

**Bloomberg Commodity Outlook – December 2018 Edition**  
*Bloomberg Commodity Index (BCOM)*

<b>Broad Market Outlook</b>	1
<b>Energy</b>	4
<b>Metals</b>	8
<b>Agriculture</b>	11
DATA	
<b>PERFORMANCE:</b>	14
Overview, Commodity TR, Prices, Volatility	
<b>CURVE ANALYSIS:</b>	18
Contango/Backwardation, Roll Yields, Forwards/Forecasts	
<b>MARKET FLOWS:</b>	21
Open Interest, Volume, COT, ETFs	
<b>PERFORMANCE</b>	24

# Holding Steady

- Potential grows for commodities to trade places with greenback
- Hedge-fund distress likely marking extremes in crude oil and gas
- Bracing for a bear market, crude oil should find price support
- Metals look upward with potential peak greenback
- Agriculture is ripe to recover with the real

*Note - Click on graphics to get to the Bloomberg terminal*

Data and outlook as of November 30

Mike McGlone – BI Senior Commodity Strategist

[BI COMD](#) (the commodity dashboard)

## Commodities Are Ripe to Take the Rally Baton From the Dollar

Performance: Nov. +1.9%, YTD -2.0%, Spot -1.1%.  
 (Returns are total return (TR) unless noted)

(Bloomberg Intelligence) -- The bias for a dollar peak is a significant catalyst to a recovery in broad commodities, which are on the cusp of taking the bull-market baton as the outperforming U.S. stock market wanes along with expectations for further rate hikes. The crude-oil correction should be at its nadir as West Texas Intermediate shows as much pessimism near \$50 a barrel as it did optimism above \$70. Natural gas should thrive with crude oil likely confined to that price range.

Metals should be the primary beneficiaries of a peak dollar. Base-metals demand vs. supply conditions are quite favorable, and gold is as ripe to rally as natural gas was a few months ago. Corn looks set to spring higher too. Agriculture has plenty of upside, particularly if the Brazilian real has bottomed.

## Commodity Divergent Strength

**Potential Grows for Commodities to Trade Places With Greenback.** Absent sustained dollar strength, we believe that broad commodities are back on course to resume the nascent bull market. U.S.-China trade tension -- a final headwind that's been holding back broader commodity appreciation -- appears to be diminishing.

**Commodities Showing Divergent Strength.** Absent sustainable greenback strength, the nascent bull market in commodities is set to resume. Our graphic signals the Bloomberg Commodity Spot Index is ripe to switch places with the trade-weighted broad dollar near multiyear highs. Along with tariff tension, the plunging Chinese yuan is a primary 2018 driver of the stronger U.S. currency. The sustainability of further greenback gains appears more in doubt than mean-reversion risks as tensions ease between the nations. With an annual spot commodity-to-dollar beta of minus 1.6 since 2000, the 2018 dollar rally of about 8% vs. a commodity decline of only 3% is a sign of divergent strength.

### Commodities Ripe to Rally on Dollar Reversal



### U.S. Dollar Showing Divergent Weakness



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### Dollar Mean-Reversion Risks Elevated With Stocks.

Recent outperformance of U.S. stocks vs. global equities, and signs of divergent dollar weakness, emphasize the risk of a greenback decline. The ratio of the S&P 500 vs. the MSCI World Excluding U.S. Index is a strong companion. On a tear for the past decade, the recent extended high in this ratio increases mean-reversion risks, which would pressure the dollar and support commodities. The greenback's divergent weakness since the 2016 peak should exacerbate a decline when U.S. stocks stop outperforming.

The ratio of U.S. stocks vs. rest of the world has set a high that's well above the previous peak about two years ago, yet the trade-weighted broad dollar remains below its similar-period apex. Since June 2008, the dollar has increased about 32% vs. 116% for the S&P 500 and a 7% decline for the world ex-U.S. index.

**A Final Pillar to Halt Fed Hikes and Dollar Strength Is Wobbling.** An S&P 500 Index that sustains below 2,650 would provide the impetus to materially reduced rate-hike expectations and dollar pressure, in our opinion. The stock market should be the final domino to fall. WTI crude oil has plunged below \$60 a barrel, and the spread between the first and year-out fed-funds futures has declined below 50 bps. It was about a year ago that these markets were at similar levels, except for the S&P 500, which was about 100 points lower.

### Stock Market Appears to Be Final Domino



Federal Reserve rate-hike expectations have declined on the back of increasing stock-market volatility and plunging crude oil prices. Thanksgiving week can be notable for market volatility. Oil and fed-funds spreads have tumbled. If the S&P 500 decline doesn't reverse soon, it should have strong macroeconomic implications.

### WTI Below \$60 Plus Strong VIX Equals No Hikes.

Plunging crude oil prices and an increasing VIX are

inconsistent with higher interest rates. Sustaining West Texas Intermediate below good support near \$60 a barrel, along with greater stock-market volatility, should jeopardize further rate hikes, based on the past two cycles. Declining volatility for equities and increasing crude oil prices were predominant trends in the 2004-06 and 1999-2000 tightening cycles. By the time the 250-day VIX mean bottomed and crude oil was in decline, the Fed was typically well into easing mode.

### Easing More Common With Lower Oil, Higher VIX



In July 2007, the 250-day average began to rise from a historical low, with the first rate cut following that September and oil peaking in July 2008. January marked the VIX bottom and crude peaked a month ago.

### WTI Crude Oil's \$50 Support Appears Sturdier Than

**3% 10-Year.** While crude oil has returned to its most comfortable level, the 10-year Treasury has only backed up to initial 3% yield support, which signals to us that yields have further downside. This will be the case unless recoveries in crude oil and/or the stock market indicate otherwise.

### Oil, Stocks Likely Need to Recover for 3% 10-Year.

The \$50-a-barrel level is a likely place for the crude-oil plunge to stop. For the 10-year Treasury yield to sustain above 3%, it should be highly subject to recoveries in crude oil and the stock market. West Texas Intermediate appears as pessimistic near its most-traded area since 2010 and in the current bull market as it did above \$70 a few months ago. The last time WTI crude oil traded below \$50, the 10-year was about 2.3% (October 2017) vs. about a 2.5% average in the past decade.

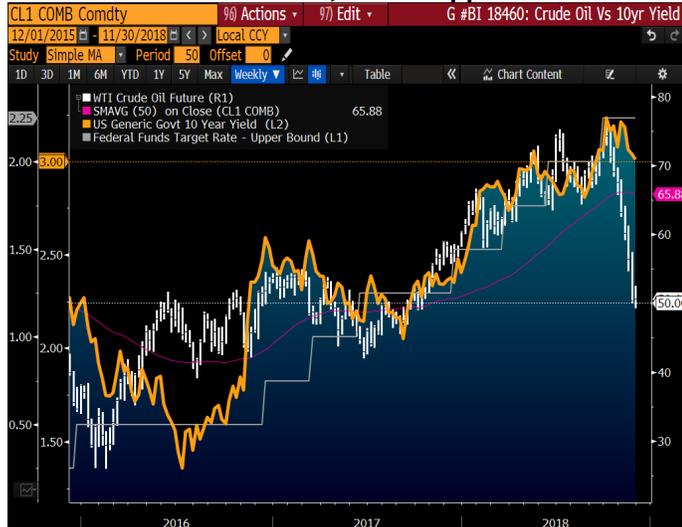
Unless crude oil can shrug off the newly declared bear market and the equity market recovers, 3% on the 10-year appears a bit high. Our initial indication of a tipping point for reduced Federal Reserve tightening expectations occurred when crude oil breached \$60 along

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## Bloomberg Commodity Index (BCOM)

with a declining stock market.

### Crude Oil Slide Is Limited; Yields Appear Elevated



## MACRO PERFORMANCE

### Macro Performance: Top Dollar Is Unsustainable.

Dollar leadership is unlikely to continue, based on our 2018 macro-market-performance monitor. A similar 2019 performance would entail an extension that's well beyond multiyear highs in the trade-weighted broad dollar gauge. It's possible, but would likely require substantial continued outperformance of the U.S. stock market and more-aggressive rate-hike expectations. Both of those themes appear to be tapering off, pointing the dollar toward mean reversion.

### Mean-Reversion-Potential Benefits of 2018 Extremes

Security	Chg YTD %	Chg Nov.	Chg QTD Pct	1Yr % Chg	2Yr % Chg
US Trade Wgt Broad Dollar Indx	+8.1%	--	+2.3%	+7.6%	.8%
S&P 500 Total Return Index	+5.1%	+2.0%	-4.9%	+6.3%	30.6%
Bloomberg Dollar Spot	+4.2%	-2%	+2.1%	+3.9%	-3.8%
S&P 500 Index	+3.2%	+1.8%	-5.3%	+4.3%	25.5%
Bloomberg Barclays US Corporat	--	-9%	-2.5%	+3%	9.5%
MSCI World Net Total Return US	-1.5%	+8%	-6.6%	-.2%	23.4%
Bloomberg Commodity Spot Index	-3.0%	+1%	-1.9%	--	6.7%
Bloomberg Commodity Index Tota	-4.7%	-6%	-2.7%	-1.8%	-1.3%
Bloomberg Barclays U.S. Treasu	-7.5%	+1.6%	-1.6%	-5.8%	.3%
MSCI Emerging Markets Net Tota	-12.0%	+4.5%	-4.6%	-8.8%	21.1%

Commodities also show divergent strength to the sharp plunge in the MSCI Emerging Markets Index, based on a 0.62 annual correlation in the past 20 years. The relationship is similar for broad commodities to copper, which is down at about the same rate as the EM index in 2018.

## SECTOR PERFORMANCE

### Metals Likely to Catch Up to Energy Performance.

Divergent broad-commodity and energy strength vs. crude oil's plunge is our takeaway from November's sector performance. Despite the plunge of more than 20% in WTI crude oil, the Bloomberg Energy Spot Subindex dropped less than 4% in the month and broad commodities flatlined. The last time (July 2015) crude declined by about the same rate, the energy sector plunged 14% and the broad commodities fell 11%. Spiking natural gas is offsetting weak crude, which is likely confined to a range where \$50-a-barrel WTI marks good support.

### Metals Set to Join Strong Energy

Security	Chg YTD %	Chg Nov.	Chg QTD Pct	1Yr % Chg	2Yr % Chg
Bloomberg Energy Subindex Tota	+7.4%	-3.3%	-8.7%	+11.6%	12.1%
Bloomberg Livestock Subindex T	-8%	+2.3%	+1.6%	-1.5%	16.0%
Bloomberg Grains Subindex Tota	-4.3%	+2.1%	+2.0%	-6.2%	-15.7%
Bloomberg Agriculture Subindex	-8.6%	+4%	+2.6%	-10.0%	-20.5%
Bloomberg Precious Metals Subi	-9.8%	+2%	+1.0%	-7.0%	-2.1%
Bloomberg All Metals Total Ret	-12.7%	+1.1%	-1.5%	-7.1%	1.5%
Bloomberg Industrial Metals Su	-15.1%	+1.9%	-3.0%	-7.4%	4.2%
BBG Softs TR	-17.1%	-3.5%	+7.5%	-15.8%	-31.9%

Industrial metals have the greatest propensity to recover, in our view, especially if the dollar has peaked. Soft commodities and agriculture have the potential for similar recoveries, particularly if the Brazilian real has bottomed.

### Curve Analysis – Contango (-) | Backwardation (+)

Name	Current Position	1 Yr Ago	1 Yr Change	1 YTD Change
• 1 Year Spread % of First Contract				
BCOM	-2.9	-2.6	-0.3	-1.1
• Sector				
Energy	3.8	3.8	0.0	-0.5
Industrial Metals	0.0	-1.4	1.4	0.8
Livestock	-2.0	3.1	-5.1	-8.5
Precious Metals	-3.4	-2.3	-1.1	-1.0
Agriculture	-8.0	-6.1	-1.9	-2.1
• Single Commodities				
Natural Gas	33.2	-2.6	35.8	36.8
Zinc	5.6	1.9	3.7	2.2
Thermal Coal	5.5	9.8	-4.4	0.0
Live Cattle	3.0	4.0	-1.0	-3.3
Palladium	2.5	1.2	1.3	1.0
Copper (LME)	1.1	-1.2	2.3	2.4
Cotton	-0.2	6.0	-6.2	-6.3
Copper (CME)	-0.9	-2.4	1.5	0.9
Unleaded Gas	-1.5	5.0	-6.4	-6.2
Platinum	-1.8	-1.2	-0.6	-0.4
Brent Crude	-2.2	5.2	-7.4	-8.6
Heating Oil	-2.6	2.5	-5.1	-8.5
Crude Oil	-2.7	4.5	-7.2	-7.7
Nickel	-2.8	-2.3	-0.5	-0.8
Gas Oil	-2.9	2.3	-5.2	-9.2
Gold	-3.0	-2.1	-0.9	-0.8
Aluminum	-3.2	-3.1	-0.1	-0.9
Silver	-3.7	-2.6	-1.2	-1.3
Soybean Meal	-5.0	-1.3	-3.8	-1.6
Soybean Oil	-5.7	-0.9	-4.8	-4.6
Soybean	-6.3	-1.8	-4.5	-3.0
Sugar	-7.0	-4.2	-2.7	-3.5
Lean Hogs	-7.0	2.2	-9.2	-13.7
Wheat	-9.5	-17.6	8.1	6.0
Corn	-9.9	-13.9	4.0	2.2
Coffee	-14.2	-9.7	-4.5	-3.3
HRW Wheat	-17.0	-21.5	4.6	2.1

Measured via the one-year futures spread as a percent of the first contract price. Negative means the one-year out future is higher (contango). Positive means the one-year out future is lower (backwardation).

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Bloomberg Commodity Index (BCOM)

## Energy (Index weight: 29% of BCOM)

Performance: Nov. +5.2%, YTD +17.6, Spot +15.7%

\*Note index weights are the YTD average.

## Oil Range, Natural Gas Bull

### Hedge-Fund Distress Likely Marking Extremes in Crude Oil and Gas.

Futures- and options-position extremes indicate shifting market dynamics to a range trade in crude oil and a bull market in natural gas, as we see it. West Texas Intermediate crude oil's dip to \$50 a barrel is as overdone as WTI's extension above \$70 a few months ago. Extreme position liquidation and a spike in implied volatility should limit downside, with the market likely carving out the bottom for an extended range, similar to 2011-14. OPEC and Russia have little motivation to increase supply at current prices.

Natural gas has likely reached a bullish inflection point. The leveraged position and negative gamma price, futures curve and implied-volatility spike were historically extreme. Our indications are for a longer-term bull market and some back-and-fill consolidation in the shorter term.

### Range Bound Crude Oil

### Bracing for a Bear Market, Crude Oil Should Find Price Support.

A near-perfect storm for plunging crude oil prices is unsustainable and approaching extremes that typically mark bottoms. Several indicators of position-liquidation distress were last exceeded near the bear-market nadir. OPEC production is a key longer-term driver, though current prices offer little incentive for more.

### Crude Oil Net Positions Indicate Price Support

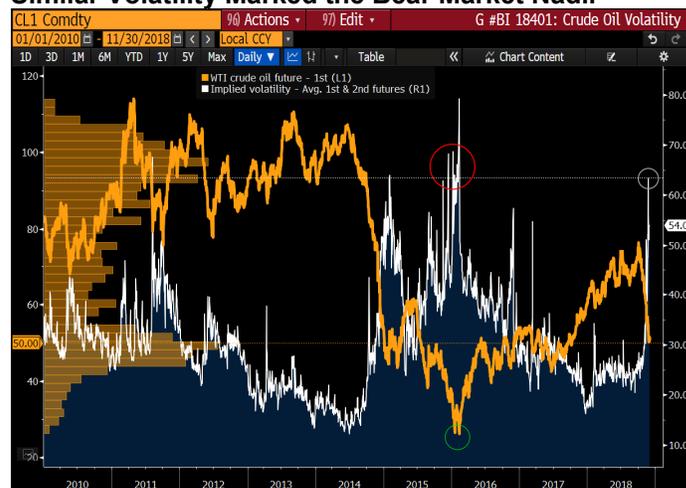


**Priced for the Worst May Bring the Opposite.** The plunge in crude-oil positions is an indication of distress-driven liquidation of overweight longs and should help carve out a bottom. WTI and Brent managed-money net positions have plunged toward the lowest in this bull market. Positioned for a bear market near \$50-a-barrel support in WTI adds to the potential formation of a foundation. The 35% correction matches the plunge that set the stage for the 2011-14 range. Conditions favor a similar outcome.

Managed-money net positions reached the longest ever in March, as many market indicators turned cautious with WTI above \$70. The further 10% extension squeezed out many lingering weak shorts. Similar but opposite extremes appear at play in this highly leveraged market. Commitment of Traders data is delayed a week and is likely to show further declines in net positions.

**Negative Gamma Extreme Supports Crude Oil.** The highest implied-volatility level since the bear-market nadir increases the likelihood of a similar price recovery in WTI crude oil. An at-the-money reading of about 63% (the average of the first and second futures) was last exceeded in February 2016. Such an extreme level near good price support should limit price downside. For the past decade, and since the beginning of the bull-market run, about \$50 a barrel is the most frequently traded price.

### Similar Volatility Marked the Bear Market Nadir



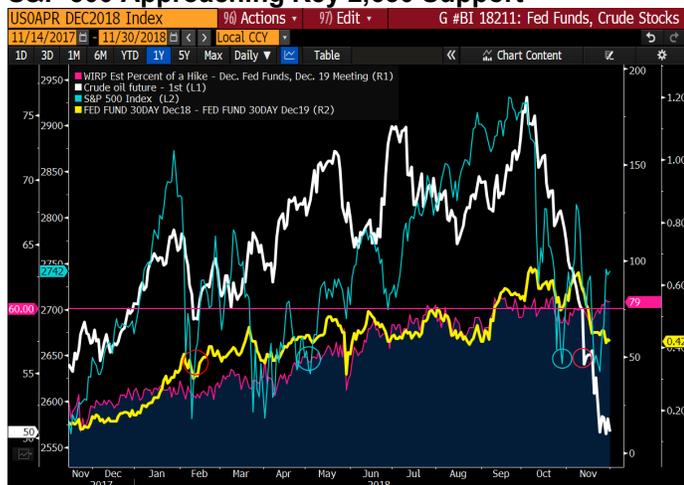
The market has returned to its mean, which is initial support. Sustaining much below \$50 is unlikely in the shorter term. Gamma is the rate of change of delta (the market exposure of an options position). Negative delta and gamma are characteristic of short put positions, which appear to be under the most distress.

