Summary

We are still waiting for a confirmation of a “phase one” deal between US and China, with the term only really being used by the US. In the absence of a deal, we could see US tariffs on Chinese goods increasing on December 15th, although we believe that deadline could be pushed forward at the 11th hour to keep negotiations ongoing. Either way, we are not hopeful of a meaningful deal being reached this side of 2020 (a phase one deal will not be a comprehensive deal). With this in mind, we expect defensive hedging via gold to remain in favour despite the premature rally in equity markets. Industrial metals do not share the same level of optimism as stock markets. Industrial metals fell 4.8% last month, led by nickel (-14.0%) as concerns over what a prolonged trade spat will do to demand linger.

Energy bucked the trend of price declines in the commodity complex, but whether these gains will be sustained will depend on Organisation of the Petroleum Exporting Countries (OPEC) policy making at the beginning of December. We expect the cartel to at least extend current cuts if not deepen them. But in terms of December policy meetings that will be the only meaningful one. We expect the Federal Reserve to stick with the status quo and the ECB to do likewise. The European Central Bank (ECB) is unlikely to change the policy setting at its 12th December meeting, but under a new President for the first time in eight years, the ECB could give hints about how it could change course in coming months. We think that central banks will generally avoid spooking markets as liquidity tends to decline in the final weeks of the year.

As we write our final Commodity Monitor of 2019, we are preparing outlooks for 2020. Reflecting on the past 12 months, precious metals (+18%) have been the clear outperformer in the commodity complex. Individual commodities such as nickel (+33%) and palladium (+58%) have done exceptionally well due to idiosyncratic reasons. Once again natural gas has been a drag on energy performance, while oil and product prices are up on the year. We will host a webinar on December 11th 2019 on our cross-asset outlooks which will cover commodities alongside equities, bonds, foreign exchange and crypto currencies.

Energy

- Brent Oil: 64 2.4% 1.9% 0.5% 34% 16%
- WTI Oil: 58 -2.4% 0.8% 5.3% 12% 0.2%

Softs and grains bifurcate agricultural commodity performance last month. A short covering rally across coffee, cocoa, sugar helped drive a price recovery across soft commodities (except for cotton) in sharp contrast to grains led by corn, soybeans and wheat which witnessed a decline in net speculative positioning owing to a weaker crop outlook.

Trade uncertainty weighs yet again on industrial metals. Industrial metals had another difficult month after a modest recovery in the month before as the bullish risk-on sentiment prevailing in equity markets did not quite permeate into base metals. Industrial metals have not yet moved to price in any meaningful breakthrough between US and China on the trade front.

Palladium shines again in another dull month for precious metals. A broad risk on sentiment prevailed in equity markets last month on the back of healthy third quarter US earnings as well as cautious optimism on the US-China trade front. Precious metals retreated during the month as the demand for haven investing slowed. Palladium however outshone its precious metal peers adding further to its gains in recent months.

