# Commodity Price Outlook \& Risks 

Research Department, Commodities Team

January 22, 2015

## www.imf.org/commodities

commodities@imf.org
This monthly report presents a price outlook and risk assessment for selected commodities as depicted from futures and options markets.

Outlook. Oil spot prices keep declining, but futures markets expect oil prices to increase, as supply is expected to be curtailed and volatility is expected to decrease. Metal commodity prices are expected to remain broadly unchanged, but with greater uncertainty around the baseline price. Gasoline prices are still expected to follow seasonal patterns, as they will rise through the summer and decline in the colder months. U.S. natural gas prices are projected to follow seasonal patterns as well, as they are expected to remain broadly unchanged and then rise in the next winter. Agricultural commodities have mixed projections for the next year, as rice, wheat, corn and coffee prices are expected to increase, while soybean and soybean meal prices are expected to decline.

Risks. The likelihood of per-barrel prices for WTI falling below $\$ 50$ in the next 12 months is about 65 percent, around 28 percentage points higher than last month. The likelihood of Brent falling below $\$ 50$ is around 53 percent, around 30 percentage points higher than last month. The likelihood of WTI and Brent oil prices rising above $\$ 100$ decreased, signaling a downward shift in the balance of risks for both.

The likelihood of per-MMBtu U.S. natural gas prices below \$3 (12 months forward) increased to 51 percent from 35 percent, while the probability of prices rising above $\$ 7$ remained unchanged at 0.1 percent from last month, reflecting an expected decrease in natural gas prices in the coming year. The risk of copper prices falling below $\$ 2$ a pound jumped to 48 percent, while the probability of prices increasing above $\$ 4$ a pound slightly decreased to 4.9 percent. The probability of gold prices falling below $\$ 1000$ a troy ounce increased to 27 percent, while the probability of a price rise above $\$ 1500$ increased to 11 percent.

The likelihood of per-bushel soybean prices below $\$ 8$ rose to 20 percent from 14 percent, while prices above $\$ 14$ decreased to 1.1 percent from 2.5 percent in December. Similarly, the likelihood of soybean meal prices rising above $\$ 450$ a short ton declined to 2.1 percent from 5.3 percent previously. Meanwhile, the likelihood of perbushel corn prices below $\$ 3$ slightly increased to 11.1 percent from 10.1 percent, while prices above $\$ 7$ decreased to 0.2 percent from 0.5 percent, reflecting stable supply and demand forecasts.

Contents. Fan charts (pages 2-3) show historical and forward futures prices (red line), with calculated confidence intervals of $+/-2$ standard deviations (in purple/blue). Confidence intervals are derived from prices of options on January 21, 2014. Likelihoods of spot prices rising/falling from specified price thresholds occurring at the $3-, 6-, 9$ - and 12 -month forward (or closest available) horizons for each commodity are shown in tabular form (pages $4-5$ ). In addition to price thresholds, the probability of each commodity spot price rising/falling by a certain percentage is shown (pages 6-7). Relevant contract specifications for each commodity are also shown (page 8).

## Selected Commodities—Market Price Outlook and Risks



Natural Gas


-68\% confidence interval ——Futures :utures

## Brent Crude Oil



## Gasoline





## Options-based Price Thresholds

| WTI Crude Oil |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| (probabilities in percent; prices in U.S. dollars a barrel) |  |  |  |  |
| Threshold | Months Forward |  |  |  |
| Prices | 3 | 6 | 9 | 12 |
| $<20$ | 0.1 | 0.4 | 0.1 | 0.2 |
| $<30$ | 3.2 | 6.7 | 6.8 | 7.6 |
| $<40$ | 27.4 | 30.5 | 33.4 | 34.0 |
| $<50$ | 72.8 | 66.1 | 65.5 | 64.8 |
| $<60$ | 94.4 | 88.7 | 86.0 | 84.8 |
| $>70$ | 1.0 | 3.1 | 5.0 | 5.8 |
| $>80$ | 0.2 | 0.8 | 1.6 | 2.0 |
| $>90$ | 0.1 | 0.2 | 0.5 | 0.7 |
| $>100$ | 0.0 | 0.1 | 0.1 | 0.2 |
| $>110$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $>120$ | 0.0 | 0.0 | 0.0 | 0.0 |

