Commodity Price Outlook & Risks

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

Outlook. After falling below 27 dollars on mid-January, oil spot prices modestly recovered and are hovering around 30 dollars. Futures markets are pointing to a modest increase over the next year. Uncertainty about the outlook for oil prices is at the highest level after the financial crisis. Risks to the downside include more subdued aggregate demand growth and sustained oil production growth. On the upside, geopolitical risks could be major factors. Gasoline prices are expected to rise through the summer and decline in the colder months, following seasonal patterns. U.S. natural gas prices are still projected to moderately rise in the coming months. Metal prices are expected to remain broadly unchanged on slowing demand growth in China and general ample supply. Agricultural prices are projected to modestly increase over the next twelve months on weather concerns partly related to the El Nino event.

Risks. The likelihood of per-barrel prices for WTI falling below $20 in the next 12 months rose to 13 percent from 5 percent, and the likelihood of Brent falling below $20 decreased to 13 percent, almost the same level as the last month. The likelihood of WTI and Brent oil prices rising above $50 decreased, signaling a downward shift in the balance of risks. Overall uncertainty stays at a significantly high level.

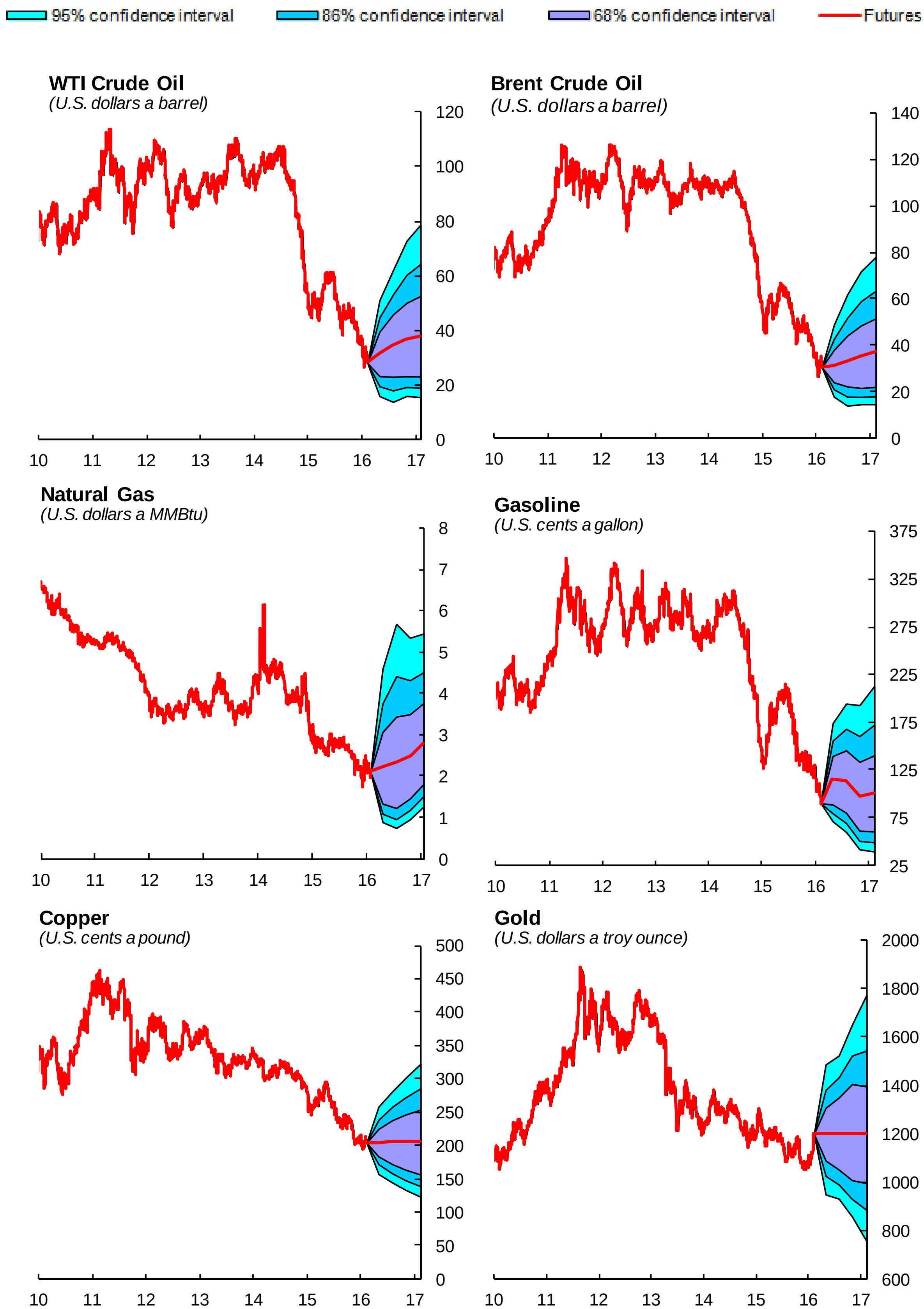
The likelihood of per-MMBtu U.S. natural gas prices below $1.5 (12 months forward) increased to 9 percent from 2 percent, while the probability of prices rising above $3.5 decreased to 6 percent from 9 percent, suggesting a downward shift in price uncertainty.