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**Crude Oil Crosses Line in the Sand for No Fed; Eyes on Stocks.** About 2% lower for the S&P 500 on the back of plunging crude oil is likely to jeopardize Federal Reserve tightening, in our view. WTI crude oil declining below initial key support at \$60 a barrel is an indication of reduced rate-hike expectations. A similar deflationary and increasing-market-stress line-in-the sand indication for the S&P 500 is about 2,650 – the approximate October and May lows.

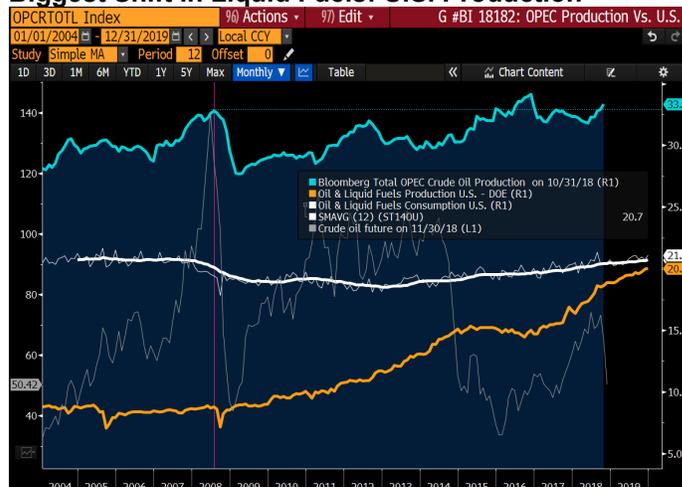
## S&P 500 Approaching Key 2,650 Support



December 2018 minus December 2019 federal-funds futures has declined to 53 bps from 65 bps prior to oil and stocks' plunge. The probability of a hike at the Dec. 19 meeting has declined toward 70% from 82%. Our graphic indicates that with crude oil below \$60, rate-hike expectations should be about 50-50 if the S&P 500 drops below 2,650. Fed tightening vs. plunging crude oil and equities is an oxymoron.

**U.S. Liquid-Fuel Independence in About a Year.** The exploitation of rapidly advancing technology limits the upside potential for West Texas Intermediate crude-oil prices and will continue to increase the supply and reduce demand for U.S. liquid fuel. Exports will also continue to benefit with low prices. Essentially unchanged from the 2008 peak, OPEC's crude-oil output is in a similar flatline as U.S. consumption. Domestic liquid-fuel production is the outlier, surging 120% in that time. Compared with 2007 averages, OPEC production is up about 5% and U.S. liquid-fuel consumption is down 1%. U.S. output should about match consumption of 21 million barrels a day in 2020, based on Energy Department projections.

## Biggest Shift in Liquid Fuels: U.S. Production



**Count on Increasing U.S. Oil Production.** The surge in U.S. crude-oil production is set to continue to top projections, based on commercial short positions, a key indicator. The 100-week moving average of CFTC WTI commercial shorts has sprinted higher, signaling a similar direction for U.S. crude-oil output. This measure of producer hedging has a strong relationship with domestic production estimates. The latest Energy Department forecast to the end of 2019 is 12.4 million barrels a day. Six months ago, it was 11.6 million, approximating the year-end 2018 estimate. Near-peak commercial shorts indicate production should be closer to 13 million barrels.

## Surging U.S. Production With Commercial Shorts



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## Natural Gas Bullish Inflection

**Hedge-Fund-Position Squeeze Marks Natural-Gas Paradigm Shift.** On the heels of the narrowest annual futures range ever, the multiyear backwardation extreme marks an inflection point in the U.S. natural gas market, in our view. Demand has finally caught up with supply. Leverage and negative gamma were instrumental in the recent spike and should mark a near-term price peak. The longer-term indication, however, is for higher prices.

**Natural-Gas Backwardation: Caution, Big Shift.** Natural gas prices should continue to recover, but back-and-fill maneuvering may last a while. It's been 15 years since the one-year futures curve reached a backwardation extreme similar to November's (about 40%). Following the February 2003 spike, prices consolidated on an upward trajectory until surging to the historical peak in 2005. We expect a continued higher progression, but the November peak near \$5 a million British thermal units is good resistance. Initial support is about \$4 MMBtu.

## Backwardation High Indicates Market Inflection

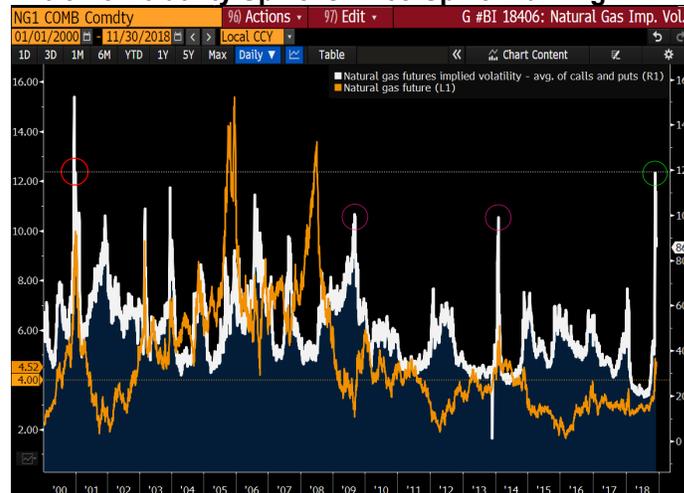


The trend toward backwardation and recent spike to multiyear highs indicates demand has caught up to the paradigm shift in greater supply. The natural gas market has changed much since 2003, notably due to the massive increase in U.S. output on hydraulic fracturing and horizontal drilling. This year should mark an inflection point.

**Elevated Implied Volatility Instills Gas Caution.** The most extreme implied-volatility surge in natural gas options since 2000 warrants caution regarding the duration of the recent price spike. Our indicators have been favorable for quite a while, and we expect the market to embark on a longer-term bull run. Yet history is full of similar volatility spikes and price peaks. Following

the narrowest annual range in futures history in 2017, November's high of about \$5 a MMBtu (almost 70% above the 2017 average) should have legs.

## Extreme Volatility Spike Is Price-Spike Warning

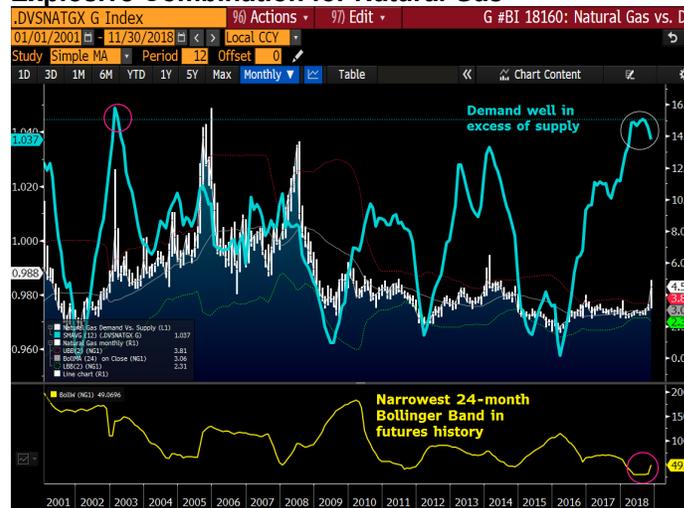


The backwardation is so steep that hedgers can lock in December 2019 prices approximating \$3 a MMBtu, about a 30% discount from the December 2018 futures level.

## Natural Gas Bigger Picture Appearing Explosive.

The narrowest 24-month Bollinger Bands in futures history and greatest disparity of demand in excess of supply in 15 years is a powerful combination for higher U.S. natural gas prices. A very compressed range indicates a market that's typically more likely to respond to bullish than bearish catalysts. Pricing in a winter-weather premium this early in the season risks a pullback if below-normal cold temperatures don't materialize, but the bigger-picture indications are quite positive for prices.

## Explosive Combination for Natural Gas



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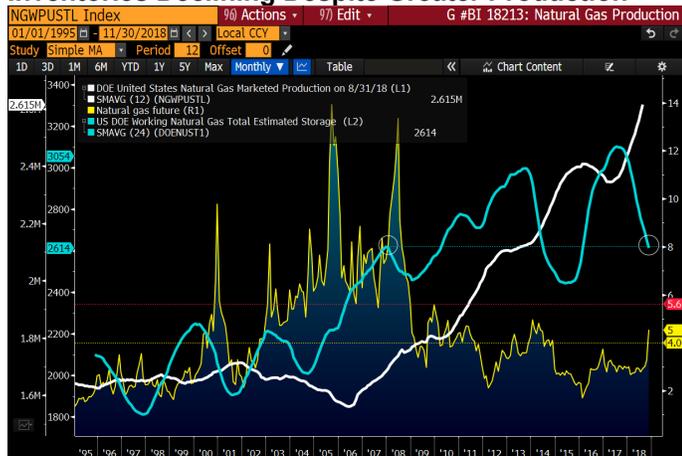
Bloomberg Commodity Index (BCOM)

Our measure of the 12-month average of U.S. natural gas demand plus exports and LNG exports divided by dry production and imports has a high propensity to trend with prices. The current reading is the greatest above par since 2003, when the price averaged \$5.49 a MMBtu, about 45% above Nov. 12.

### Natural Gas Is Adjusting to a Higher Plateau.

U.S. production has surged, yet natural-gas inventories have stopped growing, indicating an inflection point in demand vs. supply. Low prices have boosted demand for heating, electricity, exports, liquefied natural gas and natural-gas liquids. After the longest period of dormancy and the narrowest range in natural-gas futures, it appears that prices are readjusting to a new, higher plateau. About \$4 per million British Thermal Units should be a good consolidation area.

### Inventories Declining Despite Greater Production



The market shouldn't hold much below the key breakout level near \$3.50, though a revisit of this support value in such a volatile commodity is possible. The peak of about \$6 from 2014 should be a good resistance level. The more time the market shows comfort in \$4, the greater the likelihood it'll visit \$6, in our view.

## PERFORMANCE DRIVERS

### Trading Places: Oil, Natural Gas Performance.

November's primary development -- a sharp performance reversal of strong natural gas vs. weak crude oil -- should set the longer-term tone for energy. Natural gas appears to be in the early days of demand catching up to rapidly advancing supply on the back of advancing technology. Crude oil is further behind in the process. Up about 5% year-to-date, the Bloomberg Energy Subindex Total Return is almost a percentage point ahead of the spot change, due to rolling into backwardation.

### Crude Oil Bull Baton Passed to Natural Gas

Security	Chg YTD %	Chg Nov.	Chg QTD Pct	1Yr % Chg	2Yr % Chg
Bloomberg Natural Gas Subindex	+49.0%	+39.9%	+49.2%	+43.7%	5.5%
Bloomberg Energy Subindex Tota	+7.4%	-3.3%	-8.7%	+11.6%	12.1%
BBG Energy Spot	+6.2%	-3.4%	-8.2%	+10.4%	21.5%
Bloomberg Brent Crude Subindex	-5.9%	-20.9%	-27.7%	+1.0%	16.3%
Bloomberg Heating Oil Subindex	-8.7%	-18.5%	-21.9%	-1.1%	14.2%
Bloomberg WTI Crude Oil Subind	-10.9%	-22.0%	-29.9%	-6.1%	-1%
Bloomberg Petroleum Subindex T	-11.0%	-20.7%	-28.3%	-5.5%	5.6%
Bloomberg Unleaded Gasoline Su	-22.6%	-19.8%	-32.4%	-20.4%	-11.7%

While formerly backwardated petroleum curves have flattened, natural gas investors and hedgers can get the year-out futures at about a 30% discount to front prices at the end of November. The level of backwardation is extreme and likely to revert some, but is an indication of demand in excess of supply and increasing total returns.

### Front Energy Futures to Nov. 30

Ticker	Last	Chg YTD %	Chg MTD %	Chg % QTD	1 Yr Ago	2 Yrs Ago	Chg Pct 1Yr	Chg Change 2 Year Percent
+ Generic 1st 'NG' Future	4.6	+56.6%	+41.8%	+53.8%	3.0	3.4	+52.9%	38.0%
+ Generic 1st 'HO' Future	184.5	-11.1%	-18.4%	-21.5%	189.3	157.1	-2.5%	17.5%
+ Generic 1st 'CO' Future	58.7	-12.2%	-22.2%	-29.0%	63.6	50.5	-7.6%	16.3%
+ Generic 1st 'CL' Future	50.6	-16.2%	-22.5%	-30.9%	57.4	49.4	-11.8%	2.4%
+ Generic 1st 'XB' Future	144.1	-19.9%	-18.5%	-31.4%	172.8	149.1	-16.6%	-3.3%

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Bloomberg Commodity Index (BCOM)

## Metals

**All** (Index weight: 35% of BCOM)

Performance: Nov. +1.0%, YTD -11.4%

**Industrial** (Index weight: 19.0% of BCOM)

Performance: Nov. +2.2%, YTD -11.8, Spot -12.3%

**Precious** (Index weight: 16.1% of BCOM)

Performance: Nov. -0.3%, YTD -10.7, Spot -9.9%

## Divergent Strength vs. Greenback

**Gold to Copper: Metals Look Upward With Potential Peak Greenback.** Metals should be primary beneficiaries of an imminent greenback peak, with normalization in U.S. stock-market outperformance, Federal Reserve tightening near a finish and the trade-weighted broad dollar approaching multiyear highs. Though the dollar tops the list of this year's best performing major assets, gold and copper show divergent strength. Industrial metals appear to be at a discount in a bull market with favorable demand vs. supply conditions.

Indications from precious metals, notably gold, offer a setup that's similar to natural gas before its big rally. Bound to historically compressed trading ranges with many typical pressure factors nearing multiyear extremes, precious metals appear close to a maximum loss of faith vs. the strong stock market and greenback.

### Base Favored vs. Unsustainable

**Aluminum to Zinc: Base Metals Favored vs. Unsustainable Trends.** The primary culprits that often pressure industrial metals prices are near inflection levels of their own, increasing the likelihood of upside potential in base metals, in our view. Copper appears especially difficult to submerge, with its November rebound (absent further dollar gains) offering a sign of recovery.

**Base Metals Decline Appears Overdone.** Sustained dollar gains and declines in emerging-market (EM) stocks are what's needed to keep the industrial metals down. Mean reversion in these trends and a recovery in the metals are more likely, in our view. There's limited appreciation potential in the trade-weighted broad dollar, which is near its 2016 and 2002 peaks. The metals' recovery potential appears greater than further downside

risks on similar potential for back-and-fill maneuvering in the greenback.

### Base Metals Appear as Bull-Market Discount



The MSCI Emerging Markets Index and Bloomberg Industrial Metals Spot Subindex are down about 15% in 2018. EM stocks remain above the halfway point of the 2007-09 bear market; metals are below. Since 2000, industrial metals' annual correlations are 0.86 to EM equities and minus 0.67 to the dollar.

### Metals Demand vs. Supply Indicate Price Discount.

Industrial metals are discounted relative to favorable demand vs. supply. Our analysis of World Bureau of Metal Statistics demand vs. supply datasets for copper, aluminum, nickel and zinc show the ratio improving above par and for the longest period in the database since 1995. The Bloomberg Industrial Metals Spot Subindex's discount appears unusual. Pricing for what appears to be a worst-case scenario tips the probability in favor of a recovery once the worst fears of a China slowdown and U.S.-trade tensions are alleviated.

### Appearing as a Discount in a Bull Market - Metals



# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

The subindex indicates what some analysts might describe as an oversold condition. The gauge gapped down in July at a similar level as in 2013. That gap marked the peak in 2014 as metals recovered, then succumbed to plunging crude oil.

## Precious, Disconcerting Upside

**Gold: Similar Upside Potential as Natural Gas With Peak Dollar.** If the dollar has peaked, the upside for gold and silver far outweighs downside risks, in our view. Overdue normalization in the equity and crude-oil bull markets, and a subsequent reduction of Federal Reserve rate-hike expectations, indicate the dollar's run is at an elevated risk of ending.

**Gold Is Low vs. Stocks If Dollar Has Peaked.** Gold should shine vs. stocks, particularly if the dollar stops advancing. Our graphic illustrates that the gold-to-stocks ratio is potentially bottoming from a good support level despite a resilient greenback. A declining U.S. equity market is a primary force to pressure the dollar, supporting metals. Mean-reversion risks in the trade-weighted broad dollar near the 2002 and 2016 highs may outweigh further appreciation potential.

## **Gold Gaining Favor vs. Stocks Reverting Bitcoin**



Reversion in stock prices and Bitcoin toward their means is more than a coincidence, in our view. They've rallied together in the past few years with a common support factor -- global quantitative easing. Cryptocurrencies, considered alternatives to fiat currencies such as the dollar, gained plenty of advocates as global central banks rapidly increased money supply to offset deflationary forces.

**Gold ETFs to Prevail vs. Record Short Futures.** Gold ETF inflows appear unstoppable absent a severe bear market, which is unlikely with inflation picking up, an extended stock market and the dollar near multiyear

highs. Resolute gold ETFs are focusing on portfolio hedging and have greater upside vs. downside potential, in our view. Representing about 70% of all commodity ETFs, total known gold holdings have increased about 10x the rate of change in the spot price since the start of 2015. In this rate-hike cycle, ETF holdings are up about 50% vs. 15% for spot gold. ETFs' gold positions continue to increase despite this year's lower spot price.

## **Gold ETF Inflows Appear Unstoppable**



Buy-and-hold-focused ETFs are facing off with more-speculative futures. Managed-money net gold positions haven't recovered much from the record-short levels reached in October, which is providing a bid below the market.

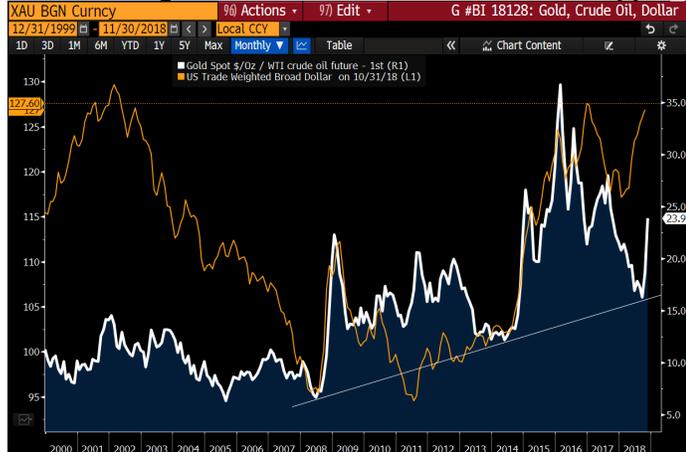
**Gold Gaining Upper Hand vs. Crude Oil.** The ratio of an ounce of gold vs. a barrel of WTI crude oil appears to have bottomed. At a reading of about 20, gold vs. crude appears to provide a dip in the trend. The ratio has been on the upswing since the 2008 financial crisis and despite the rapid dollar advance since 2011. Gold, the quasi-currency that is no country's liability, is essentially the reciprocal of the greenback and should have scant downside, notably as the trade-weighted broad dollar index has limited upside near the 2016 and 2002 highs.