Commodity Monthly Matrix

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WTI Oil</td>
<td>58</td>
<td>-2.4%</td>
<td>0.8%</td>
<td>5.3%</td>
<td>12%</td>
<td>0.2%</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Brent Oil</td>
<td>64</td>
<td>2.4%</td>
<td>1.9%</td>
<td>0.5%</td>
<td>34%</td>
<td>16%</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>2.5</td>
<td>10.0%</td>
<td>1.9%</td>
<td>27.3%</td>
<td>33%</td>
<td>-2.1%</td>
<td>0 (4)</td>
</tr>
<tr>
<td>Gasoline</td>
<td>1.7</td>
<td>0.1%</td>
<td>-6.2%</td>
<td>-4.8%</td>
<td>25%</td>
<td>0.2%</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Heating Oil</td>
<td>1.9</td>
<td>-1.8%</td>
<td>0.0%</td>
<td>13.9%</td>
<td>84%</td>
<td>0.1%</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Carbon</td>
<td>24.4</td>
<td>-2.1%</td>
<td>3.0%</td>
<td>-10.0%</td>
<td>-3.0%</td>
<td>-0.2%</td>
<td>(4) (4)</td>
</tr>
<tr>
<td>Wheat</td>
<td>5.3</td>
<td>2.6%</td>
<td>7.7%</td>
<td>1.0%</td>
<td>-75%</td>
<td>-0.4%</td>
<td>(2) (0)</td>
</tr>
<tr>
<td>Corn</td>
<td>3.7</td>
<td>-4.2%</td>
<td>3.8%</td>
<td>-3.8%</td>
<td>-64%</td>
<td>-2.7%</td>
<td>(2) (0)</td>
</tr>
<tr>
<td>Soybeans</td>
<td>9</td>
<td>0.0%</td>
<td>-6.3%</td>
<td>-10.0%</td>
<td>-50%</td>
<td>-1.6%</td>
<td>(1) (2)</td>
</tr>
<tr>
<td>Sugar</td>
<td>0.1</td>
<td>3.5%</td>
<td>3.4%</td>
<td>3.6%</td>
<td>49%</td>
<td>-0.7%</td>
<td>(0) (1)</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.6</td>
<td>-0.3%</td>
<td>3.6%</td>
<td>-2.0%</td>
<td>248%</td>
<td>-1.7%</td>
<td>(2) (1)</td>
</tr>
<tr>
<td>Coffee</td>
<td>1.2</td>
<td>18.5%</td>
<td>20.6%</td>
<td>-96%</td>
<td>-9.9%</td>
<td>1 (3)</td>
<td></td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>0.3</td>
<td>-1.7%</td>
<td>5.5%</td>
<td>-8.3%</td>
<td>-15%</td>
<td>0</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Cocoa</td>
<td>2.447</td>
<td>8.7%</td>
<td>78%</td>
<td>98%</td>
<td>19.9%</td>
<td>4 (0)</td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td>1.741</td>
<td>0.4%</td>
<td>-2.8%</td>
<td>14.4%</td>
<td>29%</td>
<td>0.8%</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Copper (COMEX)</td>
<td>2.6</td>
<td>10.0%</td>
<td>2.6%</td>
<td>-4.7%</td>
<td>17%</td>
<td>-0.5%</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Copper (LME)</td>
<td>5.863</td>
<td>0.8%</td>
<td>2.4%</td>
<td>-34.1%</td>
<td>52%</td>
<td>-0.1%</td>
<td>0 (3)</td>
</tr>
<tr>
<td>Zinc</td>
<td>2.303</td>
<td>-9.9%</td>
<td>-10.1%</td>
<td>-25.0%</td>
<td>60%</td>
<td>0.3%</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Nickel</td>
<td>14.444</td>
<td>-14.0%</td>
<td>1.1%</td>
<td>-55.5%</td>
<td>11%</td>
<td>-0.1%</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Lead</td>
<td>1.926</td>
<td>13.8%</td>
<td>4.1%</td>
<td>-6.6%</td>
<td>3%</td>
<td>-0.2%</td>
<td>4 (0)</td>
</tr>
<tr>
<td>Tin</td>
<td>16.478</td>
<td>-1.1%</td>
<td>10.9%</td>
<td>-18.3%</td>
<td>6%</td>
<td>0.0%</td>
<td>(0) (1)</td>
</tr>
<tr>
<td>Gold</td>
<td>1,457</td>
<td>-2.8%</td>
<td>4.2%</td>
<td>-3%</td>
<td>0</td>
<td>(2) (2)</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>1.7</td>
<td>-5.8%</td>
<td>4.6%</td>
<td>-6%</td>
<td>0</td>
<td>(2) (2)</td>
<td></td>
</tr>
<tr>
<td>Platinum</td>
<td>900</td>
<td>-3.1%</td>
<td>3.6%</td>
<td>-19%</td>
<td>0</td>
<td>(2) (0)</td>
<td></td>
</tr>
<tr>
<td>Palladium</td>
<td>1,711</td>
<td>1.6%</td>
<td>17.2%</td>
<td>-117%</td>
<td>0</td>
<td>(3) (4)</td>
<td></td>
</tr>
<tr>
<td>Ore</td>
<td>1.2</td>
<td>6.9%</td>
<td>5.6%</td>
<td>92%</td>
<td>-4.4%</td>
<td>1 (0)</td>
<td></td>
</tr>
<tr>
<td>Lean Hogs</td>
<td>0.6</td>
<td>-6.0%</td>
<td>15.9%</td>
<td>-30%</td>
<td>-9.9%</td>
<td>(4) (3)</td>
<td></td>
</tr>
<tr>
<td>Feeder Cattle</td>
<td>2.64</td>
<td>4.0%</td>
<td>2.6%</td>
<td>92%</td>
<td>0</td>
<td>0 (0)</td>
<td></td>
</tr>
</tbody>
</table>