For metals, the risk of copper prices falling below $1.25 a pound decreased to 3 percent from 10 percent, and the probability of prices increasing above $2.5 a pound remained broadly unchanged, signaling the decline in uncertainty. The probability of gold prices falling below $900 a troy ounce decreased to 9 percent from 15 percent, while the probability of an increase beyond $1400 increased to 11 percent from 4 percent last month.

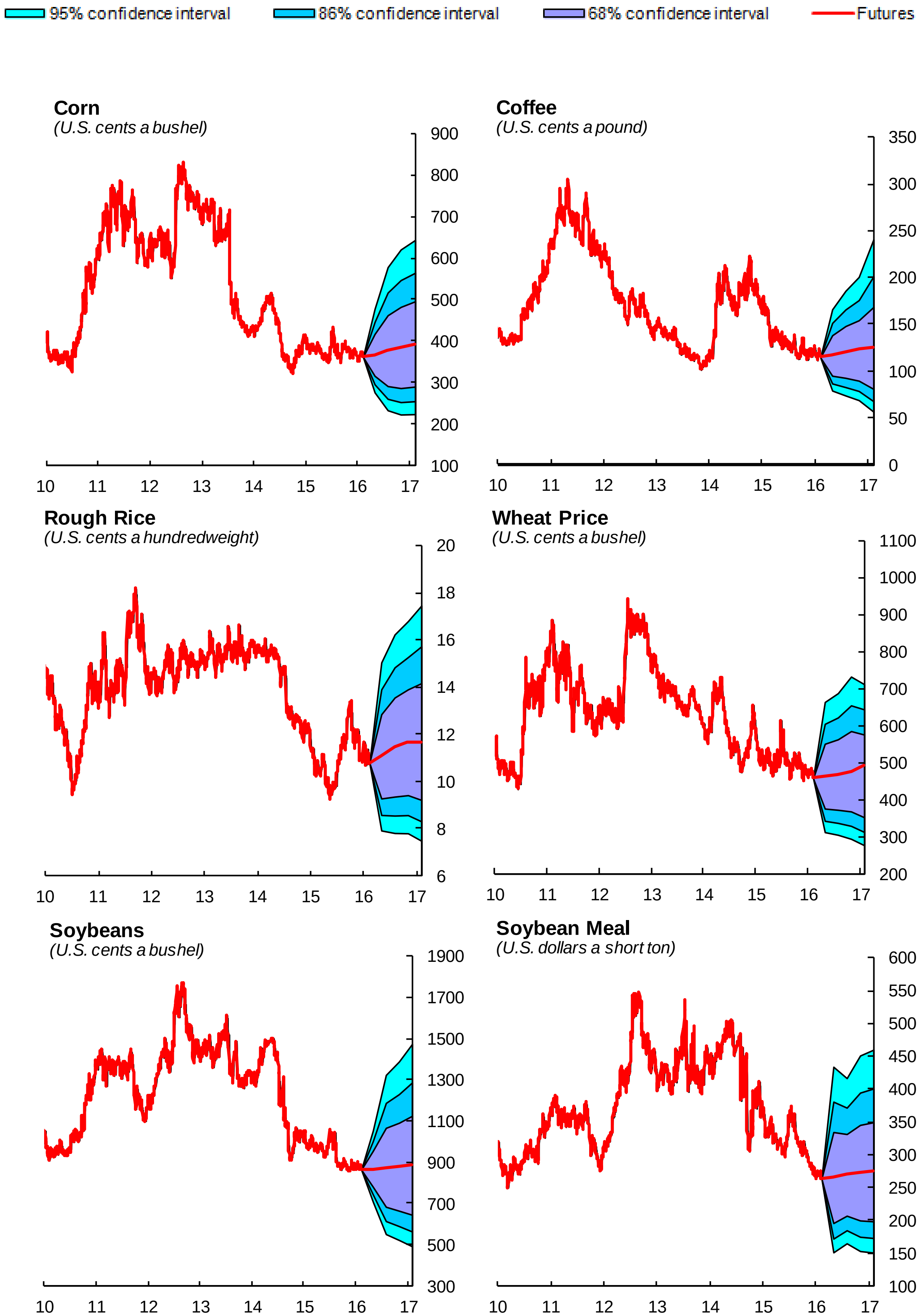
The likelihood of per bushel corn prices below $2.5 sharply increased to 24 percent from 9 percent, while the probability of prices increasing above $5 dropped to 3 percent from 5 percent in January. The likelihood of soybean meal prices rising above $350 a short ton slide to 8 percent from 10 percent. Meanwhile, the likelihood of per-bushel soybean prices below $6 increased slightly to 12 percent from 11 percent, and the probability of an increase above $11 remained broadly unchanged at 10 percent, as large inventories continue to offset weather concerns.