U.S. Natural Gas

| (probabilities in percent; prices in U.S. dollars an MMBtu) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Threshold | Months Forward |  |  |  |
| Prices | 3 | 6 | 9 | 12 |
| $<2.50$ | 36.1 | 32.8 | 37.1 | 24.7 |
| $<3.00$ | 68.2 | 63.7 | 64.5 | 51.0 |
| $<3.50$ | 88.0 | 84.6 | 83.4 | 73.5 |
| $>4.00$ | 3.8 | 5.5 | 6.9 | 12.4 |
| $>4.50$ | 1.1 | 1.8 | 2.6 | 5.4 |
| $>5.00$ | 0.3 | 0.5 | 1.0 | 2.2 |
| $>5.50$ | 0.1 | 0.2 | 0.4 | 0.9 |
| $>6.00$ | 0.0 | 0.0 | 0.1 | 0.4 |
| $>6.50$ | 0.0 | 0.0 | 0.1 | 0.2 |
| $>7.00$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $>7.50$ | 0.0 | 0.0 | 0.0 | 0.0 |

Copper
(probabilities in percent; prices in U.S. dollars a pound)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<1.0$ | 0.0 | 3.1 | 3.6 | 4.0 |
| $<1.5$ | 0.1 | 20.5 | 21.7 | 22.6 |
| $<2.0$ | 3.9 | 46.3 | 47.4 | 48.1 |
| $<2.5$ | 40.1 | 68.3 | 68.8 | 69.2 |
| $>3.0$ | 7.5 | 17.3 | 17.2 | 17.1 |
| $>3.5$ | 1.0 | 9.1 | 9.2 | 9.2 |
| $>4.0$ | 0.1 | 4.7 | 4.8 | 4.9 |
| $>4.5$ | 0.0 | 2.4 | 2.5 | 2.6 |
| $>5.0$ | 0.0 | 1.2 | 1.3 | 1.4 |
| $>5.5$ | 0.0 | 0.6 | 0.7 | 0.7 |
| $>6.0$ | 0.0 | 0.3 | 0.4 | 0.4 |


| (probabilities in percent; prices in U.S. dollars a barrel) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Threshold | Months Forward |  |  |  |
| Prices | 3 | 6 | 9 | 12 |
| $<20$ | 0.0 | 0.1 | 0.0 | 0.0 |
| $<30$ | 1.5 | 3.8 | 2.9 | 3.0 |
| $<40$ | 17.5 | 21.6 | 23.2 | 21.7 |
| $<50$ | 64.0 | 55.6 | 56.7 | 52.8 |
| $<60$ | 92.8 | 83.6 | 81.8 | 78.0 |
| $>70$ | 1.1 | 4.5 | 6.3 | 8.7 |
| $>80$ | 0.2 | 1.1 | 1.9 | 3.1 |
| $>90$ | 0.0 | 0.3 | 0.5 | 1.0 |
| $>100$ | 0.0 | 0.1 | 0.1 | 0.3 |
| $>110$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $>120$ | 0.0 | 0.0 | 0.0 | 0.0 |

