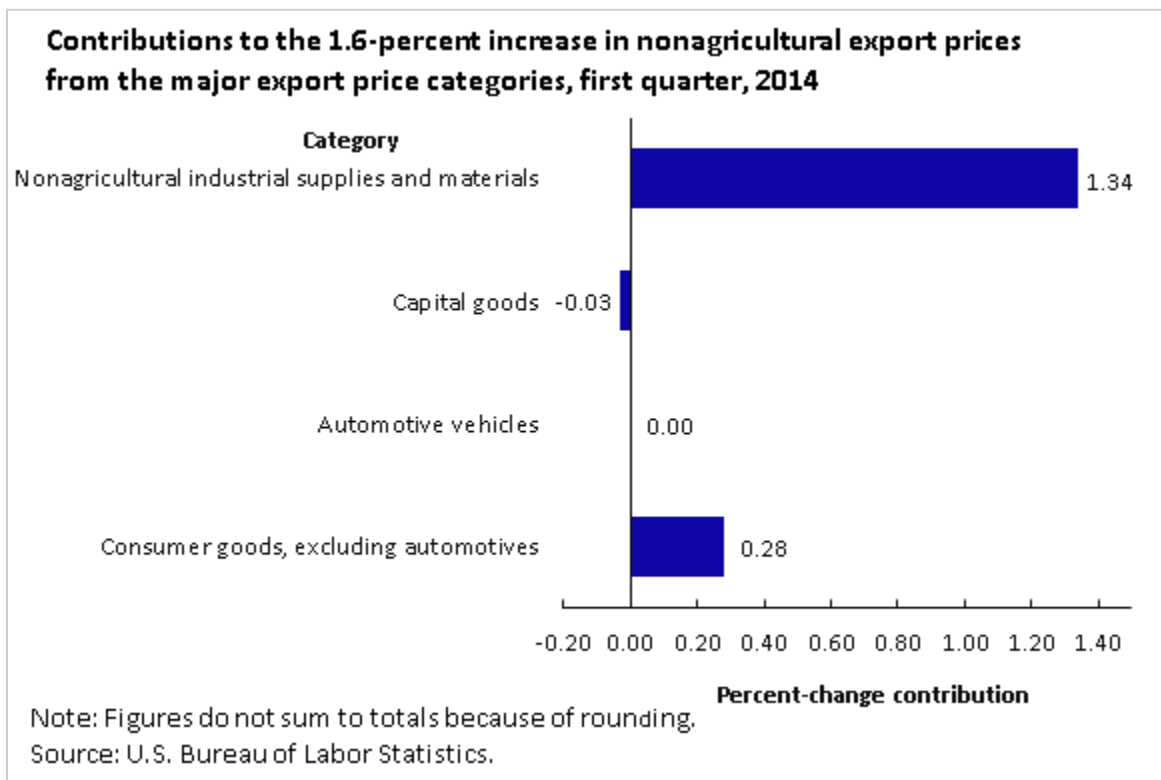
### Export prices

U.S. export prices advanced 1.8 percent during the first quarter of 2014, after edging down 0.1 percent during the fourth quarter of 2013. Prices for nonagricultural commodities increased 1.6 percent for the 3 months ended in March, after recording no change the previous quarter. Agricultural exports prices rose 4.0 percent between December and March, after falling 1.2 percent during the final quarter of 2013.

*Agricultural exports.* The price index for agricultural exports increased 4.0 percent during the first quarter of 2014. A 2.7-percent advance in March and an increase of 1.4 percent in February led the way. Rising prices for soybeans, wheat, meat, corn, and dairy products and eggs were responsible for the increases. Robust demand from China for soybeans as feedstock has resulted in the smallest amount of soybean stockpiles in 10 years: 135 million bushels before this autumn’s harvest, as reported by the U.S. Department of Agriculture (USDA).<sup>16</sup> The tensions in Ukraine have caused higher prices for wheat and corn, as Ukrainian farmers face difficulty getting credit to buy items such as seed and fertilizer.<sup>17</sup> According to USDA projections, Ukraine will be the fifth-largest exporter of wheat and third-largest shipper of corn in the current (2013–2014) marketing year.<sup>18</sup> Weather also was a contributing factor to the rise in grain prices. Dry weather in the southern U.S. Plains, along with a cold front sweeping through the Plains and Midwest have sparked concerns over grain supplies.<sup>19</sup>

*Nonagricultural exports.* Nonagricultural export prices rose 1.6 percent between December and March, the largest quarterly increase since the index advanced 1.7 percent during the second quarter of 2011. As seen in chart 4, most of the increase resulted from higher prices for nonagricultural industrial supplies and materials; these prices were up 3.8 percent for the quarter. As chart 4 shows, for this category of exports. A 2.0-percent rise in nonmonetary gold prices, a 5.2-percent advance in prices for other petroleum products, and a 0.8-percent increase in fuel oil prices were the largest contributors to the overall jump in prices for nonagricultural industrial supplies and materials.

Chart 4



Price movements for finished-goods categories were mixed this quarter. Capital goods prices rose 0.7 percent for the 3 months ended in March while prices for consumer goods declined 0.3 percent for the same period. The price index for automotive vehicles remained unchanged for the quarter.