For gold to avoid a rally while crude oil consolidates, the greenback will likely need to sustain above the 2002 peak. With U.S. stocks getting stretched vs. the rest of the world, the greater dollar risk is mean reversion of the near 40% rally since 2011.

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Gold Gaining Favor vs. Crude Oil From Good Support



**Gold Ready to Follow the Lead of Natural Gas.** Much like natural gas earlier this year, gold has the drivers in place to rally from its compressed range. Increasing inflation and debt levels are positive companions, as is gold's divergent strength to the dollar, which is vulnerable as it nears a good resistance level. Since the start of the current Federal Reserve tightening cycle, and despite rallies in the metal's traditional adversaries -- the greenback (up 5% on a trade-weighted basis) and the stock market (S&P 500 up 36%), the dollar price of gold is up 14%.

## Gold Is Coiled to Move, Make Like Natural Gas



With rate hikes nearing a potential end-game, gold is ripe to rally. The narrowest 24-month Bollinger bands for the longest period in 16 years indicate the metal's upside. For gold to decline, it would likely need the dollar to remain above multiyear highs, plus a decline in equity-market volatility.

**Positioned for a Bear, Silver Bull Gains Favor.** In the queue for a bear market, silver-price potential appears tilted the other way, forming a foundation for recovery. Recently reaching new lows for 2018, and near the

multiyear trough in 2015, further declines in silver depend heavily on more shorts and a stronger dollar. CME silver managed-money net positions reached record shorts in October and remain near the highest ever (database since 2006). With the trade-weighted broad dollar near a multiyear peak, some minor greenback mean reversion should have an outsized bullish reaction in the silver price.

## Record Silver Shorts Are Set for Bear Market



Such extremes can often form bottoms. Our graphic depicts silver pressing the most extreme period on its bottom 52-week Bollinger Band since 2014 and, to a lesser extent, near the 2015 nadir. Reversion risks are near the top band, currently about \$18 an ounce.

**Silver Backed to Key Support, Dollar Resistance.** The trade-weighted broad dollar is near a peak and silver a bottom, in our view, and the potential for mean reversion should outweigh continuing-the-trend risks. Silver, among the most negatively correlated to the dollar and positively to industrial metals, appears ready for a potential longer-term recovery. For it to stay down -- about 15% this year -- we'd need to see sustained dollar strength and weakness in industrial metals and gold. That's unlikely. Near multiyear highs, dollar risks are tilting toward reversion, notably if U.S. equities keep sagging.

# Bloomberg Commodity Outlook – December 2018 Edition

## Bloomberg Commodity Index (BCOM)

### High Mean-Reversion Risk - Silver & Greenback



Rate-hike expectations have begun to ease, stalling the greenback rally. Significant for silver -- often called leveraged gold -- would be a peak in the dollar. If silver catches up some to industrial metals, it would be closer to \$20 an ounce, vs. about \$14.50 today.

### PERFORMANCE DRIVERS

**Performance: Stalwart Gold Showing Divergent Strength.** Metal prices are down in 2018 but indicate divergent strength vs. the greenback. The best performer, gold, is down about 6% on a spot basis but would typically be much lower in such a backdrop. Relative to the trade-weighted broad dollar, gold's beta is minus 1.7 on an annual 20-year basis. A top-performing major asset class this year, the 8% increase in the dollar would normally be equivalent to dollar-denominated gold that's worth about 14% less. A strong greenback is the broad metals' primary pressure factor, which tips the outlook favorably.

### Fading Metals-Bear Fuel From Strong Greenback

Security	Chg YTD %	Chg Nov.	Chg QTD	1Yr %	2Yr %
US Trade Wgt Broad Dollar Indx	+8.1%	--	+2.3%	+7.6%	.8%
Bloomberg Gold Subindex Total	-7.2%	+6%	+2.4%	-4.7%	2.7%
Bloomberg Precious Metals Subi	-9.8%	+2%	+1.0%	-7.0%	-2.1%
Bloomberg Aluminum Subindex To	-11.4%	+3%	-4.9%	-1.8%	13.7%
Bloomberg Nickel Subindex Tota	-12.3%	-2.6%	-11.0%	+7%	-2.0%
Bloomberg All Metals Total Ret	-12.7%	+1.1%	-1.5%	-7.1%	1.5%
Bloomberg Industrial Metals Su	-15.1%	+1.9%	-3.8%	-7.4%	4.2%
Bloomberg Copper Subindex Tota	-16.7%	+4.4%	-8%	-10.2%	2.4%
Bloomberg Silver Subindex Tota	-18.0%	-1.1%	-3.8%	-14.6%	-15.8%
Bloomberg Zinc Subindex Total	-19.0%	+2.9%	-9%	-14.7%	-1%

Diminishing declines to dollar strength appear at play, with the trade-weighted measure near multiyear highs. Led by about a 5% November rally in copper, metals are showing a propensity for recovery absent a rallying greenback.

**Agriculture** (Index weight: 30% of BCOM)  
Performance: Nov. -2.1%, YTD -10.9%, Spot -5.4%

**Grains** (Index Weight: 24% of BCOM)  
Performance: Nov. -3.0%, YTD -6.2%, Spot +1.5%

**Softs** (Weight: 6% of BCOM)  
Performance: Nov. -2.0%, YTD -22.8, Spot -19.2%

### Set for a Real Recovery

**Soybeans to Sugar: Agriculture Is Ripe to Recover With the Real.** The three catalysts to lower agricultural commodity prices -- a strengthening dollar, trade tension and record Corn Belt production -- are unsustainable. With production focused on the Southern Hemisphere, agriculture's fate is subject to a bottoming Brazilian real. Soybeans are at the epicenter. Pressured by the massive overhang of U.S. supply, a lessening of U.S.-China trade tension should go a long way toward forming a longer-term bottom. Wheat appears to be in an early bull market. Corn is as ripe to pop as natural gas was a few months ago.

Led by sugar and coffee, soft commodities appear to be forming a double bottom. A continued recovery in Brazil's currency and a new administration should be game changers for the ags and broad commodities.

### Bottoming Grains, Beans & Real

**All Eyes on Soybeans to Set the Tone for Bottoming Agriculture.** Wheat has rallied and corn appears as ripe to pop as natural gas, which leaves soybeans as the potential determinant of the agriculture sector's future. Relative to the broader grains, soybeans' discount is similar to the one in 2006, near the bottom of the three-year bear market.

**Oversupplied Soybeans at Top of Ags Radar.** Soybeans' potential for recovery should be a primary pillar for the agriculture sector, on the back of the Brazilian real. Despite a near-perfect storm for lower prices in 2018, soybeans have been relatively resilient in the face of U.S.-China trade tensions, the plunge in the real and record Corn Belt production. Front soybeans are down about 6% to Nov. 28 vs. a Bloomberg Grains Spot Subindex that's up 4%.

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Discounted Soybeans, Real Atop Ags' Outlook

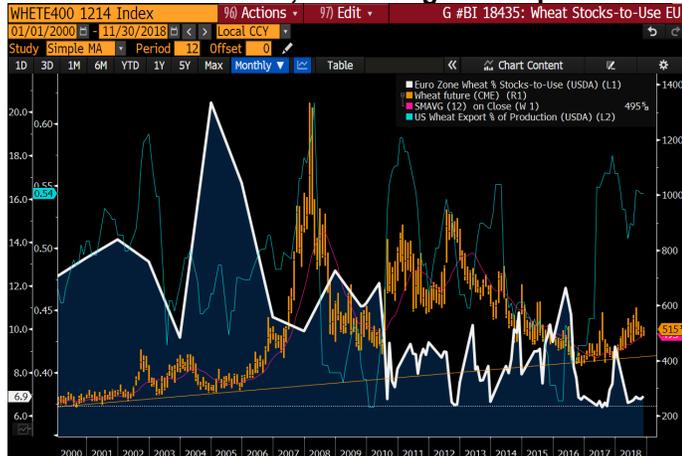


Soybeans were last at a similar discount to the grain market in 2006, and to a lesser extent in 2016. The incentive to produce is quite low. If the real has bottomed with a new administration in Brazil, it should be a game changer for the agriculture sector. Ags are about 70% grains. Since 2005, the annual correlation of the soybean price to the real-to-dollar rate is 0.62.

## Wheat Recovery in Early Days to Primary Drivers.

Wheat appears to be in a longer-term recovery phase, based on indications from EU stocks-to-use and U.S. exports. EU stocks-to-use, a leader among negative wheat-price correlations based on USDA datasets, has declined toward its lowest-for-longest level since 1960. Topping the list of positive wheat-price correlations, U.S. exports remain on an upward trajectory, despite the strong dollar, nearing the upper end of the range at 54% of production. Wheat prices appear to be in a nascent bull market, supported by the 12-month moving average.

## Low EU Stocks-to-Use, Increasing U.S. Exports

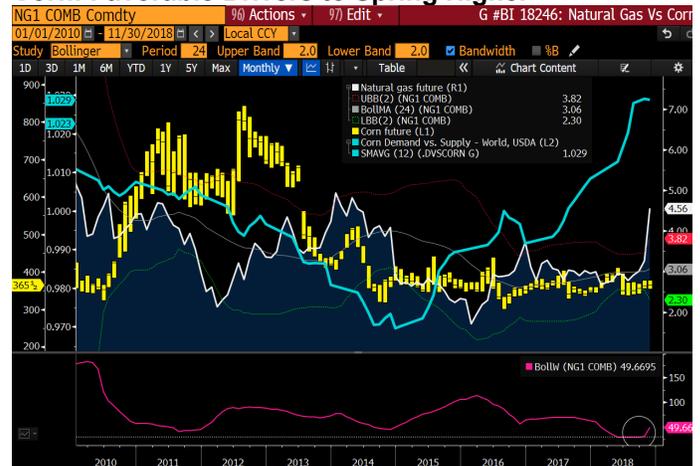


The wheat price annual correlation to EU stock-to-use is negative 0.55 since 2000. To U.S. exports, it's positive

0.55. Wheat prices show correlations of 0.54 to corn, 0.39 to soybeans and 0.75 to the Bloomberg Grains Subindex.

**Corn's Rally Potential Far Outweighs Downside.** The prospect of a rally in corn from its tightly coiled price range is far greater than a decline. The narrowest 24-month Bollinger bands in over 50 years, and the most favorable global demand vs. supply conditions in a decade, puts corn atop the list of markets with upside. Mostly bound to a \$3.50-\$4-bushel range the past two years, corn futures haven't been this compressed since 1966. Our analysis of USDA world demand-and-supply data paints a bullish price backdrop.

## Corn: Favorable Drivers to Spring Higher



The demand vs. supply ratio is at its most favorable level since 2007. From that year's low to the 2009 peak, corn futures rallied 170%, with plenty of volatility. We think it would take an unlikely continuation in the near-record string of exceptional Corn Belt-production years to prevent a rally. Like wheat in 2018, weather volatility is overdue for corn.

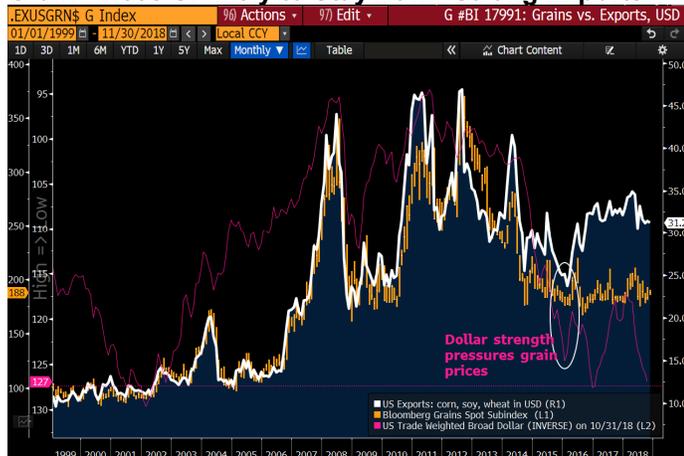
**Grains Appear to Be Waiting on Greenback.** Gains in grain prices should follow strong U.S. exports. The dollar value of U.S. corn, soybean and wheat exports is among the highest correlations to the Bloomberg Grains Spot Subindex. Despite the recent dip in this measure due to trade tension, the export trend remains positive, notably since bottoming in February 2016. Since then, the dollar value of U.S. exports has increased by about a third, while the trade-weighted broad dollar has gained 3%. Ratcheting up 7% in 2018 through Oct. 29, the strong greenback is a primary drag on grain prices.

Relatively low U.S. prices support exports as global trade rebalances from this year's distortions. Since 1999, the BI dollar measure of U.S. corn, soybeans and wheat exports (.EXUSGRN\$ G Index) is 0.92 correlated with grain prices, measured annually.

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Grain Prices Unlikely to Stay Low - Strong Exports



## Softs Likely Bottoming With the Real



## Softs Bottoming with Real?

**Sugar and Coffee-Focused, Softs Subject to Game-Changing Real.** A potential recovery in the softs, the agriculture sector and broad commodities is highly subject to the Brazilian real, which appears to have bottomed. If so, the softs (led by sugar and coffee) have plenty of mean-reversion upside, along with soybeans. Few currencies have a higher correlation to commodities than the real.

**Softs Setup Looks Every Bit Like Price Bottom.** The new administration in Brazil and potential for a bottom in the real should drive similar strength in soft commodities and agriculture. Dominated by Brazilian production, sugar and coffee make up the majority of the Bloomberg Softs Spot Subindex, which appears to be bottoming after reaching a record level of net short positions. The plunging real inspired substantial shorting, but the index held above the 2015 low, along with the currency. If the real has bottomed, upside mean-reversion potential in the softs should far outweigh further downside.

A recovering real should be a key bullish factor for the agriculture sector, notably soybeans. In the past 10 years, the correlation between the real-to-dollar rate and the Bloomberg Commodity Spot Index is 0.92.

## PERFORMANCE DRIVERS

**Conditions for Lower Prices Are Unsustainable.** Wheat and cotton are agriculture's lone 2018 pillars of strength at the end of November, but the outlook is notably more positive on the back of the grains. The Bloomberg Grains Spot Subindex remains up about 4% this year, despite U.S.-China trade sanctions, the strong dollar and record Corn Belt production again. These three conditions for lower prices are unsustainable. Historically steep contangos are pressuring total returns, but one-year grain futures curves appear in an early recovery phase from the steepest in a decade, reached in 2017.

## Declining Brazilian Real, Prime Ag Pressure Factor

Security	Chg YTD %	Chg Nov.	Chg QTD Pct	1Yr % Chg	2Yr % Chg
Bloomberg Wheat Subindex Total	+5.9%	+1.2%	-3%	+4.5%	-6.1%
Bloomberg Cotton Subindex Total	+1.1%	+6%	+1.5%	+9.3%	12.4%
Bloomberg Live Cattle Subindex	-4%	+4%	-1.0%	-3.0%	12.7%
Bloomberg Livestock Subindex T	-8%	+2.3%	+1.6%	-1.5%	16.0%
Bloomberg Kansas Wheat Subindex	-1.0%	-2.7%	-6.0%	-1.9%	-14.0%
Bloomberg Lean Hogs Subindex T	-1.6%	+6.7%	+7.9%	+1.3%	21.2%
BBG Soybean Meal TR	-3.2%	+9%	+8%	-7.1%	-9.5%
Bloomberg Corn Subindex Total	-4.1%	+1.1%	+3.3%	-5.3%	-14.8%
Bloomberg Grains Subindex Total	-4.3%	+2.1%	+2.0%	-6.2%	-15.7%
Bloomberg Agriculture Subindex	-8.6%	+4%	+2.6%	-10.0%	-20.5%
Bloomberg Soybeans Subindex Total	-10.7%	+5.3%	+4.6%	-13.8%	-21.0%
BBG Softs TR	-17.1%	-3.5%	+7.5%	-15.8%	-31.9%
Bloomberg Soybean Oil Subindex	-18.0%	-4%	-3.6%	-19.8%	-29.1%
Bloomberg Sugar Subindex Total	-21.3%	-2.5%	+15.1%	-20.8%	-42.1%
Bloomberg Coffee Subindex Total	-22.5%	-7.4%	+2.1%	-23.8%	-40.8%

Indicating demand increasing vs. supply on a one-year-change basis, the wheat curve has moved the most toward backwardation. The Brazilian real is a primary determinant of agriculture-price recovery. It appears to have bottomed with national elections.