Gasoline

| (probabilities in percent; prices in U.S. dollars a gallon) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Threshold | Months Forward |  |  |  |
| Prices | 3 | 6 | 9 | 12 |
| $<1.00$ | 1.1 | 7.1 | 20.7 | 23.6 |
| $<1.25$ | 17.7 | 32.6 | 49.5 | 50.9 |
| $<1.50$ | 57.5 | 64.6 | 75.0 | 75.2 |
| $<1.75$ | 87.2 | 85.9 | 89.6 | 89.5 |
| $<2.00$ | 97.5 | 95.4 | 96.1 | 95.9 |
| $>2.25$ | 0.4 | 1.3 | 1.4 | 1.6 |
| $>2.50$ | 0.0 | 0.4 | 0.5 | 0.6 |
| $>2.75$ | 0.0 | 0.1 | 0.2 | 0.3 |
| $>3.00$ | 0.0 | 0.0 | 0.1 | 0.1 |
| $>3.25$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $>3.50$ | 0.0 | 0.0 | 0.0 | 0.0 |

Gold

| (probabilities in percent; prices in U.S. dollars a troy ounce) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Threshold | Months Forward |  |  |  |
| Prices | 3 | 6 | 9 | 12 |
| $<900$ | 0.2 | 3.6 | 8.2 | 14.8 |
| $<1000$ | 3.4 | 12.5 | 19.6 | 27.4 |
| $<1100$ | 17.6 | 28.8 | 35.8 | 42.6 |
| $<1200$ | 45.5 | 50.7 | 54.4 | 58.0 |
| $<1300$ | 73.8 | 71.7 | 71.2 | 71.3 |
| $>1400$ | 9.0 | 14.2 | 16.7 | 18.5 |
| $>1500$ | 2.4 | 6.6 | 9.2 | 11.6 |
| $>1600$ | 0.5 | 2.8 | 4.9 | 7.0 |
| $>1700$ | 0.1 | 1.1 | 2.5 | 4.1 |
| $>1800$ | 0.0 | 0.4 | 1.2 | 2.4 |
| $>1900$ | 0.0 | 0.1 | 0.6 | 1.4 |

# Options-based Price Thresholds (concluded) 

Corn
(probabilities in percent; prices in U.S. dollars a bushel)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<2.5$ | 0.0 | 1.6 | 1.9 | 1.8 |
| $<3.0$ | 0.4 | 11.5 | 11.9 | 11.1 |
| $<3.5$ | 10.7 | 34.3 | 33.9 | 32.0 |
| $<4.0$ | 60.4 | 61.3 | 59.7 | 57.5 |
| $>4.5$ | 5.6 | 18.5 | 20.4 | 22.2 |
| $>5.0$ | 0.4 | 7.5 | 8.9 | 9.9 |
| $>5.5$ | 0.0 | 2.7 | 3.5 | 4.0 |
| $>6.0$ | 0.0 | 0.9 | 1.2 | 1.5 |
| $>6.5$ | 0.0 | 0.3 | 0.4 | 0.5 |
| $>7.0$ | 0.0 | 0.1 | 0.1 | 0.2 |
| $>7.5$ | 0.0 | 0.0 | 0.0 | 0.1 |

Rough Rice
(probabilities in percent; prices in U.S. dollars a hundredweight)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<0.10$ | 24.6 | 25.7 | 40.5 | 39.1 |
| $<0.11$ | 47.5 | 46.0 | 56.7 | 54.6 |
| $<0.12$ | 69.6 | 65.9 | 70.7 | 68.3 |
| $<0.13$ | 84.9 | 80.8 | 81.3 | 78.9 |
| $>0.14$ | 6.4 | 9.6 | 11.3 | 13.3 |
| $>0.15$ | 2.4 | 4.4 | 6.6 | 8.1 |
| $>0.16$ | 0.8 | 1.9 | 3.7 | 4.8 |
| $>0.17$ | 0.3 | 0.7 | 2.0 | 2.8 |
| $>0.18$ | 0.1 | 0.3 | 1.1 | 1.6 |
| $>0.19$ | 0.0 | 0.1 | 0.6 | 0.9 |
| $>0.20$ | 0.0 | 0.0 | 0.3 | 0.5 |