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 February 9, 2016. 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



Selected Commodities—Market Price Outlook and Risks (concluded)



Options-based Price Thresholds

WTI Crude Oil

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

Threshold Prices	Months Forward 3	6	9	12
< 15	1.5	3.0	1.7	2.1
< 20	9.3	12.5	12.0	12.9
< 25	29.2	29.7	32.6	33.3
< 30	58.0	52.2	55.7	55.4
> 35	18.8	27.3	25.9	26.8
> 40	6.9	13.5	14.0	15.0
> 45	2.2	6.0	7.2	8.0
> 50	0.7	2.5	3.6	4.2
> 55	0.2	1.0	1.7	2.1
> 60	0.1	0.4	0.8	1.1
> 65	0.0	0.2	0.4	0.5

Brent Crude Oil

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

Threshold Prices	Months Forward 3	6	9	12
< 15	0.6	2.3	2.2	2.3
< 20	5.3	11.2	13.5	13.1
< 25	24.3	29.6	34.4	32.9
< 30	56.6	53.4	56.8	54.6
> 35	17.8	25.9	25.6	27.8
> 40	5.9	12.6	14.1	16.0
> 45	1.8	5.6	7.4	8.8
> 50	0.6	2.4	3.7	4.6
> 55	0.2	1.0	1.9	2.4
> 60	0.1	0.4	0.9	1.3
> 65	0.0	0.2	0.5	0.7

U.S. Natural Gas

(probabilities in percent; prices in U.S. dollars an MMBtu)

Threshold Prices	Months Forward 3	6	9	12
< 1.00	2.8	4.8	2.1	0.4
< 1.50	25.6	29.3	20.9	9.4
< 2.00	59.5	60.1	52.5	36.6
> 2.50	17.5	19.1	23.1	34.0
> 3.00	6.7	8.4	9.9	15.2
> 3.50	2.4	3.5	4.0	6.0
> 4.00	0.8	1.5	1.5	2.3
> 4.50	0.3	0.6	0.6	0.8
> 5.00	0.1	0.3	0.2	0.3
> 5.50	0.0	0.1	0.1	0.1
> 6.00	0.0	0.0	0.0	0.0