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## DATA on BI COMD

### Performance - Overview

#### Key Metrics

Name	1 Mth % Change	3 Mth % Change	YTD % Change	1 Yr % Change	2 Yr % Change	3 Yr % Change	5 Yr % Change
<b>Commodities</b>							
BCOM Index TR	-0.6	-0.8	-4.7	-1.8	-1.3	5.0	-31.4
Energy Index	-3.3	-3.9	7.4	11.6	12.1	7.0	-53.5
All Metals Index	1.1	-0.5	-12.7	-7.1	1.5	23.3	-7.7
Industrial Metals Index	1.9	-1.7	-15.1	-7.4	4.2	36.1	-6.0
Precious Metals Index	0.2	0.7	-9.8	-7.0	-2.1	8.7	-12.8
Ags & Livestock Index	0.8	1.9	-7.4	-8.7	-15.6	-14.5	-34.2
Livestock Index	2.3	9.6	-0.8	-1.5	16.0	3.6	-11.6
Agriculture Index	0.4	0.5	-8.6	-10.0	-20.5	-17.8	-38.2
Grains Index	2.1	-1.0	-4.3	-6.2	-15.7	-22.2	-43.9
Softs Index	-3.5	5.3	-17.1	-15.8	-31.9	-17.9	-35.4
BCOM EX Indices TR							
BCOM Index Roll Select TR	-1.8	-2.7	-6.5	-3.9	-1.4	7.7	-27.2
BCOM Index Forwards TR							
BCOM Index ER	-0.8	-1.4	-6.4	-3.7	-4.0	1.8	-33.5
BCOM Index Spot	0.1	0.1	-3.0	0.0	6.7	26.1	-12.0
<b>Stocks</b>							
S&P 500 Index TR	2.0	-4.4	5.1	6.3	30.6	41.1	69.4
<b>Bonds</b>							
Barclays U.S. Aggregate	0.5	-0.9	-1.8	-1.4	1.8	4.0	10.5
<b>Currencies</b>							
Bloomberg U.S. Dollar Spot Index	-0.2	2.2	4.2	3.8	-3.8	-2.4	18.4
US Dollar Index	0.1	2.2	5.5	4.5	-4.2	-3.0	20.5
US Trade Weighted Broad Dollar	1.1	2.1	8.1	7.6	0.8	6.1	26.6

#### Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Commodities</b>										
BCOM Index TR	-4.6%	1.7%	11.8%	-24.7%	-17.0%	-9.5%	-1.1%	-13.3%	16.8%	18.9%
Energy Index	8.4%	-4.3%	16.3%	-38.9%	-39.3%	5.2%	-9.4%	-16.0%	-10.5%	-5.3%
All Metals Index	-12.9%	20.8%	15.7%	-19.5%	-7.1%	-21.6%	2.9%	-11.5%	25.9%	60.2%
Industrial Metals Index	-15.9%	29.4%	19.9%	-26.9%	-6.9%	-13.6%	0.7%	-24.2%	16.2%	80.0%
Precious Metals Index	-9.3%	10.9%	9.5%	-11.5%	-6.7%	-30.8%	6.3%	4.6%	42.7%	29.2%
Ags & Livestock Index	-7.8%	-8.1%	0.9%	-16.1%	-6.0%	-12.6%	2.7%	-12.4%	33.9%	7.9%
Livestock Index	-1.0%	6.4%	-5.6%	-18.8%	11.6%	-3.5%	-3.5%	-2.3%	9.3%	-15.1%
Agriculture Index	-9.0%	-11.0%	2.1%	-15.6%	-9.2%	-14.3%	4.0%	-14.4%	38.5%	13.7%
Grains Index	-5.5%	-11.3%	-5.9%	-19.4%	-9.4%	-16.9%	18.3%	-14.4%	30.3%	-1.6%
Softs Index	-15.8%	-14.8%	13.2%	-9.9%	-10.1%	-16.9%	-22.4%	-14.0%	59.9%	44.2%
BCOM EX Indices TR										
BCOM Index Roll Select TR	-6.0%	3.6%	14.6%	-23.4%	-15.2%	-9.1%	-0.4%	-8.8%	19.5%	23.1%
BCOM Index Forwards TR										
BCOM Index ER	-6.3%	0.7%	11.4%	-24.7%	-17.0%	-9.6%	-1.1%	-13.4%	16.7%	18.7%
BCOM Index Spot	-2.9%	7.6%	23.1%	-18.4%	-17.0%	-8.7%	3.7%	-8.1%	26.4%	41.2%
<b>Stocks</b>										
S&P 500 Index TR	4.2%	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%
<b>Bonds</b>										
Barclays U.S. Aggregate	-1.8%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%
<b>Currencies</b>										
Bloomberg U.S. Dollar Spot Index	3.9%	-8.5%	2.8%	9.0%	11.0%	3.3%	-0.7%	1.8%	-1.8%	-4.8%
US Dollar Index	5.2%	-9.9%	3.6%	9.3%	12.8%	0.3%	-0.5%	1.5%	1.5%	-4.2%
US Trade Weighted Broad Dollar	5.8%	-6.0%	4.5%	10.7%	8.4%	2.8%	-1.4%	0.7%	-1.3%	-6.7%

## Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

### Performance – Commodity Total Returns

#### Key Metrics

Name	WTD % Change	MTD % Change	3 Mth % Change	YTD % Change	1Y Yr % Change	2Y Yr % Change
<b>▼ BCOM Total Return Indices</b>						
Natural Gas Index	6.0	39.9	52.9	49.0	43.7	5.5
Cotton Index	2.2	0.6	-5.6	1.1	9.3	12.4
Wheat Index	1.7	1.2	-6.8	5.9	4.5	-6.1
Lean Hogs Index	-0.4	6.7	24.3	-1.6	1.3	21.2
Brent Crude Index	0.6	-20.9	-22.5	-5.9	1.0	16.3
Nickel Index	2.7	-2.6	-12.4	-12.3	0.7	-2.0
Heating Oil Index	-2.1	-18.5	-18.2	-8.7	-1.1	14.2
Aluminum Index	0.7	0.3	-7.3	-11.4	-1.8	13.7
HRW Wheat Index	3.0	-2.7	-13.0	-1.0	-1.9	-14.0
Live Cattle Index	-0.3	0.4	4.1	-0.4	-3.0	12.7
Gold Index	-0.2	0.6	1.7	-7.2	-4.7	2.7
Corn Index	2.0	1.1	1.0	-4.1	-5.3	-14.8
WTI Crude Index	1.1	-22.0	-25.9	-10.9	-6.1	-0.1
Soybean Meal Index	0.0	0.9	1.5	-3.2	-7.1	-9.5
Copper Index	0.1	4.4	4.3	-16.7	-10.2	2.4
Soybeans Index	1.6	5.3	5.0	-10.7	-13.8	-21.0
Silver Index	-1.0	-1.1	-2.6	-18.0	-14.6	-15.8
Zinc Index	1.0	2.9	6.8	-19.0	-14.7	-0.1
Platinum Index	-5.3	-4.9	1.8	-14.5	-15.1	-12.6
Soybean Oil Index	0.8	-0.4	-2.7	-18.0	-19.8	-29.1
Gasoline Index	1.9	-19.8	-28.7	-22.6	-20.4	-11.7
Sugar Index	3.0	-2.5	13.9	-21.3	-20.8	-42.1
Coffee Index	-3.0	-7.4	2.9	-22.5	-23.8	-40.8

#### Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>▼ BCOM Total Return Indices</b>										
Natural Gas Index	50.1%	-36.4%	10.3%	-39.9%	-30.7%	5.0%	-30.6%	-47.1%	-40.6%	-51.6%
Wheat Index	4.3%	-12.5%	-24.1%	-22.2%	-9.4%	-27.2%	9.8%	-34.0%	21.2%	-26.0%
Cotton Index	0.8%	12.5%	10.5%	3.0%	-21.2%	9.0%	-12.7%	-21.7%	98.2%	30.1%
Live Cattle Index	-0.6%	9.1%	-7.4%	-14.3%	22.1%	-5.0%	-3.9%	-1.0%	15.0%	-9.8%
Lean Hogs Index	-1.9%	2.8%	-2.9%	-26.1%	-4.4%	-2.0%	-2.9%	-4.6%	0.3%	-22.5%
HRW Wheat Index	-2.5%	-14.9%	-25.3%	-32.7%	-4.7%	-26.2%	5.6%	-22.9%	42.1%	-23.8%
Soybean Meal Index	-3.5%	-4.8%	18.1%	-18.0%	11.8%	20.0%	49.1%	-18.1%	38.9%	34.7%
Brent Crude Index	-5.2%	14.2%	25.4%	-45.6%	-47.6%	7.2%	7.6%	16.8%	11.5%	28.6%
Corn Index	-5.2%	-12.1%	-9.8%	-19.2%	-13.3%	-30.3%	19.0%	1.1%	30.7%	-10.1%
Gold Index	-6.9%	12.8%	7.7%	-10.9%	-1.7%	-28.7%	6.1%	9.6%	28.7%	22.9%
Heating Oil Index	-8.2%	15.0%	33.5%	-42.8%	-38.8%	0.4%	5.5%	10.7%	8.3%	20.5%
WTI Crude Index	-10.0%	5.1%	7.1%	-44.3%	-41.7%	6.8%	-11.8%	-3.6%	3.8%	4.4%
Soybeans Index	-11.4%	-8.1%	14.8%	-14.6%	-5.5%	10.5%	24.0%	-16.4%	34.9%	22.9%
Platinum Index	-12.2%	3.0%	0.8%	-26.5%	-12.3%	-11.8%	8.7%	-21.8%	19.3%	54.0%
Aluminum Index	-12.3%	31.2%	9.7%	-22.9%	-3.1%	-20.7%	-4.0%	-21.7%	5.4%	33.8%
Nickel Index	-13.5%	25.6%	11.8%	-42.6%	7.3%	-20.1%	-10.2%	-24.7%	32.2%	54.9%
Copper Index	-16.7%	29.2%	15.7%	-25.1%	-16.6%	-8.8%	5.0%	-24.4%	29.5%	130.0%
Silver Index	-16.9%	5.8%	14.0%	-12.7%	-20.4%	-36.6%	7.1%	-10.1%	81.8%	47.6%
Soybean Oil Index	-18.5%	-7.0%	7.3%	-7.7%	-20.6%	-22.4%	-9.8%	-15.2%	33.8%	14.2%
Coffee Index	-19.1%	-16.0%	-1.3%	-31.5%	37.8%	-30.5%	-41.6%	-11.2%	67.0%	10.3%
Gasoline Index	-21.1%	2.8%	6.4%	-12.6%	-43.8%	1.9%	25.7%	14.5%	13.1%	74.7%
Sugar Index	-21.1%	-25.4%	22.8%	-4.7%	-30.9%	-20.0%	-13.0%	-11.9%	24.0%	86.3%
Zinc Index	-21.5%	29.7%	57.5%	-28.0%	3.5%	-7.0%	9.0%	-27.8%	-8.8%	98.3%

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Performance – Prices

### Key Metrics

Name	WTD % Change	MTD % Change	3 Mth % Change	YTD % Change	1Y Yr % Change	2Y Yr % Change
▼ BCOM Single Commodity Price						
Natural Gas	7.4	41.9	58.6	56.7	52.9	38.0
Wheat	0.0	3.0	-0.5	20.8	26.0	35.5
HRW Wheat	0.0	-1.4	-7.0	13.9	17.4	24.3
Palladium	0.0	9.4	19.2	10.1	16.1	51.4
Corn	0.0	0.9	4.4	4.5	7.2	8.8
Cotton	0.0	0.4	-6.3	-1.9	2.8	6.5
Nickel	0.0	-2.6	-12.4	-12.3	0.8	-0.6
Gas Oil	-3.6	-21.6	-19.4	-7.4	-0.2	24.0
Live Cattle	0.0	0.0	7.5	-3.8	-2.5	5.6
Heating Oil	0.0	-18.4	-17.7	-11.1	-2.5	17.5
Aluminum	0.0	1.0	-6.8	-12.9	-3.3	13.5
Gold	-0.1	0.6	1.7	-6.7	-4.0	4.4
Soybean Meal	0.0	0.6	1.5	-1.4	-5.0	-2.6
Copper (LME)	0.0	3.7	4.2	-13.7	-7.6	7.1
Brent Crude	0.0	-22.2	-24.2	-12.2	-7.6	16.3
Copper (CME)	0.4	4.5	4.9	-15.8	-8.5	6.0
Soybeans	0.0	6.6	7.4	-6.0	-9.2	-13.3
Lean Hogs	0.0	-1.0	14.8	-19.4	-10.0	13.4
WTI Crude	0.6	-22.4	-27.4	-16.1	-11.7	2.5
Silver	-0.8	-1.1	-2.1	-17.6	-13.7	-13.9
Sugar	0.0	-2.7	21.1	-15.3	-14.9	-35.2
Platinum	-5.2	-5.0	1.7	-14.3	-15.0	-12.0
Gasoline	0.0	-18.5	-32.8	-19.9	-16.6	-3.3
Soybean Oil	0.0	-0.7	-1.9	-15.9	-17.6	-24.4
Zinc	0.0	1.9	5.3	-22.2	-18.1	-3.6
Coffee	0.0	-8.4	5.2	-18.2	-18.3	-30.0

## Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
▼ BCOM Single Commodity Price										
Natural Gas	54.0%	-20.7%	59.3%	-19.1%	-31.7%	26.2%	12.1%	-32.1%	-20.9%	-0.9%
Wheat	17.1%	4.7%	-13.2%	-20.3%	-2.6%	-22.2%	19.2%	-17.8%	46.7%	-11.3%
Palladium	12.2%	55.3%	21.6%	-29.6%	11.2%	2.1%	7.2%	-18.3%	96.5%	116.7%
HRW Wheat	9.9%	2.1%	-10.7%	-25.2%	-2.2%	-22.9%	15.9%	-15.7%	58.7%	-14.9%
Corn	3.3%	-0.4%	-1.9%	-9.6%	-5.9%	-39.6%	8.0%	2.8%	51.7%	1.8%
Soybean Meal	-1.8%	-0.1%	18.4%	-27.5%	-16.7%	4.1%	35.9%	-16.4%	18.0%	4.5%
Cotton	-2.5%	11.3%	11.6%	5.0%	-28.8%	12.6%	-18.1%	-36.6%	91.5%	54.2%
Live Cattle	-4.1%	4.7%	-15.2%	-16.4%	21.5%	1.8%	8.9%	12.1%	25.9%	0.0%
Soybeans	-6.5%	-4.5%	14.4%	-14.5%	-22.3%	-7.5%	18.4%	-14.0%	34.0%	6.9%
Gold	-6.7%	13.7%	8.6%	-10.5%	-1.5%	-28.3%	7.0%	10.2%	29.7%	24.0%
Gas Oil	-9.2%	19.8%	53.6%	-36.3%	-45.8%	1.9%	0.3%	21.2%	20.0%	51.9%
Brent Crude	-12.0%	17.7%	52.4%	-35.0%	-48.3%	-0.3%	3.5%	13.3%	21.6%	70.9%
Heating Oil	-12.7%	21.8%	54.8%	-40.4%	-40.0%	1.1%	3.8%	15.4%	20.1%	50.7%
Platinum	-13.2%	3.6%	1.1%	-26.2%	-11.8%	-10.9%	9.9%	-21.1%	21.5%	55.9%
Nickel	-13.5%	27.5%	13.5%	-41.8%	9.0%	-18.6%	-9.2%	-24.2%	33.8%	58.8%
Copper (LME)	-13.5%	30.6%	17.3%	-25.8%	-13.9%	-6.8%	4.2%	-21.2%	31.2%	141.1%
Aluminum	-13.8%	33.3%	12.5%	-17.9%	4.1%	-13.9%	2.5%	-18.8%	11.6%	45.6%
Sugar	-14.7%	-22.3%	28.0%	5.0%	-11.5%	-15.9%	-16.3%	-27.5%	19.2%	128.2%
Coffee	-15.4%	-7.9%	8.2%	-23.9%	50.5%	-23.0%	-36.6%	-5.7%	76.9%	21.3%
Soybean Oil	-15.7%	-3.9%	12.7%	-4.4%	-17.6%	-21.0%	-5.6%	-9.8%	43.1%	21.2%
WTI Crude	-16.0%	12.5%	45.0%	-30.5%	-45.9%	7.2%	-7.1%	8.2%	15.1%	77.9%
Copper (CME)	-16.2%	31.7%	17.4%	-24.4%	-16.8%	-7.0%	6.3%	-22.7%	32.9%	137.3%
Silver	-17.4%	7.2%	15.8%	-11.5%	-19.5%	-35.9%	8.3%	-9.8%	83.7%	49.1%
Lean Hogs	-18.2%	8.5%	10.6%	-26.4%	-4.9%	-0.3%	1.7%	5.7%	22.3%	7.1%
Gasoline	-21.5%	8.1%	31.4%	-11.7%	-48.5%	-0.9%	4.7%	9.5%	19.5%	103.6%
Zinc	-24.5%	30.1%	60.2%	-26.2%	6.0%	-0.5%	12.2%	-25.2%	-3.5%	113.5%