Soybeans
(probabilities in percent; prices in U.S. dollars a bushel)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<7$ | 0.3 | 2.0 | 5.3 | 6.0 |
| $<8$ | 2.1 | 11.8 | 19.9 | 20.5 |
| $<9$ | 17.7 | 34.2 | 43.5 | 43.3 |
| $<10$ | 60.9 | 61.2 | 67.2 | 66.1 |
| $<11$ | 91.4 | 81.9 | 84.0 | 82.8 |
| $>12$ | 1.3 | 6.9 | 6.7 | 7.7 |
| $>13$ | 0.2 | 2.2 | 2.5 | 3.1 |
| $>14$ | 0.1 | 0.6 | 0.8 | 1.1 |
| $>15$ | 0.0 | 0.2 | 0.3 | 0.4 |
| $>16$ | 0.0 | 0.0 | 0.1 | 0.1 |
| $>17$ | 0.0 | 0.0 | 0.0 | 0.1 |

Coffee
(probabilities in percent; prices in U.S. dollars a pound)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<1.0$ | 0.2 | 3.3 | 5.6 | 7.2 |
| $<1.2$ | 3.4 | 11.4 | 15.9 | 18.3 |
| $<1.4$ | 17.7 | 29.1 | 34.4 | 37.0 |
| $<1.6$ | 49.4 | 56.1 | 58.0 | 58.7 |
| $<1.8$ | 82.4 | 78.7 | 77.2 | 76.3 |
| $>2.0$ | 4.6 | 9.4 | 11.4 | 12.7 |
| $>2.2$ | 1.2 | 4.3 | 5.8 | 6.7 |
| $>2.4$ | 0.3 | 2.1 | 3.0 | 3.6 |
| $>2.6$ | 0.1 | 1.0 | 1.6 | 2.0 |
| $>2.8$ | 0.0 | 0.5 | 0.9 | 1.2 |
| $>3.0$ | 0.0 | 0.2 | 0.5 | 0.7 |

Wheat
(probabilities in percent; prices in U.S. dollars a bushel)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<2$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $<3$ | 0.0 | 0.2 | 0.1 | 0.6 |
| $<4$ | 1.3 | 4.7 | 8.1 | 6.5 |
| $>5$ | 72.8 | 61.6 | 56.5 | 63.9 |
| $>6$ | 10.5 | 17.9 | 20.0 | 26.0 |
| $>7$ | 0.9 | 2.9 | 4.5 | 7.3 |
| $>8$ | 0.1 | 0.5 | 0.8 | 1.9 |
| $>9$ | 0.0 | 0.1 | 0.1 | 0.6 |
| $>10$ | 0.0 | 0.0 | 0.0 | 0.3 |
| $>11$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $>12$ | 0.0 | 0.0 | 0.0 | 0.0 |

## Soybean Meal

(probabilities in percent; prices in U.S. dollars a short ton)

| Threshold | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Prices | 3 | 6 | 9 | 12 |
| $<100$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $<150$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $<200$ | 1.0 | 1.5 | 2.1 | 2.5 |
| $<250$ | 13.9 | 15.7 | 18.5 | 19.6 |
| $<300$ | 46.6 | 48.0 | 51.2 | 51.5 |
| $>350$ | 22.4 | 22.5 | 20.9 | 21.5 |
| $>400$ | 6.8 | 7.3 | 6.8 | 7.4 |
| $>450$ | 1.6 | 1.9 | 1.8 | 2.1 |
| $>500$ | 0.3 | 0.4 | 0.4 | 0.5 |
| $>550$ | 0.1 | 0.1 | 0.1 | 0.1 |
| $>600$ | 0.0 | 0.0 | 0.0 | 0.0 |