Gasoline

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

Threshold Prices	Months Forward 3	6	9	12
< 0.25	0.0	0.0	0.0	0.0
< 0.50	0.0	0.6	5.7	6.3
< 0.75	6.6	16.9	38.5	38.7
> 1.00	54.8	43.8	26.4	27.2
> 1.25	17.2	15.4	8.8	9.7
> 1.50	3.4	4.2	2.5	3.1
> 1.75	0.5	1.0	0.7	1.0
> 2.00	0.1	0.2	0.2	0.3
> 2.25	0.0	0.0	0.1	0.1
> 2.50	0.0	0.0	0.0	0.0
> 2.75	0.0	0.0	0.0	0.0

Copper

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

Threshold Prices	Months Forward 3	6	9	12
< 0.75	0.0	0.0	0.0	0.0
< 1.00	0.0	0.0	0.0	0.2
< 1.25	0.1	0.3	1.2	2.8
< 1.50	1.6	4.4	9.1	13.7
< 1.75	10.1	21.6	29.6	34.8
> 2.00	52.5	47.2	43.6	41.3
> 2.25	12.7	19.9	21.8	22.4
> 2.50	2.5	6.4	9.2	10.7
> 2.75	0.6	1.8	3.4	4.7
> 3.00	0.2	0.5	1.1	2.0
> 3.25	0.0	0.1	0.4	0.8

Gold

(probabilities in percent; prices in U.S. dollars a troy ounce)

Threshold Prices	Months Forward 3	6	9	12
< 700	0.0	0.0	0.1	1.2
< 800	0.1	0.1	1.0	3.6
< 900	1.3	1.5	5.5	8.5
< 1000	5.8	9.5	17.4	18.8
> 1100	79.1	70.1	63.2	62.7
> 1200	43.8	42.7	41.7	40.2
> 1300	14.4	20.1	23.8	21.7
> 1400	4.2	7.4	11.9	10.6
> 1500	1.4	2.2	5.3	5.1
> 1600	0.5	0.6	2.2	2.6
> 1700	0.1	0.1	0.8	1.4

Options-based Price Thresholds (concluded)

Corn

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

Threshold Prices	Months Forward 3	6	9	12
< 2.0	0.0	0.4	0.8	0.8
< 2.5	10.3	23.5	25.6	24.4
< 3.0	45.3	50.4	50.4	48.2
> 3.5	19.4	26.1	28.1	30.4
> 4.0	4.1	11.6	13.9	15.7
> 4.5	0.6	4.5	6.2	7.3
> 5.0	0.1	1.6	2.6	3.2
> 5.5	0.0	0.5	1.0	1.3
> 6.0	0.0	0.2	0.4	0.5
> 6.5	0.0	0.1	0.1	0.2
> 7.0	0.0	0.0	0.1	0.1

Coffee

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

Threshold Prices	Months Forward 3	6	9	12
< 0.6	0.0	0.2	0.5	2.7
< 0.8	3.1	5.8	8.8	16.8
< 1.0	27.2	30.0	33.6	41.6
< 1.2	66.5	63.1	63.3	65.7
> 1.4	9.7	14.5	16.2	17.8
> 1.6	2.0	4.6	6.1	8.4
> 1.8	0.3	1.2	2.1	3.8
> 2.0	0.0	0.3	0.7	1.7
> 2.2	0.0	0.1	0.2	0.7
> 2.4	0.0	0.0	0.1	0.3
> 2.6	0.0	0.0	0.0	0.1