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Performance – Volatility

Name	Current	% Change on Day	WTD % Change	MTD % Change	1 Mth % Change	3 Mth % Change	YTD % Change	1 Yr % Change	2 Yr % Change	3 Yr % Change	5 Yr % Change
▼ BCOM 3M Implied Volatility											
Gold	10.2	1.5	-1.2	0.2	-3.1	4.5	6.2	4.6	-31.0	-32.3	-42.2
Live Cattle	13.9	0.3	-1.0	-1.5	-5.3	-15.6	-25.6	-20.8	-31.6	-37.7	84.8
Corn	14.7	-1.7	6.3	-0.9	-6.1	-14.8	15.2	3.8	-18.8	-18.1	-27.2
Platinum	14.9	-1.8	-7.6	-12.3	-12.3	-17.2	14.0	2.9	-25.3	-38.3	-14.6
Aluminum	16.8	7.7	-3.3	-19.7	-6.6	-25.5	0.0	-0.1	-13.1	-54.7	31.7
Soybean Meal	17.5	0.9	6.2	-4.0	-5.8	-7.4	14.1	2.4	-25.3	-10.4	-23.6
Soybean Oil	17.8	-2.0	4.8	21.0	22.7	14.6	15.7	0.2	-25.0	-13.3	9.8
Silver	19.3	1.6	-3.3	16.3	14.7	14.9	24.4	16.6	-20.8	-24.9	-26.6
Soybeans	19.5	6.2	18.0	33.5	30.5	16.7	73.3	53.7	0.3	16.0	14.7
Wheat	19.6	-1.1	-1.4	-6.8	-7.8	-25.9	-2.0	-0.7	-6.7	-8.6	3.7
Copper (COMEX)	20.0	-2.4	-4.4	3.1	8.3	-3.1	15.8	9.4	-25.2	-21.6	24.3
HRW Wheat	20.3	-0.1	0.9	-5.3	-5.5	-24.3	0.2	1.9	2.3	-4.8	19.3
Cotton	21.2	0.8	5.5	14.3	13.3	11.9	-6.2	6.9	-3.4	22.8	9.3
Copper (LME)	21.6	21.4	3.3	1.9	2.9	7.6	21.9	59.7	-32.0	-42.8	38.1
Sugar	25.3	0.2	1.7	-9.3	-11.2	-8.2	16.4	17.4	-6.1	-14.9	68.4
Coffee	26.5	-3.9	-3.6	-1.6	-6.8	-2.3	11.2	6.7	-8.6	-18.5	14.0
Palladium	26.7	3.8	-9.0	7.5	7.5	16.1	17.6	12.3	-5.1	-18.0	20.1
Nickel	27.5	-11.7	-1.1	-17.3	-9.8	-6.5	-2.7	-27.7	-15.0	-5.6	82.0
Zinc	30.6	13.1	20.1	2.0	4.7	7.8	44.1	60.9	-29.1	-8.6	58.6
Lean Hogs	35.1	2.4	8.0	2.1	1.2	-22.1	69.5	54.0	29.0	19.4	141.4
Heating Oil	35.7	0.7	-6.1	53.6	50.3	72.5	90.5	66.7	-7.2	3.4	99.1
Gas Oil	38.5	5.2	-10.5	69.6	61.8	55.7	103.4	79.0	-4.6	11.9	139.1
Brent Crude	41.1	0.9	-15.8	56.1	60.1	68.6	116.3	73.2	-6.4	3.7	119.1
Unlead Gas	43.9	0.0	1.2	49.5	53.9	76.2	119.2	86.6	31.6	18.3	135.4
Crude Oil	45.0	-2.3	-16.5	72.8	70.7	86.4	137.3	90.1	1.9	10.4	126.3
Natural Gas	81.3	-7.9	-15.2	74.5	70.6	207.3	137.8	80.7	84.4	79.6	163.3
▼ BCOM 60 Day Historical Vo...											
Gold	11.4	-0.1	1.3	-0.6	0.6	16.6	9.8	3.6	-19.9	-22.5	-47.9
Soybean Oil	16.0	0.0	10.9	11.4	10.0	2.2	14.6	11.4	-38.9	-27.9	-8.8
Platinum	16.7	0.0	1.2	-16.0	-15.7	-35.8	-2.1	5.7	-21.5	-25.3	-9.9
Silver	17.4	0.0	-2.5	-5.4	-4.7	-8.6	-6.9	-8.4	-37.5	-32.6	-47.8
Soybeans	18.8	0.2	4.5	-10.0	-10.7	-25.4	46.5	40.9	2.1	22.9	-33.2
Corn	18.9	-0.1	-4.6	-12.9	-12.8	-23.9	37.3	24.6	-21.1	-3.8	-12.2
Soybean Meal	19.1	-1.4	-2.0	-13.7	-14.5	-6.2	15.2	9.2	-16.8	16.4	-54.8
Aluminum	19.8	-1.0	-3.6	-9.8	-14.3	-6.4	16.6	25.7	22.3	2.9	42.0
Copper (LME)	20.2	0.0	-2.8	-8.6	-6.9	0.6	4.8	7.2	-1.8	-11.9	42.0
Palladium	21.3	-0.2	1.2	-14.7	-13.8	-24.5	14.4	1.7	-22.7	-37.9	2.8
Copper (CME)	21.6	-0.1	1.8	-1.8	1.7	-2.9	11.1	12.8	4.5	-11.7	50.3
Cotton	21.7	0.8	7.2	5.7	5.4	-16.4	16.5	5.9	2.7	19.0	22.2
Gas Oil	22.3	0.3	2.9	39.0	38.0	5.5	12.1	9.2	-31.7	-26.9	34.2
Nickel Gas	24.9	2.4	0.6	-11.8	-12.1	-7.2	-29.1	-33.9	-22.6	-28.2	22.1
Live Cattle	25.2	-1.6	-4.1	-20.2	-20.4	-36.4	32.9	14.1	6.4	-3.9	230.3
HRW Wheat	25.2	-1.6	-4.1	-20.2	-20.4	-36.4	32.9	14.1	6.4	-5.4	66.3
Wheat	25.5	-0.9	-4.4	-17.2	-17.0	-32.0	19.8	22.0	-4.4	-2.2	67.9
Heating Oil	26.2	-0.1	1.7	46.9	40.2	4.5	21.6	33.3	-21.3	-19.0	46.1
Zinc	29.7	-0.2	0.8	-8.5	-6.2	-5.3	42.4	29.4	-4.9	-7.5	127.3
Brent Crude	33.2	0.4	3.4	47.4	43.2	14.1	64.6	60.3	-7.5	-17.7	76.7
Unlead Gas	35.0	4.0	-0.7	25.8	20.7	20.2	45.3	46.9	-3.8	-16.9	46.0
Crude Oil	35.1	1.3	3.4	50.0	45.7	23.4	67.6	58.0	-7.4	-14.7	101.9
Coffee	36.3	-0.5	-0.7	7.6	7.9	41.3	61.1	56.4	31.3	10.3	45.6
Sugar	40.3	-0.2	1.4	2.0	2.3	65.2	70.3	41.9	45.4	3.6	98.3
Lean Hogs	53.6	-2.2	-2.1	-11.3	-11.6	9.8	73.1	61.7	-10.9	33.8	247.1
Natural Gas	70.8	0.1	3.5	153.9	154.5	254.6	53.5	78.9	43.9	58.0	165.0

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Curve Analysis – Contango (-) | Backwardation (+)

### Key Metrics

Name	Current Position	1 Yr Ago	1 Yr Change	YTD Change	MTD Change	1 Mth Change	3 Mth Change	2 Yr Change
<b>1 Year Spread % of First Contract</b>								
BCOM	-2.9	-2.6	-0.3	-1.1	0.4	0.5	1.9	1.7
Sector								
Energy	3.8	3.8	0.0	-0.5	2.1	2.2	0.5	11.5
Industrial Metals	0.0	-1.4	1.4	0.8	0.5	0.6	1.4	0.8
Livestock	-2.0	3.1	-5.1	-8.5	-2.0	-0.6	11.9	0.9
Precious Metals	-3.4	-2.3	-1.1	-1.0	-0.2	-0.2	-0.4	-1.6
Agriculture	-8.0	-6.1	-1.9	-2.1	-0.3	-0.5	0.5	-4.2
Single Commodities								
Natural Gas	33.2	-2.6	35.8	36.8	23.0	24.5	26.4	40.1
Zinc	5.6	1.9	3.7	2.2	1.1	1.3	4.1	5.7
Thermal Coal	5.5	9.8	-4.4	0.0	5.2	5.2	1.8	
Live Cattle	3.0	4.0	-1.0	-3.3	1.2	2.5	4.6	-6.3
Palladium	2.5	1.2	1.3	1.0	0.2	0.3	1.2	3.1
Copper (LME)	1.1	-1.2	2.3	2.4	0.8	1.0	2.1	1.4
Cotton	-0.2	6.0	-6.2	-6.3	-0.2	-0.8	-4.5	-4.0
Copper (CME)	-0.9	-2.4	1.5	0.9	1.3	1.3	2.3	0.2
Unleaded Gas	-1.5	5.0	-6.4	-6.2	1.0	0.5	-3.2	0.9
Platinum	-1.8	-1.2	-0.6	-0.4	-0.3	-0.3	0.0	-0.5
Brent Crude	-2.2	5.2	-7.4	-8.6	-4.2	-4.5	-5.4	8.8
Heating Oil	-2.6	2.5	-5.1	-8.5	-2.7	-2.8	-3.7	6.0
Crude Oil	-2.7	4.5	-7.2	-7.7	-2.5	-2.7	-8.1	7.8
Nickel	-2.8	-2.3	-0.5	-0.8	-0.3	-0.4	-0.4	-1.2
Gas Oil	-2.9	2.3	-5.2	-9.2	-5.3	-5.0	-4.6	5.6
Gold	-3.0	-2.1	-0.9	-0.8	-0.1	-0.1	-0.2	-1.6
Aluminum	-3.2	-3.1	-0.1	-0.9	-0.2	-0.1	-1.1	-2.3
Silver	-3.7	-2.6	-1.2	-1.3	-0.3	-0.3	-0.7	-1.6
Soybean Meal	-5.0	-1.3	-3.8	-1.6	-2.7	-3.3	-1.4	-4.8
Soybean Oil	-5.7	-0.9	-4.8	-4.6	-0.2	0.0	0.6	-5.4
Soybean	-6.3	-1.8	-4.5	-3.0	1.5	1.7	1.8	-7.8
Sugar	-7.0	-4.2	-2.7	-3.5	-0.3	-0.9	5.6	-15.1
Lean Hogs	-7.0	2.2	-9.2	-13.7	-5.1	-3.7	19.3	8.2
Wheat	-9.5	-17.6	8.1	6.0	2.7	3.1	1.8	13.2
Corn	-9.9	-13.9	4.0	2.2	-0.4	-0.5	2.9	2.8
Coffee	-14.2	-9.7	-4.5	-3.3	-1.5	-1.6	0.7	-6.1
HRW Wheat	-17.0	-21.5	4.6	2.1	-0.3	-0.2	-3.6	2.0

Measured via the one-year futures spread as a percent of the first contract price. Negative means the one-year out future is higher (contango). Positive means the one-year out future is lower (backwardation).

### Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>1 Year Spread % of First Co...</b>										
BCOM	-2.9	-1.7	-2.2	-7.1	-4.4	0.3	-0.9	-2.0	2.3	-4.1
Sector										
Energy	3.7	4.3	0.4	-14.0	-11.3	3.5	-1.3	-2.5	-2.1	-9.4
Industrial Metals	0.0	-0.8	-0.8	-1.5	-0.8	-1.8	-2.5	-2.1	0.5	-2.3
Livestock	-2.0	6.5	8.1	0.6	8.3	4.1	-0.7	-0.2	-1.8	-4.8
Precious Metals	-3.4	-2.3	-1.7	-1.0	-0.8	-0.7	-0.7	-0.7	-0.9	-0.9
Agriculture	-8.0	-5.9	-4.2	-5.5	-5.6	-1.5	-2.3	-1.8	12.2	-0.3
Single Commodities										
Natural Gas	33.2	-3.7	-0.1	-22.6	-22.2	-3.2	-20.7	-29.9	-18.4	-21.1
Zinc	5.6	3.4	0.2	-2.8	-1.4	-2.3	-4.5	-3.9	-1.7	-3.2
Thermal Coal	5.0	5.4	18.4	14.0	1.7	1.9	-8.3	-6.2	11.2	-7.9
Live Cattle	3.0	6.3	13.3	8.1	7.0	2.5	-3.3	-4.5	-3.8	-4.3
Palladium	2.5	1.5	-0.5	-0.2	-0.1	-0.5	-0.2	-0.4	0.0	-0.3
Copper (LME)	1.1	-1.3	-0.3	0.3	1.6	1.1	-0.7	-0.3	2.7	-0.9
Cotton	-0.2	6.1	1.7	-2.7	-8.6	6.7	-5.7	3.6	34.6	-2.6
Copper (CME)	-0.9	-1.8	-0.8	-1.1	-0.2	1.3	-1.1	-0.8	2.5	-1.2
Unleaded Gas	-1.5	4.7	2.8	1.0	-12.3	7.0	9.8	7.9	3.7	-2.9
Platinum	-1.8	-1.4	-1.1	-0.4	-0.4	-0.5	-0.7	-1.0	-0.5	-1.2
Brent Crude	-2.2	6.3	-3.1	-22.1	-16.4	4.9	6.3	4.0	-0.4	-8.3
Heating Oil	-2.6	5.9	-4.5	-24.5	-4.5	3.2	2.1	2.1	-3.4	-8.0
Crude Oil	-2.7	5.0	-5.9	-20.4	-13.5	7.3	-1.3	1.4	-3.2	-6.7
Nickel	-2.8	-2.0	-1.9	-1.4	-1.1	-1.8	-1.4	-0.1	1.1	-1.1
Gas Oil	-2.9	6.2	-4.8	-23.8	-12.0	3.1	2.9	3.0	-4.2	-11.0
Gold	-3.0	-2.2	-1.5	-0.5	-0.3	-0.4	-0.7	-0.9	-0.9	-1.0
Aluminum	-3.2	-2.3	-1.0	-2.7	-3.1	-7.5	-5.0	-5.2	-2.3	-5.0
Silver	-3.7	-2.5	-2.0	-1.4	-1.2	-0.9	-0.7	-0.5	-0.9	-0.8
Soybean Meal	-5.0	-3.4	-0.4	-5.7	9.8	19.9	12.5	-2.4	9.9	9.5
Soybean Oil	-5.7	-1.1	-1.2	-3.1	-0.9	-3.8	-2.8	-1.6	-0.9	-5.3
Soybean	-6.3	-3.3	0.4	-2.0	0.9	13.1	7.7	-1.2	5.9	1.7
Sugar	-7.0	-3.5	4.8	0.9	-13.1	-8.2	-5.5	-0.3	26.0	21.9
Lean Hogs	-7.0	6.7	2.9	-7.0	9.6	5.7	2.0	4.2	0.2	-5.3
Wheat	-9.5	-15.5	-17.1	-10.5	-5.0	-7.2	-6.9	-12.4	-8.7	-15.3
Corn	-9.9	-12.1	-10.5	-9.5	-8.1	-9.2	12.7	7.2	9.4	-8.5
Coffee	-14.2	-10.9	-9.2	-8.4	-7.4	-11.2	-11.5	-4.9	6.1	-5.7
HRW Wheat	-17.0	-19.1	-16.1	-14.9	-6.3	-5.5	-5.7	-7.9	-3.1	-12.7

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Curve Analysis – Gross Roll Yield

### Key Metrics

Name	Current 1Yr Yld	Yld 6 Months Ago	Yld 1 Yr Ago	Change from 1 Yr Ago	Yld 2 Yr Ago	Change from 2 Yr Ago
<b>1 Year Gross Yield</b>						
<b>Sector Roll Yield</b>						
BCOM Energy	2.7	-1.9	-16.9	19.6	-28.1	30.7
BCOM Livestock	1.7	-1.5	-1.1	2.8	0.2	1.5
BCOM Industrial Metals	1.6	-0.4	-2.6	4.2	-2.2	3.8
BCOM Precious Metals	-0.8	-0.8	0.5	-1.3	-1.2	0.4
BCOM	-1.8	-4.1	-6.2	4.4	-11.6	9.8
BCOM Softs	-5.0	-3.0	-4.1	-0.9	-5.9	0.9
BCOM Grains	-10.0	-10.1	-10.0	0.1	-6.8	-3.2
BCOM Agriculture		-8.3	-8.1			
<b>Commodities Roll Yield</b>						
Lean Hogs	10.8	-1.2	-7.7	18.5	-2.5	13.3
Brent Crude	7.5	5.3	-21.1	28.7	-17.6	25.1
Cotton	7.5	5.0	-0.7	8.2	-5.2	12.7
Crude Oil	5.4	-0.3	-9.7	15.1	-31.2	36.6
Gas Oil	3.8	6.2	-2.2	6.0	-14.9	18.6
Nickel	3.5	-1.9	-3.0	6.4	-2.0	5.4
Zinc	3.3	2.1	-0.6	3.9	-3.5	6.8
Aluminum	2.4	1.1	-2.3	4.7	-3.4	5.8
Heating Oil	2.2	1.0	-5.3	7.5	-17.3	19.5
Platinum	-0.2	-0.5	-0.8	0.6	-0.8	0.6
Silver	-0.2	-1.3	-1.6	1.4	-0.7	0.5
Gold	-0.5	-1.0	-1.0	0.4	0.3	-0.8
Copper (CME)	-1.6	-1.8	-1.8	0.2	-1.6	0.0
Soybean Oil	-1.8	-2.0	-4.4	2.6	-6.6	4.8
Soybean Meal	-2.0	-4.7	-5.2	3.1	0.0	-2.0
Unlead Gas	-2.9	0.2	-5.1	2.2	-17.7	14.8
Soybean	-3.9	-2.4	-2.9	-0.9	0.3	-4.2
Coffee	-4.2	-8.4	-6.5	2.3	-11.0	6.8
Sugar	-6.0	-2.9	-3.6	-2.3	-5.3	-0.6
Natural Gas	-8.3	-14.2	-17.8	9.5	-50.1	41.8
Corn	-12.7	-10.6	-11.2	-1.5	-5.3	-7.4
HRW Wheat	-16.2	-20.9	-16.1	-0.1	-13.6	-2.5
Wheat	-16.3	-17.8	-18.3	2.0	-8.8	-7.5

Measured on a gross roll yield basis; the 251 business day difference between the total return and spot change.

## Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>1 Year Gross Yield</b>										
<b>Sector Roll Yield</b>										
BCOM Energy	2.7	-7.7	-32.5	-12.6	1.6	-5.1	-11.7	-11.0	-13.8	-51.8
BCOM Livestock	1.7	0.5	0.2	1.1	-0.2	-4.5	-9.8	-12.3	-14.8	-20.2
BCOM Industrial Metals	1.6	-3.0	-2.0	-1.8	-2.1	-3.9	-3.3	-2.2	-4.1	-16.7
BCOM Precious Metals	-0.8	-0.2	-1.1	-0.6	-0.4	-0.5	-0.9	-0.6	-1.1	-1.1
BCOM	-1.8	-5.9	-11.4	-6.3	0.0	-0.9	-4.7	-6.6	-9.5	-21.8
BCOM Softs	-5.0	-4.2	-5.6	-7.4	-12.5	-4.9	0.9	9.0	0.5	-24.7
BCOM Agriculture	-7.7	-8.0	-6.1	-4.1	-1.0	4.9	1.9	-1.9	-9.6	-8.3
BCOM Grains	-10.0	-10.7	-7.0	-4.7	0.7	8.2	3.6	-5.8	-12.6	-2.5
<b>Commodities Roll Yield</b>										
Lean Hogs	10.8	-8.2	-13.6	0.3	0.6	-1.7	-4.5	-9.6	-23.8	-30.8
Brent Crude	7.5	-4.9	-27.7	-23.3	0.3	6.9	4.2	8.3	-12.5	-55.6
Cotton	7.5	1.0	-1.1	-2.1	7.7	-3.6	5.2	15.5	14.3	-24.1
Crude Oil	5.4	-7.3	-38.2	-14.0	4.3	-0.3	-4.5	-9.7	-11.3	-70.3
Live Cattle	4.0	4.4	7.8	2.0	0.6	-6.8	-12.8	-12.5	-12.2	-9.6
Gas Oil	3.8	-0.9	-22.7	-11.0	-1.6	2.1	7.4	2.1	-12.3	-20.5
Nickel	3.5	-0.6	-1.7	0.5	-2.9	-2.3	-1.0	-1.7	-1.6	-7.3
Zinc	3.3	-3.1	-2.7	-2.5	-4.6	-8.8	-3.1	-3.0	-5.3	-11.2
Aluminum	2.4	-3.2	-2.9	-6.0	-9.1	-8.4	-6.2	-3.3	-6.0	-13.6
Heating Oil	2.2	-6.4	-25.3	-3.0	1.1	-1.3	1.0	-2.9	-11.7	-25.3
Platinum	-0.2	-1.1	-0.4	-0.2	-0.5	-0.8	-1.2	0.9	-2.7	-6.2
Silver	-0.2	0.1	-1.8	-1.2	-0.9	-0.7	-1.1	4.5	-5.1	-1.5
Gold	-0.5	-0.3	-0.9	-0.4	-0.2	-0.4	-0.9	2.9	-1.0	-1.1
Copper (CME)	-1.6	-3.5	-1.6	-0.7	0.3	-1.7	-1.3	-0.1	-3.6	-7.1
Soybean Oil	-1.8	-2.9	-5.4	-3.2	-2.9	-1.3	-4.2	-4.2	-8.5	-6.9
Soybean Meal	-2.0	-4.8	-0.5	9.6	28.7	16.5	13.0	-1.3	20.7	30.2
Unlead Gas	-2.9	-4.0	-27.2	1.1	4.7	1.3	18.9	4.5	-6.9	-16.9
Soybean	-3.9	-3.0	0.2	-0.2	17.0	18.5	5.5	-1.8	0.5	16.1
Coffee	-4.2	-9.2	-9.7	-7.8	-12.6	-7.2	-5.0	-3.4	-8.5	-11.1
Sugar	-6.0	-3.2	-5.2	-9.9	-19.5	-4.1	3.1	18.7	4.6	-41.8
Natural Gas	-8.3	-14.0	-52.6	-19.8	0.8	-22.3	-42.7	-13.8	-16.1	-47.6
Corn	-12.7	-12.4	-7.9	-9.6	-7.4	9.4	10.8	0.4	-20.9	-11.8
HRW Wheat	-16.2	-17.8	-14.7	-7.6	-2.5	-3.3	-4.1	-7.6	-9.9	-4.7
Wheat	-16.3	-18.0	-10.9	-1.9	-7.0	-5.1	-9.4	-14.6	-23.8	-14.7