## Options-based Probabilities of Price Changes

## (in percent)

| WTI Crude Oil |  |  |  |  | Brent Crude Oil |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price changes | Months Forward |  |  |  | Price changes | Months Forward |  |  |  |
|  | 3 | 6 | 9 | 12 |  | 3 | 6 | 9 | 12 |
| -50\% | 62.7 | 57.8 | 58.3 | 57.9 | -50\% | 80.2 | 69.2 | 68.9 | 64.7 |
| -30\% | 98.2 | 95.0 | 92.8 | 91.8 | -30\% | 99.6 | 98.0 | 96.8 | 95.2 |
| -10\% | 99.9 | 99.6 | 99.2 | 98.9 | -10\% | 100.0 | 99.9 | 99.8 | 99.6 |
| +10\% | 0.0 | 0.0 | 0.1 | 0.1 | +10\% | 0.0 | 0.0 | 0.0 | 0.0 |
| +30\% | 0.0 | 0.0 | 0.0 | 0.0 | +30\% | 0.0 | 0.0 | 0.0 | 0.0 |
| +50\% | 0.0 | 0.0 | 0.0 | 0.0 | +50\% | 0.0 | 0.0 | 0.0 | 0.0 |
| +100\% | 0.0 | 0.0 | 0.0 | 0.0 | +100\% | 0.0 | 0.0 | 0.0 | 0.0 |
| U.S. Natural Gas |  |  |  |  | Gasoline |  |  |  |  |
| Price changes | Months Forward |  |  |  | Price changes | Months Forward |  |  |  |
|  | 3 | 6 | 9 | 12 |  | 3 | 6 | 9 | 12 |
| -50\% | 18.4 | 16.6 | 21.8 | 12.8 | -50\% | 26.1 | 40.6 | 56.5 | 57.5 |
| -30\% | 73.4 | 69.0 | 69.2 | 56.2 | -30\% | 92.3 | 90.1 | 92.5 | 92.3 |
| -10\% | 96.1 | 94.4 | 93.0 | 87.3 | -10\% | 99.8 | 99.2 | 99.1 | 99.0 |
| +10\% | 0.4 | 0.7 | 1.3 | 2.8 | +10\% | 0.0 | 0.0 | 0.1 | 0.2 |
| +30\% | 0.0 | 0.1 | 0.2 | 0.6 | +30\% | 0.0 | 0.0 | 0.0 | 0.0 |
| +50\% | 0.0 | 0.0 | 0.0 | 0.1 | +50\% | 0.0 | 0.0 | 0.0 | 0.0 |
| +100\% | 0.0 | 0.0 | 0.0 | 0.0 | +100\% | 0.0 | 0.0 | 0.0 | 0.0 |
| Copper |  |  |  |  | Gold |  |  |  |  |
| Price changes | Months Forward |  |  |  | Price changes | Months Forward |  |  |  |
|  | 3 | 6 | 9 | 12 |  | 3 | 6 | 9 | 12 |
| -50\% | 0.4 | 29.4 | 30.6 | 31.5 | -50\% | 0.0 | 0.0 | 0.1 | 0.4 |
| -30\% | 20.8 | 62.4 | 63.0 | 63.5 | -30\% | 0.1 | 2.2 | 5.8 | 11.6 |
| -10\% | 93.0 | 83.0 | 83.1 | 83.2 | -10\% | 21.8 | 32.4 | 39.1 | 45.4 |
| +10\% | 0.5 | 7.1 | 7.2 | 7.3 | +10\% | 13.5 | 18.2 | 20.3 | 21.6 |
| +30\% | 0.0 | 2.9 | 3.0 | 3.1 | +30\% | 0.4 | 2.5 | 4.4 | 6.5 |
| +50\% | 0.0 | 1.2 | 1.3 | 1.3 | +50\% | 0.0 | 0.2 | 0.8 | 1.7 |
| +100\% | 0.0 | 0.1 | 0.2 | 0.2 | +100\% | 0.0 | 0.0 | 0.0 | 0.0 |