Rough Rice

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

Threshold Prices	Months Forward 3	6	9	12
< 0.06	0.0	0.0	0.0	0.1
< 0.07	0.4	0.6	0.7	1.4
< 0.08	3.5	4.2	4.3	6.2
< 0.09	14.5	14.5	14.1	17.2
< 0.10	35.1	32.4	30.9	34.0
> 0.11	41.1	46.7	49.1	47.5
> 0.12	21.6	28.0	30.9	30.8
> 0.13	9.7	14.9	17.4	18.3
> 0.14	3.8	7.2	9.0	10.1
> 0.15	1.3	3.2	4.3	5.2
> 0.16	0.4	1.3	1.9	2.6

Wheat

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

Threshold Prices	Months Forward 3	6	9	12
< 2.0	0.0	0.0	0.0	0.0
< 2.5	0.1	0.2	0.3	0.7
< 3.0	1.6	2.2	3.3	5.2
< 3.5	9.9	11.3	13.2	17.4
< 4.0	29.3	30.3	31.4	36.5
> 4.5	45.6	46.1	47.0	42.8
> 5.0	24.3	25.9	28.4	25.8
> 5.5	11.0	12.6	15.3	14.1
> 6.0	4.3	5.5	7.5	7.1
> 6.5	1.6	2.2	3.5	3.4
> 7.0	0.5	0.8	1.5	1.6

Soybeans

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

Threshold Prices	Months Forward 3	6	9	12
< 5	0.0	0.8	1.5	2.6
< 6	0.0	6.4	8.8	11.6
< 7	2.3	22.0	25.4	28.5
< 8	25.4	45.2	47.4	49.2
< 9	69.9	67.5	67.7	67.7
> 10	5.7	16.6	17.6	18.7
> 11	0.6	7.5	8.7	10.0
> 12	0.0	3.1	4.0	5.1
> 13	0.0	1.2	1.8	2.5
> 14	0.0	0.4	0.7	1.2
> 15	0.0	0.2	0.3	0.5

Soybean Meal

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

Threshold Prices	Months Forward 3	6	9	12
< 100	0.0	0.0	0.0	0.0
< 150	2.1	0.9	1.9	2.2
< 200	20.6	14.9	18.9	19.6
< 250	54.7	49.9	51.6	51.8
> 300	18.8	19.9	21.4	21.8
> 350	6.3	5.9	7.6	8.1
> 400	1.8	1.4	2.4	2.6
> 450	0.5	0.3	0.7	0.8
> 500	0.1	0.1	0.2	0.2
> 550	0.0	0.0	0.0	0.1
> 600	0.0	0.0	0.0	0.0

Options-based Probabilities of Price Changes

(in percent)

WTI Crude Oil

Price changes	Months Forward 3	6	9	12
-50%	0.9	2.0	1.0	1.2
-30%	8.2	11.4	10.6	11.5
-10%	30.0	30.4	33.3	33.9
+10%	38.0	44.5	41.2	41.6
+30%	14.7	23.0	22.2	23.1
+50%	4.5	10.0	10.9	11.9
+100%	0.2	0.8	1.5	1.9

Brent Crude Oil

Price changes	Months Forward 3	6	9	12
-50%	0.6	2.4	2.4	2.5
-30%	8.3	14.9	18.1	17.4
-10%	38.9	40.6	45.2	43.3
+10%	24.3	31.7	30.5	32.8
+30%	6.6	13.6	15.0	16.9
+50%	1.6	5.1	6.8	8.1
+100%	0.1	0.4	0.8	1.1

U.S. Natural Gas

Price changes	Months Forward 3	6	9	12
-50%	3.9	6.2	2.9	0.6
-30%	23.6	27.3	19.2	8.3
-10%	52.4	53.8	45.5	29.5
+10%	24.7	25.7	31.0	44.4
+30%	11.4	13.2	15.9	24.0
+50%	5.0	6.5	7.6	11.7
+100%	0.5	1.0	1.1	1.5

Gasoline

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.2	2.7	3.2
-30%	1.0	5.1	19.7	20.4
-10%	12.7	25.3	48.0	47.9
+10%	57.0	45.5	27.6	28.4
+30%	26.6	22.4	12.8	13.8
+50%	9.5	9.5	5.4	6.2
+100%	0.4	0.8	0.5	0.8