Performance

- All Commodities: -1.0% 0.8% -1.4%
- Energy: -1.8% -3.4% -7.5%
- Industrial Metals: -4.8% 0.2% 0.0%
- Precious Metals: -3.7% 13.7% 18.0%
- Agriculture: 0.0% -0.9% -4.5%
- MSCI World: 3.0% 10.1% 17.5%
- US Aggregate Bond: 0.0% 4.7% 10.9%

Source: WisdomTree, Bloomberg

Contents

1. Commodities market overview
2. Summary tables
3. CFIC net positioning
4. Inventories
5. Moving average and volumes
6. Futures curves
7. Recent publications

Nitesh Shah
Director
Mubeen Tohri
Associate Director
Aneeka Gupta
Associate Director

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- As non-OPEC supply continues to grow, the pressure on OPEC to cut supply and maintain global balance is increasing. Falling rig counts in the US remain a warning sign over how sustainable production growth can be in an era of weak prices.
- Softs and grains bifurcate agricultural commodity performance last month. A short covering rally across coffee, cocoa, sugar helped drive a price recovery across soft commodities (except for cotton) in sharp contrast to grains led by corn, soybeans and wheat which witnessed a decline in net speculative positioning owing to a weaker crop outlook.
- Trade uncertainty weighs yet again on industrial metals. Industrial metals had another difficult month after a modest recovery in the month before as the bullish risk-on sentiment prevailing in equity markets did not quite permeate into base metals. Industrial metals have not yet moved to price in any meaningful breakthrough between US and China on the trade front.
- Palladium shines again in another dull month for precious metals. A broad risk on sentiment prevailed in equity markets last month on the back of healthy third quarter US earnings as well as cautious optimism on the US-China trade front. Precious metals retreated during the month as the demand for haven investing slowed. Palladium however outshone its precious metal peers adding further to its gains in recent months.

Historical performance is not an indication of future performance and any investments may go down in value.
**Sector Overview**

**Agriculture**
- Coffee prices staged a strong price recovery over the prior month, rising by 18.5%. The primary driver was speculation on a supply deficit on the arabica coffee market owing to a lower Brazilian crop which resulted in a short covering rally. Speculative short positions have been scaled back by 47% over the period. We expect the recovery of coffee prices to lose steam given that net short positions are already quite low and the momentum from the short covering rally is likely to abate.

- Soybean prices slumped 3% over the prior month owing to uncertainly surrounding the completion of first phase of the US-China trade conflict. Since the 2019/20 fiscal year began on 1 September 2019 the US has received Chinese soybean orders worth 8.8m tons of which 3.3m tons have already been shipped, much higher than a year ago but much lower compared to levels of shipments 18.6m tons prior to the trade war two years ago. Soybean demand from China is likely to reduce owing to lower feed demand caused by the spread of the African swine fever. We expect soybean prices to remain under pressure owing to the high level of global ending soybean stocks as confirmed in the latest World Agricultural Supply and Demand Estimate report (WASDE) by the US Department of Agriculture (USDA). USDA also envisages 84m acres of acreage for the soybean in the upcoming year which is 10% up on 2019.

**Industrial Metals**
- Nickel has had a rollercoaster ride. After a remarkable run this year through to September, the metal has partially retreated for reasons which are not necessarily obvious. The drop from the top can potentially be explained by a couple of important factors. Firstly, markets may have realised that the sudden rally on the back of Indonesia’s ore export ban, which was brought forward by two years to January 2020, was overdone. This potential shift in sentiment is not necessarily reflected in speculative margins which have retreated. Secondly, the rollercoaster ride called trade wars continues to go through loops leaving the markets disoriented. Latest forecasts from the International Nickel Study Group (INSG) point towards demand weakness in the year ahead narrowing the current supply deficit for the metal. All forecasts however depend heavily on what happens on the trade front and its subsequent impact on the global economy.