**Bloomberg Commodity Outlook – December 2018 Edition**  
*Bloomberg Commodity Index (BCOM)*

**Curve Analysis – Forwards / Forecasts**  
**Spread %**

Name	11/2018	10/2018	9/2018	8/2018	7/2018	6/2018	5/2018	4/2018	3/2018	2/2018	1/2018	12/2017
<b>▼ 1 Yr Spread ((Forward-Forecast)/ Forecast</b>												
<b>▼ Energy</b>												
WTI Crude Spread %	-3.1	-0.9	2.4	1.2	2.6	6.1	4.3	7.3	3.6	0.3	4.7	19.4
Brent Crude Spread %	-1.8	1.3	4.1	3.8	5.7	7.1	8.9	9.8	4.6	0.3	7.7	23.8
ULS Diesel Spread %	-0.6	1.7	2.2	1.1	0.2	8.4	9.6	6.1	2.6	0.8	7.6	32.8
Unleaded Gasoline Spread %	-1.8	-1.4	2.8	-0.1	-0.3	-0.1	1.4	3.5	1.3	-0.2	8.3	15.1
<b>▼ Soft</b>												
Sugar Spread %	-1.2	3.3	-3.6	-2.0	-5.8	-2.3	0.7	-6.2	-6.9	-4.0	-4.5	-5.2
Coffee Spread %	-5.8	-4.8	-6.8	-9.0	-5.6	-5.6	-2.5	-1.3	-4.0	-4.3	-6.0	-6.5
Cotton Spread %	-1.7	-2.8	-2.5	-1.9	3.1	-0.2	9.9	2.5	5.1	10.2	6.7	7.7
<b>▼ Industrial Metals</b>												
Copper Spread % (LME)	-1.1	-1.9	-1.7	-3.4	-5.2	-2.9	-1.3	-2.5	-3.5	3.3	7.0	17.8
Aluminum Spread %	-1.5	-1.5	-1.0	0.6	-0.4	0.2	3.9	3.3	-3.9	2.7	7.5	14.7
Zinc Spread %	-2.5	-2.9	-4.9	-7.2	-7.3	-4.2	-0.4	-2.1	2.8	7.5	10.1	16.6
Nickel Spread %	-3.8	-3.4	-3.1	-0.8	1.9	8.4	10.8	5.1	10.3	14.5	13.4	23.2
<b>▼ Precious Metals</b>												
Gold Spread %	-0.5	-0.3	-1.7	-1.7	-2.5	-2.2	0.3	1.1	1.5	1.8	5.4	4.1
Silver Spread %	-1.8	-2.4	-4.3	-4.5	-2.5	-4.1	-2.3	-2.6	-3.2	-3.6	1.1	0.1
<b>▼ Grain</b>												
Corn Spread %	-2.3	-3.2	-3.4	-5.1	-3.5	-5.9	2.4	4.4	3.6	3.0	0.2	-3.3
Soybeans Spread %	-2.6	-3.4	-3.3	-5.4	-7.1	-8.0	0.6	2.6	4.4	4.3	2.8	-2.7
Wheat Spread %	-2.3	-2.5	-1.4	1.0	5.2	0.0	10.3	8.6	2.7	9.1	4.0	-3.0

**Data Set**

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>▼ Data Set</b>										
<b>▼ 1 Yr Spread</b>										
<b>▼ Energy</b>										
Natural Gas Forward	3.24	2.95	3.72	2.34	2.89	4.23	3.35	2.99	4.34	5.57
WTI Crude Forward	64.9	60.4	53.7	37.0	53.3	98.4	91.8	98.8	91.4	79.4
WTI Crude Forecast	67.0	50.6	43.2	50.0	93.6	98.2	95.0	94.0	79.0	61.4
Brent Crude Forward	72.4	66.9	56.8	37.3	57.3	110.8	111.1	107.4	94.8	77.9
Brent Crude Forecast	73.7	54.0	44.9	54.0	100.0	108.0	111.9	110.7	80.0	62.0
ULS Diesel Forward	2.11	2.08	1.70	1.10	1.85	3.08	3.05	2.94	2.54	2.12
ULS Diesel Forecast	2.12	1.56	1.34	1.69	2.79	2.98	3.05	2.87	2.13	
Unleaded Gasoline Forward	1.94	1.80	1.67	1.27	1.44	2.79	2.81	2.69	2.45	2.05
Unleaded Gasoline Forecast	1.97	1.56	1.39	1.64	2.65	2.86	2.95	2.91	2.12	1.47
<b>▼ Soft</b>										
Sugar Forward	0.12	0.15	0.20	0.15	0.15	0.16	0.20	0.23	0.32	0.27
Sugar Forecast	0.12	0.16	0.18	0.13	0.17	0.18	0.22	0.27	0.21	0.17
Coffee Forward	1.08	1.26	1.37	1.27	1.67	1.11	1.44	2.27	2.40	1.36
Coffee Forecast	1.15	1.35	1.37	1.34	1.79	1.26	1.78	2.53	1.60	1.23
Cotton Forward	0.82	0.79	0.71	0.63	0.60	0.85	0.75	0.92	1.45	0.76
Cotton Forecast	0.83	0.73	0.65	0.64	0.76	0.84	0.79	1.34	0.90	0.60
<b>▼ Industrial Metals</b>										
Copper Forward (LME)	6,530	7,219	5,526	4,713	6,349	7,373	7,913	7,595	9,644	7,352
Copper Forecast (LME)	6,603	6,129	4,826	5,575	6,871	7,334	7,958	8,855	7,460	5,100
Aluminum Forward	2,117	2,258	1,694	1,506	1,834	1,762	2,047	1,997	2,459	2,204
Aluminum Forecast	2,150	1,968	1,600	1,693	1,883	1,883	2,038	2,450	2,167	1,675
Zinc Forward	2,856	3,335	2,564	1,600	2,168	2,045	2,055	1,831	2,447	2,535
Zinc Forecast	2,930	2,861	2,043	1,961	2,170	1,930	1,963	2,210	2,192	1,641
Nickel Forward	13,041	12,714	9,975	8,788	15,088	13,843	17,008	18,731	24,715	18,467
Nickel Forecast	13,552	10,322	9,594	12,170	17,000	15,124	17,602	22,997	21,814	14,672
<b>▼ Precious Metals</b>										
Gold Forward	1,263	1,309	1,152	1,060	1,184	1,202	1,676	1,567	1,421	1,096
Gold Forecast	1,270	1,258	1,262	1,165	1,265	1,420	1,677	1,575	1,211	960
Silver Forward	15.52	17.15	15.99	13.80	15.57	19.34	30.17	27.88	30.91	16.82
Silver Forecast	15.80	17.13	17.11	15.84	19.10	24.00	31.40	35.50	19.68	14.66
Platinum Forecast	887	951	1,000	1,076	1,390	1,514	1,556	1,752	1,616	1,184
Palladium Forecast	995.8	855.0	616.6	700.0	803.0	734.0	643.0	733.0	520.0	255.0
<b>▼ Grain</b>										
Corn Forward	3.6	3.5	3.5	3.6	4.0	4.2	7.0	6.5	6.3	4.1
Corn Forecast	3.7	3.6	3.6	3.8	4.1	5.9	7.0	6.9	4.9	3.8
Soybeans Forward	9.1	9.5	10.0	8.7	10.2	13.1	14.2	12.0	13.9	10.4
Soybeans Forecast	9.4	9.8	9.9	9.5	12.4	14.0	14.7	13.5	10.5	10.4
Wheat Forward	4.9	4.3	4.1	4.7	5.9	6.1	7.8	6.5	7.9	5.4
Wheat Forecast	5.0	4.4	4.4	5.1	5.8	6.9	7.5	7.4	6.2	5.4

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Market Flows – Open Interest

### Key Metrics

Name	Current	MTD % Change	3 Mth % Change	YTD % Change	11 Yr % Change	2 Yr % Change	2 Year High
▼ Open Interest (Aggregate - 1,000s)							
▼ Single Commodities							
Coffee	238	-17.4	-21.7	9.2	21.4	28.0	341
Silver	216	3.4	-4.9	11.3	16.1	32.5	244
Sugar	814	1.5	-22.5	8.1	15.6	-0.9	1,062
Soybean Oil	531	-2.8	0.0	19.6	15.4	24.1	606
Soybean Meal	474	-11.9	-6.9	26.1	14.8	28.1	538
Gold	522	9.9	9.0	10.6	3.6	27.0	598
Nickel	149	2.1	-5.7	-0.7	1.4	-10.2	188
Corn	1,584	-5.9	-5.3	2.9	0.7	25.3	2,007
Soybean	733	-3.3	-8.5	4.0	0.0	3.4	976
Unlead Gas	414	8.7	-6.8	7.0	-1.4	11.3	501
Gas Oil	857	-14.4	-19.8	-0.9	-1.6	4.1	1,138
Aluminum	482	1.9	5.5	-7.3	-5.7	-6.8	550
HRW Wheat	294	-9.8	11.8	-10.9	-6.7	18.6	342
Cotton	220	-17.0	-12.7	-21.2	-7.2	-13.7	322
Live Cattle	345	0.0	15.0	3.6	-9.0	19.8	432
Copper (LME)	174	-3.3	5.5	-14.3	-9.4	-16.8	234
Brent Crude	2,214	4.0	-2.9	-4.7	-9.7	0.2	2,704
Platinum	70	-6.7	-17.7	-15.7	-10.3	2.9	94
Lean Hogs	225	-0.4	0.5	-5.9	-10.4	2.7	282
Natural Gas	1,267	-16.7	-19.8	-12.5	-11.0	8.9	1,700
Wheat	447	-19.5	-2.2	-14.5	-13.9	-0.9	581
Heating Oil	368	-12.0	-7.8	-18.0	-15.2	-6.8	491
Copper (CME)	225	-12.1	-4.3	-19.6	-17.6	-3.0	338
Crude Oil	2,002	-4.4	-10.7	-18.6	-19.6	-0.6	2,714
Zinc	143	-4.7	-14.9	-28.5	-23.1	-23.5	225
Palladium	27	0.0	35.0	-27.0	-25.0	3.9	40

### Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
▼ Open Interest (Aggregate - 1,000s)										
▶ BCOM	13,908	14,623	12,965	11,965	10,881	11,033	10,367	9,282	10,206	8,524
▼ Sector										
▶ Energy	7,123	7,931	7,084	6,057	5,033	5,346	4,980	4,230	4,262	3,712
▶ Agriculture	5,336	5,168	4,493	4,563	4,211	4,090	3,876	3,418	4,399	3,447
▶ Industrial Metals	1,172	1,354	1,319	1,178	1,224	1,104	1,006	1,159	1,105	1,016
▶ Precious Metals	835	786	667	673	620	613	658	585	783	669
▶ Livestock	570	572	501	431	481	591	578	552	534	443
▼ Single Commodities										
Brent Crude	2,214	2,322	2,159	2,031	1,513	1,443	1,285	886	873	728
Crude Oil	2,002	2,460	2,051	1,671	1,468	1,616	1,473	1,328	1,430	1,193
Corn	1,584	1,540	1,236	1,334	1,237	1,203	1,128	1,151	1,549	1,002
Natural Gas	1,267	1,448	1,243	957	939	1,291	1,165	1,011	772	708
Gas Oil	857	865	802	700	435	477	512	458	619	545
Sugar	814	753	805	879	836	830	754	559	613	834
Soybean	733	705	632	646	599	576	546	460	629	418
Soybean Oil	531	444	372	384	355	340	306	273	358	211
Gold	522	472	416	415	372	380	428	419	585	490
Aluminum	482	520	541	551	595	539	495	682	546	487
Soybean Meal	474	376	329	402	341	262	212	194	192	162
Wheat	447	523	448	368	371	411	456	384	492	362
Unlead Gas	414	387	400	355	332	239	282	277	267	235
Heating Oil	368	449	429	342	346	279	263	269	301	304
Live Cattle	345	333	306	265	266	327	329	317	327	265
HRW Wheat	294	330	239	193	132	154	158	139	219	145
Coffee	238	218	191	172	160	142	144	105	140	126
Lean Hogs	225	239	194	166	215	264	248	235	207	178
Copper (CME)	225	280	224	166	160	167	147	121	167	155
Cotton	220	279	242	185	178	172	171	152	207	187
Silver	216	194	164	168	151	132	141	106	136	124
Copper (LME)	174	203	209	146	155	132	130	143	196	163
Nickel	149	150	160	148	132	81	69	65	61	62
Zinc	143	200	184	167	182	184	166	148	135	149
Platinum	70	83	63	65	64	62	60	42	39	33
Palladium	27	37	24	24	33	39	29	18	23	23

# Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

## Market Flows – Commitment of Traders

### Key Metrics

Name	Current	5 Day Change	1 Mth Change	3 Mth Change	YTD Change	1 Yr Change	2 Yr Change
▼ Net - Managed Money Total/Disagg							
▼ Single Commodities							
Natural Gas	239,819	3,271	-7,593	56,244	292,265	219,151	184,076
Brent Crude	168,512	-14,057	-192,273	-155,919	-392,772	-369,467	-142,111
Aluminum (Post- MiFID II)	166,152	0	20,484	18,307			
Aluminum (Pre- MiFID II)	163,475	6,307	-3,292	21,105	3,315	-10,481	115,362
WTI Crude	155,023	3,937	-51,272	-172,719	-256,949	-241,461	-34,063
Zinc (Pre MiFID II)	79,906	-1,121	-6,682	3,640	-471	-8,898	44,606
Live Cattle	65,208	7,953	-10,010	382	-17,502	-54,875	-3,833
Copper (LME) (Post MiFID II)	49,648	0	11,509	30,361			
Zinc (Post MiFID II)	47,938	0	6,463	10,111			
Gasoline	47,028	441	-26,125	-33,485	-32,422	-43,094	24,942
Nickel	42,230	-664	-1,792	12,113	13,772	5,041	22,602
Lean Hogs	40,323	-586	12,058	39,764	-13,634	-23,238	8,084
Copper (LME) (Pre MiFID II)	37,448	-917	-16,651	-27,111	-31,597	-34,385	25,052
Cotton	36,994	-2,969	-10,810	-33,656	-65,408	-33,734	-46,480
Heating Oil	14,740	-10,188	-34,646	-35,862	-67,084	-59,992	5,403
Palladium	13,824	424	1,421	14,022	-11,991	-11,196	28
Platinum	9,989	1,103	13,731	38,694	14,199	-1,736	3,697
Copper (CME)	4,137	-1,315	8,826	32,157	-95,383	-77,614	-76,786
Sugar	-204	-10,934	-63,719	150,137	72,852	-13,012	-168,839
Soybean Meal	-7,804	-8,678	-44,359	-60,537	-39,061	-46,504	-27,163
HRW Wheat	-9,672	-4,458	-31,384	-74,045	24,750	14,558	-26,798
Corn	-22,148	-14,303	-47,529	-7,324	184,476	174,615	47,113
Coffee	-27,999	-1,738	6,731	76,337	29,847	12,767	-71,068
Silver	-31,849	663	-10,640	-6,476	-24,744	-88,354	-74,690
Wheat	-38,613	-765	-12,508	-99,425	107,122	84,161	79,896
Gold	-51,828	-8,464	-24,929	26,751	-161,747	-256,032	-155,220
Soybeans	-63,862	-3,616	-19,440	-23,813	5,229	-95,524	-198,567
Soybean Oil	-80,374	-1,129	-48,826	14,835	-83,780	-106,772	-192,325