## Options-based Probabilities of Price Changes (concluded)

(in percent)

| Corn |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Price <br> changes | Months Forward |  |  |  |
| $-50 \%$ | 0.0 | 0.1 | 0.2 | 0.3 |
| $-30 \%$ | 0.4 | 10.6 | 11.1 | 10.3 |
| $-10 \%$ | 40.1 | 52.2 | 50.9 | 48.7 |
| $+10 \%$ | 2.2 | 13.7 | 15.5 | 17.0 |
| $+30 \%$ | 0.0 | 2.5 | 3.3 | 3.8 |
| $+50 \%$ | 0.0 | 0.4 | 0.5 | 0.7 |
| $+100 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |
| Rough Rice |  |  |  |  |
|  | Months Forward |  |  |  |
| Price | 6 | 6 | 9 | 12 |
| changes | 3 |  |  |  |
| $-50 \%$ | 0.9 | 1.6 | 8.8 | 9.0 |
| $-30 \%$ | 43.1 | 42.1 | 53.8 | 51.8 |
| $-10 \%$ | 93.0 | 89.7 | 88.1 | 86.1 |
| $+10 \%$ | 0.3 | 0.7 | 2.0 | 2.8 |
| $+30 \%$ | 0.0 | 0.0 | 0.3 | 0.5 |
| $+50 \%$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $+100 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |

Soybeans

| Price | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| changes | 3 | 6 | 9 | 12 |
| $-50 \%$ | 0.1 | 0.4 | 1.7 | 2.1 |
| $-30 \%$ | 16.5 | 33.1 | 42.5 | 42.3 |
| $-10 \%$ | 96.9 | 88.9 | 89.7 | 88.6 |
| $+10 \%$ | 0.1 | 0.6 | 0.8 | 1.0 |
| $+30 \%$ | 0.0 | 0.0 | 0.0 | 0.1 |
| $+50 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $+100 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |

Coffee

| Price <br> changes | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 3 | 6 | 9 | 12 |
| $-50 \%$ | 0.0 | 0.0 | 0.0 | 0.2 |
| $-30 \%$ | 0.0 | 0.5 | 1.3 | 2.2 |
| $-10 \%$ | 0.4 | 4.6 | 7.4 | 9.1 |
| $+10 \%$ | 92.8 | 83.2 | 78.0 | 75.2 |
| $+30 \%$ | 67.0 | 56.4 | 52.7 | 50.9 |
| $+50 \%$ | 24.9 | 26.6 | 27.4 | 28.0 |
| $+100 \%$ | 0.5 | 2.7 | 3.9 | 4.6 |

Wheat

| Price <br> changes | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 3 | 6 | 9 | 12 |
| $-50 \%$ | 0.0 | 0.1 | 0.0 | 0.3 |
| $-30 \%$ | 1.0 | 4.0 | 6.9 | 5.7 |
| $-10 \%$ | 31.4 | 41.5 | 46.1 | 38.5 |
| $+10 \%$ | 6.4 | 13.1 | 15.6 | 20.9 |
| $+30 \%$ | 0.4 | 1.6 | 2.7 | 4.7 |
| $+50 \%$ | 0.0 | 0.3 | 0.3 | 1.2 |
| $+100 \%$ | 0.0 | 0.0 | 0.0 | 0.1 |

Soybean Meal

| Price | Months Forward |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| changes | 3 | 6 | 9 | 12 |
| $-50 \%$ | 1.8 | 2.5 | 3.4 | 4.0 |
| $-30 \%$ | 40.4 | 42.0 | 45.4 | 45.9 |
| $-10 \%$ | 87.2 | 86.8 | 87.7 | 87.0 |
| $+10 \%$ | 1.2 | 1.5 | 1.5 | 1.7 |
| $+30 \%$ | 0.1 | 0.1 | 0.1 | 0.2 |
| $+50 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |
| $+100 \%$ | 0.0 | 0.0 | 0.0 | 0.0 |