Copper

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.0	0.1	0.3
-30%	0.9	2.4	5.6	9.4
-10%	18.5	31.3	38.6	43.1
+10%	13.4	20.5	22.3	22.8
+30%	1.1	3.0	5.1	6.6
+50%	0.1	0.3	0.9	1.6
+100%	0.0	0.0	0.0	0.0

Gold

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.0	0.0	0.3
-30%	0.4	0.3	2.1	5.1
-10%	15.9	24.5	32.2	32.7
+10%	11.4	17.0	21.1	19.2
+30%	0.8	1.0	3.2	3.4
+50%	0.0	0.0	0.3	0.8
+100%	0.0	0.0	0.0	0.0

Options-based Probabilities of Price Changes (concluded)

(in percent)

Corn

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.1	0.2	0.2
-30%	0.6	6.3	8.2	7.9
-10%	25.1	36.6	37.7	36.0
+10%	20.8	27.2	29.1	31.4
+30%	2.0	8.1	10.2	11.8
+50%	0.1	1.9	3.0	3.7
+100%	0.0	0.0	0.1	0.1

Coffee

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.1	0.3	1.9
-30%	3.3	6.0	9.0	17.1
-10%	33.6	35.5	38.7	45.9
+10%	23.7	28.4	29.0	28.3
+30%	4.8	8.7	10.5	12.7
+50%	0.7	2.1	3.2	5.3
+100%	0.0	0.0	0.1	0.5

Rough Rice

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.0	0.0	0.0
-30%	1.4	1.9	2.0	3.3
-10%	27.8	26.0	25.0	28.2
+10%	24.3	30.8	33.6	33.3
+30%	3.9	7.3	9.1	10.2
+50%	0.4	1.2	1.7	2.3
+100%	0.0	0.0	0.0	0.0

Wheat

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.0	0.1	0.2
-30%	3.7	4.7	6.2	9.1
-10%	35.1	35.8	36.5	41.5
+10%	23.1	24.7	27.3	24.8
+30%	4.8	6.0	8.2	7.7
+50%	0.7	1.1	1.9	1.9
+100%	0.0	0.0	0.0	0.0

Soybeans

Price changes	Months Forward 3	6	9	12
-50%	0.0	0.1	0.2	0.6
-30%	0.0	6.8	9.4	12.2
-10%	17.0	39.6	42.2	44.4
+10%	14.4	23.7	24.2	24.9
+30%	0.3	6.3	7.4	8.7
+50%	0.0	1.3	1.9	2.6
+100%	0.0	0.0	0.0	0.1

Soybean Meal

Price changes	Months Forward 3	6	9	12
-50%	0.5	0.1	0.5	0.5
-30%	12.1	7.7	11.1	11.7
-10%	45.6	39.9	42.7	43.0
+10%	23.2	24.9	26.0	26.3
+30%	7.6	7.3	9.1	9.6
+50%	2.1	1.7	2.7	3.0
+100%	0.1	0.0	0.1	0.1

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	Consecutive months up to and including February 2020
		Options		One crude oil futures contract of 1,000 barrels		
WTI crude oil	New York Mercantile Exchange	Futures	Light sweet crude oil	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.
		Options		One crude oil futures contract of 1,000 barrels		
Natural Gas	New York 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 twelve full calendar years.
		Options		One natural gas futures contract of 10,000 MMBtu		
Gasoline	New York Mercantile Exchange	Futures	New York Harbor RBOB	42,000 gallons	U.S. cents per gallon	Consecutive months for 36 months
		Options		One gasoline futures contract of 42,000 gallons		
Gold	Chicago 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 period; and any Jun and Dec falling within a 72-month period beginning with the current month.
		Options		One COMEX Gold futures contract		
Corn	Chicago Mercantile Exchange	Futures	Yellow corn grade #2	5,000 bushels (127 MT)	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 lbs		
Rough rice	Chicago 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 Mercantile Exchange	Futures	#2 soft red winter wheat	5,000 bushels (136 MT)	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 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 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.

INTERNATIONAL MONETARY FUND

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