- Last month we observed that zinc and lead experienced a slight recovery as the International Lead and Zinc Study Group (ILZSG) reported higher supply deficits in the first half of this year compared to last year. Both industrial metals remain in supply deficits. We attribute the price weakness last month primarily to trade woes bearing their brunt on industrial metals. Speculative positioning for both lead and zinc has retreated after a healthy build-up in the month before. As with Nickel, we take ILZSG’s forecast of supply surpluses for both metals next year with a pinch of salt as any such forecast is heavily dependent on developments on the trade front and historically, they have been revised by wide margins.

**Energy**
- The growing consensus of a global supply surplus in the first half of 2020, is likely to be a catalyst for the Organization of the Petroleum Exporting Countries (OPEC) and its partners to at least extend current supply cuts if not deepen them when they meet to decide on policy over 5-6th December 2020. Saudi Arabia – the largest member of the cartel – is on the cusp of floating part of its national oil company. Even though it has vastly reduced the estimated valuation of the company, it can’t afford for oil prices to slip further and hence will apply pressure to all OPEC members to continue to cut. Non-OPEC supply is expected to rise especially from Brazil, Norway and Guyana. While the International Energy Agency and Energy Information Administration expect US oil supply to continue to expand, we are sceptical that this can be achieved if WTI prices do not rise substantially. Under current weak prices, rig counts in the US are falling. Production is only likely to remain stable because drilled-but-uncompleted wells are being utilised.

- The International Marine Organization 2020 rules are coming into play in January and that is acting as a catalyst for higher refining activity. Refiners, ship owners and ports are increasing their readiness for the implementation of the new rules which will largely reduce the sulphur content of the fuels used in ships. Lower sulphur crudes such as WTI and Brent which will require less refining than higher sulphur crudes stand to benefit.

- Natural gas prices have seen a seasonal price increase over the past month, even though there has been a pull-back in recent weeks. The National Oceanic and Atmospheric Administration’s forecast for an upside surprise could be high if the weather forecasts turn abruptly.

**Precious Metals**
- The bull rally in equity markets, triggered initially in October following healthy third quarter US earnings and economic data, continued as cautious optimism developed in markets regarding a potential phase one trade deal between US and China. Both gold and silver retreated during the month as net speculative positioning pulled back slightly following meaningful accumulation since May. Despite the pullback, gold’s speculative positioning is relatively elevated reflecting a recognition among market participants of the value of holding gold to hedge against a range of geopolitical and macroeconomic risks. These include US-China trade wars which are far from over, upcoming UK elections and Brexit uncertainty, potential impeachment of President Trump and fragile global economic growth.

- Palladium has been the exception within the precious metals’ basket in the last two months continuing its upward trajectory unabated. Fundamentally, the metal is undersupplied relative to its strong demand in the automobile industry. With tighter emission standards and increasing adoption of hybrid cars, palladium’s demand is expected to remain alive. It is this dynamic in its industrial application that has defied its correlation with other precious metals in the last two months.

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*Note: all returns are based on front month futures prices in the month to Monday 25 November 2019. Historical performance is not an indication of future performance and any investments may go down in value.*
Technical Overview (as of Nov 25, 2019)

Positioning
- Net positioning in Ultra-low Sulphur Diesel (heating oil) has risen as we approach the end of 2019. Demand for the low sulphur fuel will rise as traditional bunker fuels will no longer be compliant with International Marine Organization rules from the beginning of 2020 without ships installing scrubber technology.
- Net speculative positioning on cocoa futures rose 98% owing to a 45% increase in long positions over the period. Concerns about a shortage in the short-term availability of cocoa beans helped revive sentiment on the cocoa market.
- A short covering rally in which short positions on coffee futures declined by 47% helped drive net speculative positioning up by 96% over the period.
- Net speculative positioning on wheat futures declined by 75%. According to USDA latest report, global 2019/20 wheat ending stocks are forecasted to rise to a record 288.3mn tons owing to global supplies rising more than consumption.
- Cotton futures faced the sharpest decline in net speculative positioning by 268% over the period likely owing to the uncertainty surrounding the US-China trade conflict, as China is a major supplier of cotton textiles to the US.