### Historical

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
▼ Net - Managed Money Total/Disagg										
BCOM	789,977.0	1.2M	1.8M	107,932.0	1.1M	835,105.0	791,313.0	637,042.0	1.6M	1.1M
▼ Sector										
Energy	641,718.0	1.1M	1.0M	95,835.0	278,790.0	623,230.0	258,739.0	230,666.0	224,236.0	185,192.0
Industrial Metals	328,511	437,560	423,576	90,351	218,292	35,635	14,988	-4,018	39,105	15,752
Livestock	98,164	136,667	147,051	24,525	117,295	137,611	110,898	104,018	133,520	83,521
Precious Metals	-53,590	124,419	101,310	-239	153,310	70,026	171,032	134,710	232,650	252,599
Agriculture	-165,092	-449,709	225,844	-75,733	383,375	-1,048	281,653	188,257	962,170	594,114
▼ Single Commodities										
Natural Gas	236,548	-52,446	174,043	-161,686	-53,308	134,994	-89,820	-124,269	-96,119	-27,225
Brent Crude	182,569	561,284	454,585	163,672	115,571	136,611	125,397	81,537		
Aluminum (Post- MiFID II)	166,152									
Aluminum (Pre- MiFID II)	163,475	160,160	145,790	71,738	118,175					
WTI Crude	151,086	411,972	307,909	100,797	199,388	270,386	134,834	192,466	217,046	133,742
Zinc (Pre MiFID II)	79,906	80,377	81,039	20,140	49,726					
Live Cattle	57,255	82,710	92,516	11,081	80,102	96,771	59,569	68,105	104,412	49,281
Copper (LME) (Post MiFID II)	49,648									
Zinc (Post MiFID II)	47,938									
Gasoline	46,587	79,450	50,091	28,391	44,226	54,637	64,383	61,288	67,205	50,763
Nickel	42,230	28,458	57,232	15,372	29,631					
Lean Hogs	40,909	53,957	54,535	13,444	37,193	40,840	51,329	35,913	29,108	34,240
Cotton	39,963	102,402	76,052	51,307	11,005	43,288	25,828	6,683	40,645	61,292
Copper (LME) (Pre MiFID II)	37,448	69,045	67,384	9,065	25,215					
Heating Oil	24,928	81,824	33,541	-35,339	-27,087	26,602	23,945	19,644	36,104	27,912
Palladium	13,400	25,815	12,742	8,690	19,970	15,660	16,769	5,212	13,034	11,626
Sugar	10,730	-73,056	138,442	165,810	-66,824	-25,626	19,000	43,792	141,534	167,357
Platinum	8,886	-4,210	8,223	9,052	17,898	14,689	29,228	11,379	22,793	16,782
Copper (CME)	5,452	99,520	72,131	-25,964	-4,455	35,635	14,988	-4,018	39,105	15,752
Soybean Meal	874	31,257	19,537	-40,843	54,132	57,931	41,489	-15,232	40,129	35,586
HRW Wheat	-5,214	-34,422	9,085	-14,975	24,999	8,022	23,619	9,128	49,108	9,943
Corn	-7,845	-206,624	-113,648	-136,111	239,704	-94,812	140,109	148,653	396,782	205,427
Coffee	-26,261	-57,846	12,706	-15,181	25,385	-8,417	-23,076	2,905	36,182	23,630
Silver	-32,512	-7,105	39,098	6,282	17,051	5,573	23,113	6,200	26,836	26,631
Wheat	-37,848	-145,735	-108,927	-83,120	20,481	-71,468	-11,899	-29,252	36,542	-8,683
Gold	-43,364	109,919	41,247	-24,263	98,391	34,104	101,922	111,919	169,987	197,560
Soybeans	-60,246	-69,091	107,075	-63,515	39,446	136,683	109,007	23,683	164,287	69,606
Soybean Oil	-79,245	3,406	85,522	60,895	35,047	-46,649	-42,424	-2,103	56,961	29,956

## Bloomberg Commodity Outlook – December 2018 Edition

Bloomberg Commodity Index (BCOM)

### Market Flows – ETF Flows (annual)

Name	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
▼ <b>ETFs (\$ Billion AUM)</b>										
▼ Total ETF Assets Under Management (\$ ...)	131.21	141.73	120.35	86.92	101.22	110.91	195.29	171.16	166.48	113.35
▼ Precious Metals	101.85	109.98	90.30	62.95	77.79	84.93	164.56	142.19	130.39	80.66
▶ Gold	89.86	95.36	76.91	51.78	62.75	68.70	143.55	120.89	105.90	70.06
▶ Silver	8.51	10.11	9.41	7.24	8.64	10.60	16.18	16.38	18.41	8.02
▶ Platinum	1.96	2.39	2.26	2.22	3.32	3.46	2.48	2.49	2.83	1.41
▶ Palladium	0.80	1.28	1.07	1.24	2.30	1.40	1.37	1.32	2.12	0.65
▶ Precious Metals Basket	0.62	0.70	0.57	0.40	0.64	0.68	0.92	1.07	1.13	0.52
▶ Other	0.10	0.15	0.08	0.06	0.13	0.10	0.06	0.02		
▶ Broad Commodity	18.02	17.20	14.78	10.84	14.55	17.70	19.57	18.21	19.74	14.55
▶ Energy	8.30	11.13	12.26	10.72	5.40	4.61	6.72	5.79	9.65	12.15
▶ Agriculture	1.75	1.78	1.82	1.75	2.37	2.61	3.11	3.90	5.23	4.76
▶ Industrial Metals	1.27	1.63	1.17	0.64	1.09	1.02	1.27	0.99	1.38	1.16
▶ Livestock	0.02	0.01	0.02	0.02	0.03	0.03	0.06	0.08	0.10	0.08
▼ <b>ETFs Fund Flows (\$ Billion)</b>										
▼ Total ETF Fund Flows (\$ Billion)	-2.03	8.73	23.49	10.67	3.31	-40.94	19.41	1.63	16.32	38.55
▶ Broad Commodity	0.99	0.99	2.39	0.85	1.64	-0.60	0.50	-1.04	2.18	6.63
▶ Precious Metals	0.84	8.60	22.61	-3.83	-2.45	-36.86	17.69	5.93	14.94	19.70
▶ Agriculture	0.00	0.32	0.12	-0.14	-0.21	0.03	-0.84	-0.58	-0.54	2.65
▶ Livestock	0.00	-0.03	0.01	-0.01	-0.02	-0.04	-0.05	0.03	-0.02	0.04
▶ Industrial Metals	-0.04	0.05	0.33	-0.14	0.18	-0.17	0.26	-0.14	0.18	0.83
▶ Energy	-3.81	-1.20	-1.97	13.94	4.17	-3.30	1.85	-2.57	-0.42	8.70
<b>DELTA WEIGHTED:</b>										
▼ <b>ETFs (\$ Billion AUM) (DW)</b>										
▼ Total ETF Assets Under Management (\$ ...)	134.37	146.22	123.03	88.63	101.61	110.16	197.39	171.70	168.44	114.84
▼ Precious Metals	102.85	111.21	91.00	62.94	77.80	85.03	166.20	142.69	131.34	81.00
▶ Gold	94.72	101.00	82.54	55.90	67.72	74.56	153.96	129.87	117.13	75.55
▶ Silver	4.64	5.74	4.50	3.10	3.67	4.83	7.40	7.90	8.10	2.86
▶ Platinum	1.96	2.39	2.24	2.21	3.28	3.39	2.42	2.44	2.85	1.42
▶ Palladium	0.80	1.28	1.07	1.24	2.30	1.40	1.37	1.32	2.12	0.65
▶ Precious Metals Basket	0.65	0.73	0.61	0.43	0.70	0.75	0.99	1.14	1.15	0.52
▶ Other	0.07	0.08	0.04	0.06	0.13	0.10	0.06	0.02		
▶ Broad Commodity	18.36	17.44	14.80	10.87	14.55	17.70	19.57	18.21	19.75	14.56
▶ Energy	10.02	13.99	14.13	12.28	5.71	3.72	7.20	5.84	10.63	13.25
▶ Agriculture	1.84	1.91	1.90	1.85	2.46	2.69	3.17	3.97	5.28	4.81
▶ Industrial Metals	1.29	1.66	1.19	0.68	1.06	0.99	1.20	0.90	1.35	1.15
▶ Livestock	0.02	0.01	0.02	0.02	0.03	0.03	0.06	0.08	0.10	0.08
▼ <b>ETFs Fund Flows (\$ Billion) (DW)</b>										
▼ Total ETF Fund Flows (\$ Billion)	-5.69	11.41	19.59	20.77	8.97	-42.11	21.45	1.50	16.50	39.60
▶ Precious Metals	1.45	8.75	22.83	-3.35	-1.85	-36.12	18.57	5.76	14.43	19.78
▶ Broad Commodity	1.12	1.16	2.38	0.85	1.64	-0.60	0.50	-1.04	2.18	6.64
▶ Livestock	0.00	-0.03	0.01	-0.01	-0.02	-0.04	-0.05	0.03	-0.02	0.04
▶ Industrial Metals	-0.03	0.02	0.30	-0.04	0.20	-0.11	0.27	-0.16	0.13	0.79
▶ Agriculture	-0.05	0.40	0.12	-0.10	-0.20	0.10	-0.86	-0.50	-0.59	2.68
▶ Energy	-8.19	1.10	-6.05	23.41	9.20	-5.34	3.02	-2.59	0.37	9.67

# PERFORMANCE: Bloomberg Commodity Indices

## Composite Indices

\* Click hyperlinks to open in Bloomberg

Index Name	Ticker	2018									
		Nov	YTD	1-Year	3-Year	5-Year	10-Year	20-Year	30-Year	40-Year	50-Year
Bloomberg Commodity ER	<a href="#">BCOM</a>	-0.76%	-6.36%	-3.67%	1.83%	-33.54%	-32.74%	2.12%	0.96%	-4.39%	431.36%
Bloomberg Commodity TR	<a href="#">BCOMTR</a>	-0.56%	-4.68%	-1.83%	5.01%	-31.41%	-30.24%	46.91%	148.03%	494.31%	5968.17%
Bloomberg Commodity Spot	<a href="#">BCOMSP</a>	0.14%	-3.01%	-0.01%	26.15%	-12.00%	31.42%	296.27%			
Bloomberg Roll Select	<a href="#">BCOMRST</a>	-1.79%	-6.49%	-3.88%	7.69%	-27.18%	-14.78%	203.76%			
1 Month Forward	<a href="#">BCOMF1T</a>	-1.12%	-4.99%	-2.18%	7.08%	-28.20%	-19.33%	155.96%			
2 Month Forward	<a href="#">BCOMF2T</a>	-1.63%	-4.98%	-2.44%	8.39%	-27.34%	-19.89%	197.49%			
3 Month Forward	<a href="#">BCOMF3T</a>	-3.71%	-6.89%	-4.32%	6.90%	-27.50%	-16.98%	204.42%			
4 Month Forward	<a href="#">BCOMF4T</a>	-4.50%	-7.31%	-4.76%	9.53%	-24.25%	-9.76%				
5 Month Forward	<a href="#">BCOMF5T</a>	-4.44%	-7.02%	-4.39%	10.05%	-24.27%	-9.27%				
6 Month Forward	<a href="#">BCOMF6T</a>	-4.31%	-6.51%	-3.92%	11.15%	-23.01%	-7.52%				
Energy	<a href="#">BCOMENTR</a>	-3.34%	7.44%	11.63%	6.96%	-53.55%	-74.94%	-1.97%	126.10%		
Petroleum	<a href="#">BCOMPETR</a>	-20.71%	-10.96%	-5.47%	-2.12%	-59.30%	-56.78%	191.47%			
Agriculture	<a href="#">BCOMAGTR</a>	0.43%	-8.60%	-9.97%	-17.83%	-38.19%	-19.24%	-41.08%	-16.10%	39.59%	1582.59%
Grains	<a href="#">BCOMGRTR</a>	2.05%	-4.31%	-6.21%	-22.17%	-43.95%	-30.63%	-48.72%	-45.83%	-20.05%	467.88%
Industrial Metals	<a href="#">BCOMINTR</a>	1.86%	-15.14%	-7.36%	36.08%	-5.97%	11.24%	151.06%			
Precious Metals	<a href="#">BCOMPRTTR</a>	0.23%	-9.76%	-7.01%	8.69%	-12.80%	39.24%	251.93%	171.89%	401.46%	
Softs	<a href="#">BCOMSOTR</a>	-3.51%	-17.06%	-15.75%	-17.90%	-35.48%	-17.87%	-58.26%	-18.83%	59.86%	2866.95%
Livestock	<a href="#">BCOMLITR</a>	2.30%	-0.82%	-1.52%	3.57%	-11.63%	-27.60%	-42.22%	-6.14%		
Ex-Energy	<a href="#">BCOMXETR</a>	0.90%	-9.95%	-7.62%	2.60%	-22.03%	3.43%	35.19%			
Ex-Petroleum	<a href="#">BCOMXPET</a>	6.01%	-3.36%	-1.40%	5.24%	-24.23%	-26.31%				
Ex-Natural Gas	<a href="#">BCOMXNGT</a>	-5.00%	-9.94%	-6.80%	2.77%	-30.66%	-10.41%				
Ex-Agriculture	<a href="#">BCOMXAGT</a>	-0.98%	-2.95%	1.66%	15.77%	-29.52%	-37.39%				
Ex-Grains	<a href="#">BCOMXGRT</a>	-1.11%	-4.68%	-0.86%	11.43%	-28.90%	-32.68%				
Ex-Industrial Metals	<a href="#">BCOMXIMT</a>	-0.99%	-2.35%	-0.91%	-0.91%	-36.22%	-39.48%				
Ex-Precious Metals	<a href="#">BCOMXPMT</a>	-0.70%	-3.75%	-0.89%	3.78%	-35.01%	-38.44%				
Ex-Softs	<a href="#">BCOMXSOT</a>	-0.34%	-3.72%	-0.76%	6.60%	-31.63%	-32.42%				
Ex-Livestock	<a href="#">BCOMXLIT</a>	-0.76%	-4.90%	-1.83%	4.94%	-32.60%	-30.53%				
Ex-Agriculture & Livestock	<a href="#">BCOMXALT</a>	-1.31%	-3.14%	1.98%	16.56%	-31.25%	-38.89%				
Bloomberg Dollar Spot	<a href="#">BBDXY</a>	-0.17%	4.23%	3.86%	-2.38%	18.38%	10.22%				
S&P 500 Total Return	<a href="#">SPXT</a>	2.04%	5.11%	6.27%	41.11%	69.43%	281.09%	246.98%	1834.78%		
US Aggregate	<a href="#">LBUSTRUU</a>	0.60%	-1.79%	-1.34%	4.04%	10.58%	43.36%	139.78%	480.13%	1548.09%	
US Treasury	<a href="#">LUATTRUU</a>	0.89%	-1.27%	-0.96%	1.90%	7.15%	24.32%	121.17%	432.95%	1438.29%	
US Corporate	<a href="#">LUACTRUU</a>	-0.17%	-3.92%	-3.04%	7.65%	15.60%	87.07%	174.43%	602.82%	1894.01%	
US High Yield	<a href="#">LF98TRUU</a>	-0.86%	0.06%	0.36%	22.82%	23.98%	215.95%	264.10%	895.94%		

## Single Commodity Indices

Index Name	Ticker	2018									
		Nov	YTD	1-Year	3-Year	5-Year	10-Year	20-Year	30-Year	40-Year	50-Year
Natural Gas	<a href="#">BCOMNGTR</a>	39.95%	48.98%	43.69%	5.07%	-53.48%	-95.86%	-98.55%			
WTI Crude	<a href="#">BCOMCLTR</a>	-22.02%	-10.86%	-6.07%	-14.66%	-65.48%	-74.14%	89.96%	357.70%		
Brent Crude	<a href="#">BCOMCOT</a>	-20.94%	-5.94%	1.00%	10.90%	-61.06%	-36.86%	574.62%			
ULS Diesel	<a href="#">BCOMHOTR</a>	-18.48%	-8.68%	-1.14%	13.96%	-50.54%	-38.94%	287.46%	488.06%		
Unleaded Gasoline	<a href="#">BCOMRBTR</a>	-19.84%	-22.60%	-20.43%	-18.68%	-56.92%	-0.01%	400.71%	967.88%		
Corn	<a href="#">BCOMCNTR</a>	1.09%	-4.08%	-5.33%	-26.64%	-47.01%	-41.55%	-80.65%	-83.39%	-75.88%	-25.85%
Soybeans	<a href="#">BCOMSYTR</a>	5.25%	-10.66%	-13.77%	-7.85%	-25.60%	59.52%	162.05%	207.00%	286.47%	3903.00%
Wheat	<a href="#">BCOMWHTR</a>	1.21%	5.90%	4.55%	-30.44%	-55.14%	-74.49%	-88.85%	-90.82%	-83.77%	-21.48%
Soybean Oil	<a href="#">BCOMBOTR</a>	-0.44%	-18.03%	-19.79%	-15.12%	-42.57%	-45.19%	-49.46%	-36.09%	-14.25%	3039.98%
Soybean Meal	<a href="#">BCOMSMT</a>	0.94%	-3.17%	-7.08%	0.71%	-2.41%	222.63%	988.43%			
HRW Wheat	<a href="#">BCOMKWT</a>	-2.74%	-0.99%	-1.86%	-37.59%	-63.51%	-71.51%	-77.26%			
Copper	<a href="#">BCOMHGTR</a>	4.40%	-16.73%	-10.21%	29.76%	-17.58%	43.44%	314.89%			
Aluminium	<a href="#">BCOMALTR</a>	0.29%	-11.37%	-1.82%	32.49%	-3.02%	-31.12%	-6.99%			
Zinc	<a href="#">BCOMZSTR</a>	2.91%	-19.02%	-14.69%	69.80%	34.57%	61.27%	79.93%			
Nickel	<a href="#">BCOMNITR</a>	-2.57%	-12.30%	0.71%	21.91%	-22.12%	-4.20%	359.33%			
Gold	<a href="#">BCOMGCTR</a>	0.61%	-7.19%	-4.72%	12.27%	-5.03%	39.94%	276.49%	180.87%	471.59%	
Silver	<a href="#">BCOMSITR</a>	-1.11%	-18.00%	-14.57%	-3.07%	-33.58%	24.19%	153.43%	88.07%	74.77%	
Sugar	<a href="#">BCOMSBTR</a>	-2.46%	-21.26%	-20.76%	-26.31%	-54.51%	-33.17%	-19.48%	61.72%	-45.68%	183.56%
Coffee	<a href="#">BCOMKCTR</a>	-7.40%	-22.53%	-23.84%	-32.02%	-39.53%	-61.20%	-91.05%	-85.27%	-55.59%	
Cotton	<a href="#">BCOMCTTR</a>	0.64%	1.10%	9.30%	27.09%	8.91%	100.73%	-66.17%	-13.37%	221.04%	1147.45%
Live Cattle	<a href="#">BCOMLCTR</a>	0.37%	-0.42%	-3.04%	4.02%	5.55%	-3.16%	9.39%	108.89%	929.99%	4650.68%
Lean Hogs	<a href="#">BCOMLHTR</a>	6.75%	-1.58%	1.34%	3.40%	-34.55%	-55.50%	-78.97%	-78.54%		

## PERFORMANCE: Bloomberg Commodity Roll Select Indices

Composite Roll Select Indices \* [Click hyperlinks to open in Bloomberg](#)