This **Beyond the Numbers** summary was prepared by Kristen Reed and Sharon Royales, economists in the Office of Prices and Living Conditions, U.S. Bureau of Labor Statistics. Email: [MXPinfo@bls.gov](mailto:MXPinfo@bls.gov). Telephone: 202-691-7101.

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## NOTES

<sup>1</sup> Bloomberg, "Shrimp is big. Now it's sick. And really expensive," April 15, 2014, <http://www.bloomberg.com/news/2014-04-15/shrimp-price-surge-making-noodles-s-pad-thai-more-costly.html>.

<sup>2</sup> "Trade tracker: seafood trade reaches record high in 2013," *SeaFood Business*, April 2014, <http://www.seafoodbusiness.com/articledetail.aspx?id=22965>.

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<sup>4</sup> Bloomberg, "Shrimp is big."

<sup>5</sup> "The surprising sources of your favorite seafoods," *NOAA FishWatch*, last updated December 5, 2013, [http://www.fishwatch.gov/features/top10seafoods\\_and\\_sources\\_10\\_10\\_12.html](http://www.fishwatch.gov/features/top10seafoods_and_sources_10_10_12.html).

<sup>6</sup> Steve Coomes, "Top story: diagnosed," *SeaFood Business*, June 2013, <http://www.seafoodbusiness.com/print.aspx?id=20942>.

<sup>7</sup> "U.S. shrimp Imports, volume by selected sources (1,000 pounds)" (U.S. Department of Agriculture, June 5, 2014), [http://www.ers.usda.gov/datafiles/Aquaculture/Trade/Shrimp\\_Q\\_Yearly.xls](http://www.ers.usda.gov/datafiles/Aquaculture/Trade/Shrimp_Q_Yearly.xls).

<sup>8</sup> "Top story: shrimp prices hit the ceiling for some buyers," *Seafood Business*, December 1, 2013, <http://www.seafoodbusiness.com/articledetail.aspx?id=22640>.

<sup>9</sup> John Kell, "U.S. oil futures top \$100 a barrel, reach 2014 high," *The Wall Street Journal*, February 10, 2014, <http://online.wsj.com/news/articles/SB10001424052702304558804579374170172210680?KEYWORDS=petroleum+prices&mg=reno64-wsj>.

<sup>10</sup> John Kell, "Oil futures climb as U.S. employers continue to add jobs," *The Wall Street Journal*, April 7, 2014, <http://online.wsj.com/news/articles/SB10001424052702303532704579480971084421140?KEYWORDS=petroleum+prices&mg=reno64-wsj>. In April, the government reported that the U.S. economy added 192,000 jobs in March while the unemployment rate remained unchanged. (See "Employment situation summary," *Economic news release* (U.S. Bureau of Labor Statistics, May 2, 2014), <http://www.bls.gov/news.release/empcit.nr0.htm>).

<sup>11</sup> "Total stocks," *Petroleum & other liquids* (U.S. Energy Information Administration, May 14, 2014), [http://www.eia.gov/dnav/pet/pet\\_stoc\\_wstk\\_dcu\\_nus\\_w.htm](http://www.eia.gov/dnav/pet/pet_stoc_wstk_dcu_nus_w.htm).

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<sup>14</sup> Leslie Josephs, "Coffee prices soar to two-year high," *The Wall Street Journal*, March 5, 2014, <http://online.wsj.com/news/articles/SB10001424052702303369904579421312407439916?KEYWORDS=fruit+prices&mg=reno64-wsj>.

<sup>15</sup> Tatyana Shumsky and Chao Deng, "China is losing its taste for gold," *The Wall Street Journal*, April 14, 2014, <http://online.wsj.com/news/articles/SB10001424052702303887804579502030211955954?KEYWORDS=gold+prices&mg=reno64-wsj>.

<sup>16</sup> Tony C. Dreibus, "Soybean prices soar on tighter supplies," *The Wall Street Journal*, April 9, 2014, <http://online.wsj.com/news/articles/SB10001424052702303873604579491651750096212?KEYWORDS=soybean+prices&mg=reno64-wsj>.

<sup>17</sup> Tony C. Dreibus, "Wheat rises 3% as Ukraine tensions threaten exports, production," *The Wall Street Journal*, April 15, 2014, <http://online.wsj.com/news/articles/SB10001424052702303663604579501483930861464?KEYWORDS=wheat+prices&mg=reno64-wsj>.

<sup>18i</sup> Tony C. Dreibus, "Wheat, corn surge on fears Ukraine unrest may cut exports," *The Wall Street Journal*, February 28, 2014, <http://online.wsj.com/news/articles/SB10001424052702304026804579411492993389738?KEYWORDS=wheat+prices&mg=reno64-wsj>.

<sup>19</sup> Tony C. Dreibus, "Weather worries send Grain prices higher," *The Wall Street Journal*, March 24, 2014, <http://online.wsj.com/news/articles/SB10001424052702303949704579459770134971000?KEYWORDS=weather+grains&mg=reno64-wsj>.

### **SUGGESTED CITATION**

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