Inventories
- Natural gas inventories continued to build during the month in line with seasonal trends as we approach winter when heating demand picks up. Heating oil inventories followed suit for similar reasons.
- Sugar inventories rose 3.6% over the prior 3 months. According to USDA latest projections in November, global production for 2019/20 is estimated lower by 6mn tons to 174mn primarily due to the 5mn drop in India resulting from lower area and expected yields.
- Inventories for nickel, copper, zinc, tin and lead in storage houses on the London Metal Exchange (LME) and Shanghai Futures Metal Exchange (SHFE) are down 55.5%, 34.9%, 25.0%, 18.3% and 8.6% respectively over the last 3 months.

Curve Dynamics
- Of the major commodities, Brent offers the best front month roll yields. That is indicative of near-term tightness in the commodity with crude production in many OPEC nations falling. Prices further along the curve are lower as there is potential for higher supply in certain non-OPEC countries in 2020.
- All agricultural commodities, with the exception of cocoa are in contango, with lean hogs showing the steepest futures curve, exhibiting a negative roll of 9.9%. In sharp contrast, cocoa is exhibiting a positive roll return of 1.9%, slightly less than the prior week at 2.9%.
- Only aluminium and zinc futures curves are in slight backwardation at the front end offering positive roll yields of 0.8% and 0.3% respectively.

Technicals
- Gasoline prices are 6.2% below the 200-day moving average (dma), reflecting the fact that we are far away from summer-driving peak prices. However, current prices are 2.4% above the 50-day moving average, indicating moderate strength in the current season.
- Coffee prices staged a strong price recovery and is trading 20% above its 200-dma primarily owing to a short covering rally. However, we expect the price momentum to abate as net short positions are quite low and the support from this side is largely exhausted.
- Wheat prices are trading 9.7% above its 200-dma, however the overhang of record high global ending wheat stocks is likely to cap any further upside. Ongoing trade related weakness in industrial metals have resulted in tin, zinc and lead to be trading notably below their 200-dma at -10.9%, -10.1% and -4.1% respectively.
- Owing to its strong industrial demand and relatively limited supply, palladium has continued its strong rally and its price has risen 48% year-to-date. Palladium’s price now stands at 17.2% above its 200-dma.

Historical performance is not an indication of future performance and any investments may go down in value.
### Summary Tables

#### PRICES\(^1\) \& ROLL YIELDS\(^2\)

<table>
<thead>
<tr>
<th>Energy</th>
<th>Current Unit</th>
<th>1 Month</th>
<th>3 Month</th>
<th>6 Month</th>
<th>1 Year</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTI Oil</td>
<td>USD/bbl.</td>
<td>2.4%</td>
<td>-1.1%</td>
<td>15.1%</td>
<td></td>
<td></td>
<td>-0.2%</td>
<td>-0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Brent Oil</td>
<td>USD/bbl.</td>
<td>2.6%</td>
<td>-7.3%</td>
<td>8.2%</td>
<td></td>
<td></td>
<td>1.6%</td>
<td>0.5%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>USD/Mmbtu</td>
<td>10.0%</td>
<td>-17.6%</td>
<td>-41.2%</td>
<td></td>
<td></td>
<td>-2.1%</td>
<td>-6.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Gasoline</td>
<td>USD/gal.</td>
<td>0.1%</td>
<td>19.9%</td>
<td>13.4%</td>
<td>20.4%</td>
<td></td>
<td>0.2%</td>
<td>2.3%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Heating Oil</td>
<td>USD/gal.</td>
<td>-1.8%</td>
<td>7.1%</td>
<td>3.6%</td>
<td></td>
<td></td>
<td>0.1%</td>
<td>0.5%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Carbon</td>
<td>EUR/MT</td>
<td>-2.1%</td>
<td>-2.6%</td>
<td>3.8%</td>
<td>20.4%</td>
<td></td>
<td>-0.2%</td>
<td>-0.2%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