Index Name	Ticker	2018		1-Year	3-Year	5-Year	10-Year	20-Year	30-Year	40-Year	50-Year
		Nov	YTD								
BCOM Roll Select	<a href="#">BCOMRST</a>	-1.79%	-6.49%	-3.88%	7.69%	-27.18%	-14.78%	203.76%			
Roll Select Agriculture	<a href="#">BCOMRAGT</a>	-0.12%	-7.49%	-8.74%	-13.50%	-35.05%	-9.57%	9.53%			
Roll Select Ex-Ags & Livestock	<a href="#">BBURXALT</a>	-2.63%	-5.87%	-1.05%	20.21%	-25.61%	-21.85%				
Roll Select Grains	<a href="#">BCOMRGRT</a>	1.01%	-3.39%	-5.12%	-18.09%	-42.06%	-25.48%	-0.10%			
Roll Select Softs	<a href="#">BCOMRSOT</a>	-3.46%	-17.06%	-15.88%	-14.88%	-32.18%	-0.78%	-23.88%			
Roll Select Livestock	<a href="#">BCOMRLIT</a>	-1.77%	-8.31%	-10.46%	-14.41%	-20.42%	-17.67%	61.39%			
Roll Select Energy	<a href="#">BCOMRENT</a>	-5.74%	2.39%	6.15%	16.24%	-43.88%	-57.56%	264.11%			
Roll Select Ex-Energy	<a href="#">BCOMRXET</a>	0.20%	-10.32%	-8.16%	3.27%	-20.86%	12.07%	128.46%			
Roll Select Petroleum	<a href="#">BCOMRPET</a>	-20.50%	-9.69%	-4.54%	10.07%	-50.58%	-28.00%	661.71%			
Roll Select Industrial Metals	<a href="#">BCOMRINT</a>	1.57%	-16.09%	-8.57%	35.69%	-5.53%	17.45%	273.88%			
Roll Select Precious Metals	<a href="#">BCOMRPRT</a>	0.24%	-9.75%	-7.00%	9.07%	-12.40%	40.70%	265.68%			

## Single Commodity Roll Select Indices

Index Name	Ticker	2018		1-Year	3-Year	5-Year	10-Year	20-Year	30-Year	40-Year	50-Year
		Nov	YTD								
Natural Gas RS	<a href="#">BCOMRNGT</a>	35.55%	29.39%	25.51%	14.46%	-38.89%	-90.25%	-76.46%			
WTI Crude RS	<a href="#">BCOMRCLT</a>	-21.64%	-10.59%	-5.49%	5.22%	-53.10%	-38.58%	653.63%			
Brent Crude RS	<a href="#">BCOMRCOT</a>	-20.89%	-6.40%	-0.23%	13.95%	-52.73%	-25.46%	839.29%			
ULS Diesel RS	<a href="#">BCOMRHOT</a>	-18.59%	-9.12%	-2.95%	9.62%	-50.37%	-39.46%	508.89%			
Unleaded Gasoline RS	<a href="#">BCOMRRBT</a>	-19.12%	-14.67%	-12.33%	10.17%	-43.97%	17.61%	690.32%			
Corn RS	<a href="#">BCOMRCNT</a>	0.49%	-3.21%	-4.22%	-22.55%	-45.49%	-36.67%	-63.41%			
Soybeans RS	<a href="#">BCOMRSYT</a>	4.81%	-5.89%	-8.93%	4.24%	-16.31%	77.22%	291.37%			
Wheat RS	<a href="#">BCOMRWHT</a>	-1.38%	0.82%	-0.55%	-34.95%	-58.58%	-72.07%	-62.11%			
Soybean Oil RS	<a href="#">BCOMRBOT</a>	-0.40%	-18.55%	-20.47%	-14.61%	-41.03%	-38.99%	-25.35%			
Soybean Meal RS	<a href="#">BCOMRSMT</a>	1.36%	2.80%	-0.42%	9.72%	6.37%	269.64%	1366.87%			
HRW Wheat RS	<a href="#">BCOMRKWT</a>	-3.71%	-0.99%	-1.86%	-35.14%	-61.43%	-68.20%	-43.19%			
Copper RS	<a href="#">BCOMRHGT</a>	3.67%	-16.88%	-10.37%	30.23%	-17.28%	50.25%	493.37%			
Aluminium RS	<a href="#">BCOMRALT</a>	0.29%	-14.33%	-5.61%	30.02%	-2.94%	-27.11%	38.82%			
Zinc RS	<a href="#">BCOMRZST</a>	2.91%	-20.15%	-16.01%	68.58%	33.21%	73.99%	179.11%			
Nickel RS	<a href="#">BCOMRNIT</a>	-2.56%	-12.22%	0.65%	22.68%	-20.32%	2.09%	641.85%			
Gold RS	<a href="#">BCOMRGCT</a>	0.61%	-7.17%	-4.70%	12.78%	-4.64%	40.70%	281.83%			
Silver RS	<a href="#">BCOMRSIT</a>	-1.08%	-18.03%	-14.59%	-2.91%	-33.04%	27.63%	183.40%			
Sugar RS	<a href="#">BCOMRSBT</a>	-2.65%	-23.33%	-23.30%	-24.39%	-51.12%	-20.62%	66.34%			
Coffee RS	<a href="#">BCOMRKCT</a>	-6.86%	-22.47%	-23.56%	-31.58%	-37.89%	-55.93%	-84.93%			
Cotton RS	<a href="#">BCOMRCTT</a>	0.49%	5.48%	14.03%	33.46%	13.50%	157.23%	-42.31%			
Live Cattle RS	<a href="#">BCOMRLCT</a>	-1.41%	-2.64%	-6.56%	-1.96%	-2.10%	7.81%	87.89%			
Lean Hogs RS	<a href="#">BCOMRLHT</a>	-2.90%	-19.42%	-19.26%	-33.44%	-46.28%	-50.11%	1.68%			

## BCOM Constituent Weights

[BCOM Index MEMB <GO>](#) \* Click hyperlinks to open in Bloomberg

Group	Commodity	Ticker	Nov 2018 Contrib to Return %	Nov 30 2018 Weight %	Oct 31 2018 Weight %	Nov 2018 Weight% Change	2018 Target Weight
Energy	Natural Gas	<a href="#">NG</a>	3.90	13.86	9.92	↑ 3.93	8.01%
	WTI Crude	<a href="#">CL</a>	-1.77	6.25	8.03	↓ (1.78)	7.32%
	Brent Crude	<a href="#">CO</a>	-1.85	6.97	8.77	↓ (1.81)	7.68%
	ULS Diesel	<a href="#">HO</a>	-0.77	3.38	4.15	↓ (0.77)	3.67%
	Gasoline	<a href="#">XB</a>	-0.74	2.99	3.74	↓ (0.75)	3.75%
	<b>Subtotal</b>			<b>-1.22</b>	<b>33.44</b>	<b>34.62</b>	<b>↓ (1.18)</b>
Grains	Corn	<a href="#">C</a>	0.06	6.79	6.53	↑ 0.26	6.13%
	Soybeans	<a href="#">S</a>	0.27	5.65	5.38	↑ 0.27	5.96%
	Wheat	<a href="#">W</a>	0.04	4.02	3.90	↑ 0.12	3.26%
	Soybean Oil	<a href="#">BO</a>	-0.01	2.35	2.37	↓ (0.02)	2.75%
	Soybean Meal	<a href="#">SM</a>	0.02	3.01	2.99	↑ 0.02	3.04%
	HRW Wheat	<a href="#">KW</a>	-0.05	1.54	1.51	↑ 0.02	1.30%
	<b>Subtotal</b>			<b>0.33</b>	<b>23.36</b>	<b>22.68</b>	<b>↑ 0.68</b>
Industrial Metals	Copper	<a href="#">HG</a>	0.25	6.36	6.07	↑ 0.29	7.16%
	Aluminum	<a href="#">LA</a>	0.00	4.11	4.11	↑ 0.00	4.51%
	Zinc	<a href="#">LX</a>	0.06	2.43	2.37	↑ 0.06	3.10%
	Nickel	<a href="#">LN</a>	-0.07	2.54	2.61	↓ (0.07)	2.76%
	<b>Subtotal</b>			<b>0.25</b>	<b>15.44</b>	<b>15.15</b>	<b>↑ 0.29</b>
Precious Metals	Gold	<a href="#">GC</a>	0.04	11.40	11.30	↑ 0.10	11.95%
	Silver	<a href="#">SI</a>	-0.04	3.11	3.12	↓ (0.01)	3.67%
	<b>Subtotal</b>		<b>0.00</b>	<b>14.51</b>	<b>14.42</b>	<b>↑ 0.09</b>	<b>15.62%</b>
Softs	Sugar	<a href="#">SB</a>	-0.08	3.10	3.18	↓ (0.09)	3.54%
	Coffee	<a href="#">KC</a>	-0.18	2.24	2.35	↓ (0.11)	2.61%
	Cotton	<a href="#">CT</a>	0.01	1.51	1.47	↑ 0.04	1.45%
	<b>Subtotal</b>		<b>-0.26</b>	<b>6.86</b>	<b>7.01</b>	<b>↓ (0.15)</b>	<b>7.60%</b>
Livestock	Live Cattle	<a href="#">LC</a>	0.01	4.48	4.35	↑ 0.13	4.31%
	Lean Hogs	<a href="#">LH</a>	0.13	2.02	1.75	↑ 0.27	2.08%
	<b>Subtotal</b>		<b>0.14</b>	<b>6.50</b>	<b>6.10</b>	<b>↑ 0.40</b>	<b>6.39%</b>
<b>Total</b>			<b>-0.76</b>	<b>100.00</b>	<b>100.00</b>		<b>100.00%</b>

# BLOOMBERG INTELLIGENCE: COMMODITY DASHBOARDS

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BI provides analysis on several key drivers of BCOM performance; industrial and precious metals mining, oil and natural gas production, and agricultural chemicals. The dashboards include key macro data libraries and interactive charting and commentary from analysts with an average of seventeen years of experience.

## Crude Oil Production: BI OILS <GO>

Region	2015	2014	2013	2012	2011
<b>OECD</b>	45.6	45.6	46.1	45.9	46.4
Americas	24.2	24.1	24.1	23.6	24.0
United States	19.2	19.0	18.8	18.7	18.9
Canada	2.4	2.4	2.4	2.4	2.3
Chile	0.3	0.3	0.3	0.3	0.3
Mexico	2.0	2.0	2.0	2.1	2.1
Latin America	18.4	18.5	18.7	18.4	18.6
Pacific	6.0	8.1	8.3	8.5	8.2
<b>Non-OECD</b>	47.9	46.9	45.7	44.6	43.1
Europe	4.7	4.9	4.7	4.8	4.5
China	10.7	10.4	10.1	9.8	9.4
Other Asia	12.5	12.1	11.9	11.6	11.2
Latin America	6.9	6.8	6.6	6.4	6.2
Middle East	6.3	8.1	7.9	7.8	7.5
Africa	4.1	3.9	3.8	3.8	3.6
<b>Total World Crude Oil Demand</b>	<b>93.5</b>	<b>92.5</b>	<b>91.8</b>	<b>90.6</b>	<b>89.5</b>

## Natural Gas Production: BI NGAS <GO>

Category	Current	Prev Week	1 Week % Chg	1 Week % Chg	Prev Year
<b>Natural Gas Inventories</b>					
US Working Storage (Bcf)					
East	559.00	581.00	-22.00	-3.79	356.00
West	244.00	239.00	4.00	1.70	164.00
Producing	576.00	548.00	28.00	5.11	376.00
<b>Total</b>	<b>1,479.00</b>	<b>1,467.00</b>	<b>12.00</b>	<b>0.82</b>	<b>896.00</b>
Net Injections/Withdrawals	12.00	-42.00	54.00	452.07	-57.00
Consensus (Bloomberg Survey)	1,474.00	1,463.00	11.00	0.75	901.00
<b>Domestic Working Storage (Bcf)</b>					
East	219.76	219.77	-0.01	-0.00	113.79
West	49.53	49.52	-0.98	-1.99	22.76
<b>Total</b>	<b>269.29</b>	<b>269.28</b>	<b>-0.99</b>	<b>-0.37</b>	<b>136.46</b>

## Precious Metal Mining: BI PMET <GO>

Indicator	Value
China, South Africa Rule Precious Metals Markets: 2015	
Chinese demand may remain key for gold and the companies that mine it, after their shares fell more than 12% in 2014. China, the largest gold consumer, may exercise more direct influence over the market with ...	
<b>Key Indicators</b>	Latest
Avg Gold Spot Price	1,228
Known ETF Gold Hold	52,128
IMF Global Gold Reser	1,036
<b>Operating Stats (Median)</b>	
Sales Growth (YoY %)	-8.90
EBITDA Margin (%)	70.89
TI2M Sales Growth (%)	.83
Return on Equity (%)	2.91
<b>Equity Valuation (Median)</b>	
Est P/E Current Yr	61.79
Price/Book	1.84

## Agricultural Chemicals: BI AGCH <GO>

Indicator	Value
China, South Africa Rule Precious Metals Markets: 2015	
Chinese demand may remain key for gold and the companies that mine it, after their shares fell more than 12% in 2014. China, the largest gold consumer, may exercise more direct influence over the market with ...	
<b>Key Indicators</b>	Latest
Agricultural Price Ind	1.25
U.S. Farm Net Cash In	92.40
U.S. Corn Price Future	3.60
<b>Operating Stats (Median)</b>	
Sales Growth (YoY %)	2.63
EBITDA Margin (%)	15.30
EPS Growth (YoY %)	-11.17
ROIC (%)	7.83
<b>Equity Valuation (Median)</b>	
Est P/E Current Yr	15.00
Price/Book Ratio	1.00

## Copper: BI COPP <GO>

Indicator	Value
China, South Africa Rule Precious Metals Markets: 2015	
Chinese demand may remain key for gold and the companies that mine it, after their shares fell more than 12% in 2014. China, the largest gold consumer, may exercise more direct influence over the market with ...	
<b>Key Indicators</b>	Latest
China GDP YoY (%)	7.30
YTD Copper Surplus/Deficit	201,158
Major Exch Copper Inv	599,596
<b>Operating Stats (Median)</b>	
Sales Growth (YoY %)	-1.59
EBITDA Margin (%)	26.52
TI2M Sales Growth (%)	-2.59
Return on Equity (%)	2.71
<b>Equity Valuation (Median)</b>	
Est P/E Current Yr	17.46
Price/Book	1.09

## Aluminum: BI ALUM <GO>

Indicator	Value
China, South Africa Rule Precious Metals Markets: 2015	
Chinese demand may remain key for gold and the companies that mine it, after their shares fell more than 12% in 2014. China, the largest gold consumer, may exercise more direct influence over the market with ...	
<b>Key Indicators</b>	Latest
China Industrial Prod	7.60
Global Primary Alumi	4,288
Global Primary Alumi	4,178
<b>Operating Stats (Median)</b>	
Sales Growth (YoY %)	2.18
EBITDA Margin (%)	8.70
TI2M Sales Growth (%)	1.46
Return on Equity (%)	4.95
<b>Equity Valuation (Median)</b>	
Est P/E Current Yr	15.05
Price/Book	1.38

## COMMODITY CHEAT SHEET FOR THE BLOOMBERG PROFESSIONAL® SERVICE

The data provided in this report can be easily accessed on the Bloomberg Professional® service along with numerous news and analytical tools to help you stay on top of the commodity markets.

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### Broad Commodities

Top commodity news	<a href="#">CTOP</a>
Global commodity prices	<a href="#">GLCO</a>
Commodity playbook	<a href="#">CPLY</a>
Commitments of traders report	<a href="#">COT</a>
Calendar of commodity events	<a href="#">ECO17</a>
Commodity arbitrage calculator	<a href="#">CARC</a>
Commodity fundamental data explorer	<a href="#">FDM</a>
Commodity futures overview	<a href="#">CMBQ</a>
Security finder	<a href="#">SECF</a>
Commodity data contributors & broker	<a href="#">CDAT</a>
Contract table menu	<a href="#">CTM</a>
Seasonality chart	<a href="#">SEAG</a>
Commodity curve analysis	<a href="#">CCRV</a>
Commodity fair values	<a href="#">CFVL</a>
Commodity price forecasts	<a href="#">CPFC</a>
Commitments of Traders Report	<a href="#">COT</a>
Commodity maps	<a href="#">BMAP</a>
Commodity options monitor	<a href="#">OMON</a>
Commodities charts	<a href="#">COSY</a>
Commodity Investors menu	<a href="#">CMNV</a>
US exchange traded product fund flows	<a href="#">ETF</a>

### Commodity Indices

Index description	<a href="#">BCOM Index DES</a>
Index constituent weights	<a href="#">BCOM Index MEMB</a>
Listed index futures	<a href="#">BCOM Index CT</a>
Option volatility surface	<a href="#">BCOM Index OVDV</a>
Seasonality chart	<a href="#">BCOMNG Index SEAG</a>
Commodity index futures movers	<a href="#">FMV</a>
Commodity index ranked returns	<a href="#">CRR</a>

### Weather

Global weather database	<a href="#">WETR</a>
US snow monitor	<a href="#">SNOW</a>
EU weather & utility models	<a href="#">EUMM</a>

### Energy

Top energy news	<a href="#">ETOP</a>
Top oil news	<a href="#">OTOP</a>
Crude Oil Production Dashboard	<a href="#">BI OILS</a>
First Word oil	<a href="#">NI BFWOIL</a>
News on oil inventories	<a href="#">TNI OIL INV</a>
Oil Buyer's Guide newsletter	<a href="#">NI OGBRIEF</a>
Pipes & Wires newsletter	<a href="#">NI PAWSBRIEF</a>
Oil market analysis	<a href="#">BOIL</a>
Nat gas spot prices	<a href="#">BGAS</a>
Forward European utility markets	<a href="#">EUM</a>
News on oil markets	<a href="#">NI OILMARKET</a>
News on OPEC	<a href="#">NI OPEC</a>
OPEC production and prices	<a href="#">OPEC</a>
Oil markets menu	<a href="#">OIL</a>
Crude stored in tankers	<a href="#">NOON</a>
Refinery outages	<a href="#">REFO</a>
Oil's decline	<a href="#">EXTS</a>
Oil versus inflation expectations	<a href="#">SWIF</a>

### Metals

Top metal news	<a href="#">METT</a>
Precious metal dashboard	<a href="#">BI PMETG</a>
Base metals dashboard	<a href="#">BI BMET</a>
Metals prices and data	<a href="#">MINE</a>
Precious metals prices and rates	<a href="#">MTL</a>
Metals Bulletin	<a href="#">MB</a>
COMEX inventories	<a href="#">COMX</a>
LME monitor	<a href="#">LME</a>
LME implied volatilities	<a href="#">LMIV</a>
LME warehouse inventories	<a href="#">LMEI</a>

### Agriculture

Top agriculture news	<a href="#">YTOP</a>
Agriculture calendar	<a href="#">AGRI</a>
Agriculture spot prices	<a href="#">AGGP</a>
Agriculture supply & demand	<a href="#">AGSD</a>
Crop calendar	<a href="#">CCAL</a>

## BCOM QUICK FACTS

### [Index Methodology](#)

Weighting Bias	2/3 market liquidity and 1/3 world production
No. of Commodities	20
Re-balancing Frequency	Annual
Roll Schedule	Monthly (5 day roll)
Caps/Limits	Single commodity: max 15% Single commodity and its derivatives: max 25% Related commodity groups: max 33%
First Value Date	30 December 1990

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