## Commodity Derivative Contract Specifications

| Commodity | Exchange | Contract | Physical Characteristics | Contract Size | Pricing Unit | Months Traded |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brent crude oil | ICE Europe | Futures | Light sweet crude oil | 1,000 barrels | U.S. dollars per barrel |  |
|  |  | Options |  | One crude oil futures contract of 1,000 barrels |  | Consecutive months up to and including February 2020 |
| WTI crude oil | New York <br> Mercantile <br> Exchange | Futures Options | Light sweet crude oil | 1,000 barrels <br> One crude oil futures contract of 1,000 barrels | U.S. dollars per barrel | Consecutive months are listed for the current year and the next five years; in addition, the Jun and Dec contract months are listed beyond the sixth year. |
| Natural Gas | New York <br> Mercantile Exchange | Futures | Natural gas delivered at Henry Hub, LA | 10,000 MMBtu | U.S. dollars per MMBtu | Consecutive months for the current year plus the next |
|  |  | Options |  | One natural gas futures contract of 10,000 MMBtu |  | twelve full calendar years. |
| Gasoline | New York <br> Mercantile <br> Exchange | Futures | New York Harbor RBOB | 42,000 gallons | U.S. cents per gallon | Consecutive months for 36 |
|  |  | Options |  | One gasoline futures contract of 42,000 gallons |  | months |
| Gold | Chicago <br> Mercantile Exchange | Futures | Gold (a minimum of 995 fineness) | 100 troy ounces | U.S. dollars per troy ounce | Current calendar month; the next two calendar months; any Feb, Apr, Aug, and Oct falling within a 23 -month |
|  |  | Options |  | One COMEX Gold futures contract |  | falling within a 72 -month period beginning with the current month. |
| Corn | Chicago <br> Mercantile Exchange | Futures | Yellow corn grade \#2 | 5,000 bushels ( $127 \mathrm{MT} \mathrm{)}$ | U.S. cents per bushel | Mar, May, Jul, Sep, Dec. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One corn futures contract (of a specified month) of 5,000 bushels |  |  |
| Coffee | ICE | Futures | Arabica coffee from 19 countries of origin | 37,500 lbs | U.S. cents per pound | Mar, May, Jul, Sep, Dec. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One coffee futures contract (of a specified month) of $37,500 \mathrm{lbs}$ |  |  |
| Rough rice | Chicago <br> Mercantile Exchange | Futures | U.S. \#2 long grain rough rice with a total milling yield of 65\%+ | 2,000 hundredweights (CWT) | U.S. cents per hundredweight | Jan, Mar, May, Jul, Sep, Nov. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One rough rice futures contract of 2,000 hundredweights (CWT) |  |  |
| Wheat | Chicago <br> Mercantile Exchange | Futures | \#2 soft red winter wheat | 5,000 bushels ( $136 \mathrm{MT} \mathrm{)}$ | U.S. cents per bushel | Mar, May, July, Sep, Dec. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One Wheat futures contract (of a specified month) of 5,000 bushels |  |  |
| Soybean meal | Chicago <br> Mercantile Exchange | Futures | Meal with minimum protein of 48\% | 100 short tons | U.S. dollars per ton | Jan, Mar, May, Jul, Aug, Sep, Oct, Dec. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One soybean meal futures contract (of a specified month) of 100 short tons |  |  |
| Soybeans | Chicago <br> Mercantile Exchange | Futures | Yellow soybean grade \#2 | 5,000 bushels ( 136 MT ) | U.S. cents per bushel | Jan, Mar, May, Jul, Aug, Sep, Nov. The monthly option contract exercises into the nearby futures contract. |
|  |  | Options |  | One soybean futures contract (of a specified month) of 5,000 bushels |  |  |

Sources: Chicago Board of Trade, ICE, Bloomberg, L.P.

## N T ERNATIONAL M ONETARYGUND