#### Agriculture

<table>
<thead>
<tr>
<th>Crop</th>
<th>Unit</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>USD/bu.</td>
<td>-0.4%</td>
<td>-1.1%</td>
<td>-0.6%</td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td>USD/bu.</td>
<td>-2.7%</td>
<td>-2.5%</td>
<td>-2.7%</td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>USD/bu.</td>
<td>-1.6%</td>
<td>-1.5%</td>
<td>-1.5%</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>USD/lb.</td>
<td>-0.7%</td>
<td>-0.6%</td>
<td>-0.9%</td>
<td></td>
</tr>
<tr>
<td>Cotton</td>
<td>USD/lb.</td>
<td>-1.7%</td>
<td>-2.4%</td>
<td>-4.0%</td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td>USD/lb.</td>
<td>-0.9%</td>
<td>-3.3%</td>
<td>-3.4%</td>
<td></td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>USD/lb.</td>
<td>-0.5%</td>
<td>-0.7%</td>
<td>-0.5%</td>
<td></td>
</tr>
<tr>
<td>Corncobs</td>
<td>USD/MTon</td>
<td>2.9%</td>
<td>-1.9%</td>
<td>-1.8%</td>
<td></td>
</tr>
</tbody>
</table>

#### Industrial Metals

<table>
<thead>
<tr>
<th>Metal</th>
<th>Unit</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium</td>
<td>USD/MT</td>
<td>0.8%</td>
<td>-0.3%</td>
<td>-0.5%</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>USD/MT</td>
<td>-0.5%</td>
<td>-0.3%</td>
<td>-0.2%</td>
<td></td>
</tr>
<tr>
<td>Copper (LME)</td>
<td>USD/MT</td>
<td>-0.1%</td>
<td>-0.1%</td>
<td>-0.1%</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>USD/MT</td>
<td>0.3%</td>
<td>0.1%</td>
<td>0.1%</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>USD/MT</td>
<td>-0.3%</td>
<td>-0.4%</td>
<td>-0.2%</td>
<td></td>
</tr>
<tr>
<td>Tin</td>
<td>USD/MT</td>
<td>0.0%</td>
<td>-0.2%</td>
<td>-0.1%</td>
<td></td>
</tr>
</tbody>
</table>

#### Precious Metals

<table>
<thead>
<tr>
<th>Metal</th>
<th>Unit</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>USD/oz</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>USD/oz</td>
<td>-0.8%</td>
<td>-0.8%</td>
<td>-0.8%</td>
<td></td>
</tr>
<tr>
<td>Platinum</td>
<td>USD/oz</td>
<td>-0.6%</td>
<td>-0.6%</td>
<td>-0.6%</td>
<td></td>
</tr>
<tr>
<td>Palladium</td>
<td>USD/oz</td>
<td>0.2%</td>
<td>0.3%</td>
<td>-0.2%</td>
<td></td>
</tr>
</tbody>
</table>

#### Livestock

<table>
<thead>
<tr>
<th>Animal</th>
<th>Unit</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live Cattle</td>
<td>USD/lb.</td>
<td>-4.1%</td>
<td>-3.5%</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td>Lean Hogs</td>
<td>USD/lb.</td>
<td>-10.6%</td>
<td>-11.5%</td>
<td>0.5%</td>
<td></td>
</tr>
<tr>
<td>Feeder Cattle</td>
<td>USD/lb.</td>
<td>-1.5%</td>
<td>0.2%</td>
<td>3.6%</td>
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#### CFCT NET POSITIONING\(^3\)

<table>
<thead>
<tr>
<th>Energy</th>
<th>Current</th>
<th>5 Yr Average</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
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</thead>
<tbody>
<tr>
<td>WTI Oil</td>
<td>438,961</td>
<td>343,305</td>
<td>392,752</td>
<td>520,957</td>
<td>411,794</td>
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<tr>
<td>Brent Oil**</td>
<td>321,212</td>
<td>183,535</td>
<td>238,952</td>
<td>175,937</td>
<td>97,447</td>
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<tr>
<td>Natural Gas</td>
<td>-141,589</td>
<td>-114,300</td>
<td>-211,848</td>
<td>-61,841</td>
<td>25,925</td>
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<tr>
<td>Gasoline</td>
<td>72,315</td>
<td>63,079</td>
<td>89,929</td>
<td>77,496</td>
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<tr>
<td>Heating Oil</td>
<td>-315</td>
<td>12,340</td>
<td>-1,947</td>
<td>9,402</td>
<td>8,844</td>
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#### INVENTORY LEVELS\(^4\)

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<tr>
<th>Industry</th>
<th>Current</th>
<th>5 Yr Average</th>
<th>25-Nov</th>
<th>1 Week</th>
<th>1 Month</th>
<th>3 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil - US</td>
<td>450,382</td>
<td>-2.1%</td>
<td>-3%</td>
<td>-5%</td>
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<td></td>
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<tr>
<td>Oil - OECD Europe**</td>
<td>357</td>
<td>3%</td>
<td>-0.1%</td>
<td>0.5%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Natural Gas - DOE</td>
<td>3,638</td>
<td>#NAME?</td>
<td>-2%</td>
<td>2.7%</td>
<td>9.5%</td>
<td></td>
</tr>
<tr>
<td>Gasoline - DOE</td>
<td>220,846</td>
<td>1%</td>
<td>0%</td>
<td>-5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating Oil - DOE</td>
<td>11,438</td>
<td>-9%</td>
<td>1%</td>
<td>14%</td>
<td>13%</td>
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</table>

#### Performance of front month futures from 25 Nov 18 (1 Year) to 25 Nov 19 (3 Month)

#### 2Roll return non-annualised from front month futures to second month on 27 Aug 19 (3 Month), 25 Oct 19 (1 Month), 25 Nov 19 (1 Week)

#### 1Performance of front month futures from 25 Nov 18 (1 Year) to 25 Nov 19 (3 Month)

#### 3Performance of front month futures from 25 Nov 18 (1 Year) to 25 Nov 19 (3 Month)

#### Historical performance is not an indication of future performance and any investments may go down in value.
CFTC Speculative Net Long Futures Positions

Agriculture

Cocoa

Coffee

Corn

Cotton

Soybean Oil

Soybeans

Sugar

Wheat

Note: positioning in USD contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning.
All commodity futures price data is denominated in USD unless otherwise indicated. CFTC futures and LME COTR net positioning as at Sep 10, 2019 and Sep 13, 2019 respectively.
Historical performance is not an indication of future performance and any investments may go down in value.
Energy

**Brent Oil**

- Price (RHS, USD/bbl.)
- ICE managed money net positioning
- CFTC non-commercial net positioning
- 5 Yr Average
- 1x stdv
- 2x stdv
- 5 Yr Average

**WTI Oil**

- Price (RHS, USD/bbl.)
- CFTC non-commercial net positioning
- 5 Yr Average
- 1x stdv
- 2x stdv

**Natural Gas**

- Price (RHS, USD/MMBtu)
- CFTC non-commercial net positioning
- 5 Yr Average
- 1x stdv
- 2x stdv

**Gasoline**

- Price (RHS, USD/gal.)
- 5 Yr Average
- 1x stdv
- 2x stdv

**Heating Oil**

- Price (RHS, USD/gal.)
- CFTC non-commercial net positioning
- 5 Yr Average
- 1x stdv
- 2x stdv

Note: positioning in 1,000 contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning. All commodity futures price data is denominated in USD unless otherwise indicated. Brent average of net positions from January 2011 as positions were not reported by CFTC before then. Historical performance is not an indication of future performance and any investments may go down in value.
Industrial Metals

Copper (COMEX)

Copper (LME)

Aluminum

Zinc

Nickel

Lead

Tin

Note: positioning in ‘000 contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning. LME non-commercial net positions from 30 January 2018 post MiFID II data and respective graphs represent daily data. All commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.
Precious Metals

Gold

Source: Bloomberg, WisdomTree

Silver

Source: Bloomberg, WisdomTree

Platinum

Source: Bloomberg, WisdomTree

Palladium

Source: Bloomberg, WisdomTree

Livestock

Lean Hogs

Source: Bloomberg, WisdomTree

Live Cattle

Source: Bloomberg, WisdomTree

Feeder Cattle

Source: Bloomberg, WisdomTree

Note: positioning in 1000 contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning. respective graphs represent daily data. All commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.
Inventories

Agriculture

Corn - Stock to Use
Annual data in %, from 1980 to 2019

% chg in projections vs. previous = -3.6%

Source: USDA, Bloomberg, WisdomTree

Corn - Ending Stocks
Annual data in mln tons, from 1980 to 2019

chg in projections vs. previous = -11.8%

Source: USDA, Bloomberg, WisdomTree

Coffee - Stock to Use
Annual data in %, from 1980 to 2019

% chg in projections vs. previous = 0.0%

Source: USDA, Bloomberg, WisdomTree

Coffee - Ending Stocks
Annual data in mln bags (60 kg), from 1980 to 2019

chg in projections vs. previous = -2.9

Source: USDA, Bloomberg, WisdomTree

Cotton - Stock to Use
Annual data in %, from 1980 to 2019

% chg in projections vs. previous = -0.6%

Source: USDA, Bloomberg, WisdomTree

Cotton - Ending Stocks
Annual data in mln 480 lb Bales, from 1980 to 2019

chg in projections vs. previous = -1.7

Source: USDA, Bloomberg, WisdomTree

Soybeans - Stock to Use
Annual data in %, from 1980 to 2019

% chg in projections vs. previous = -4.9%

Source: USDA, Bloomberg, WisdomTree

Soybeans - Ending Stocks
Annual data in , from 1980 to 2019

chg in projections vs. previous = -6.3

Source: USDA, Bloomberg, WisdomTree

Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2017/2018 estimates. Historical performance is not an indication of future performance and any investments may go down in value.
Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2018/2019 estimates.

Historical performance is not an indication of future performance and any investments may go down in value.
Industrial Metals

**Aluminum Inventory**
Daily data, from 25 Nov 18 to 25 Nov 19

**Copper Inventory**
Daily data, from 25 Nov 18 to 25 Nov 19

**Nickel Inventory**
Daily data in '000 MT, from 25 Nov 18 to 25 Nov 19

**Zinc Inventory**
Daily data, from 25 Nov 18 to 25 Nov 19

**Lead Inventory**
Daily data, from 25 Nov 18 to 25 Nov 19

**Tin Inventory**
Daily data in '000 MT, from 25 Nov 18 to 25 Nov 19

**Livestock**

**Lean Hogs Inventory**
Annual data in mln Heads, from 1980 to 2019

**Live Cattle Inventory**
Annual data in mln Heads, from 1980 to 2019

Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2018/2019 estimates. Historical performance is not an indication of future performance and any investments may go down in value.
Energy

US Oil Inventory
Weekly data in mln barrels, from Nov 14 to Nov 19

OECD Europe Oil Industry Inventory
Monthly data in mln barrels, from Aug 14 to Aug 19

Heating Oil Inventory
Weekly data in mln barrels, from Nov 14 to Nov 19

Natural Gas Inventory
Weekly data in billion cubic feet, from Nov 14 to Nov 19

Gasoline Inventory
Weekly data in mln barrels, from Nov 14 to Nov 19

Note: "Oil - OECD Inventory" represents OECD industry stocks and is reported with a 2 month lag.
Historical performance is not an indication of future performance and any investments may go down in value.
Commodities Front Month Futures and Trading Volumes

Agriculture

Cocoa Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Coffee Front Month Futures Price
Daily data in USd/lb., from 25 Nov 18 to 25 Nov 19

Corn Front Month Futures Price
Daily data in USD/bu., from 25 Nov 18 to 25 Nov 19

Cotton Front Month Futures Price
Daily data in USd/lb., from 25 Nov 18 to 25 Nov 19

Soybean Oil Front Month Futures Price
Daily data in USd/lb., from 25 Nov 18 to 25 Nov 19

Soybeans Front Month Futures Price
Daily data in USd/bu., from 25 Nov 18 to 25 Nov 19

Sugar Front Month Futures Price
Daily data in USd/lb., from 25 Nov 18 to 25 Nov 19

Wheat Front Month Futures Price
Daily data in USd/bu., from 25 Nov 18 to 25 Nov 19

Note: all commodity futures trading volume and price data is denominated in USD unless otherwise indicated.

Historical performance is not an indication of future performance and any investments may go down in value.
Energy

Brent Oil Front Month Futures Price
Daily data in USD/bbl., from 25 Nov 18 to 25 Nov 19

WTI Oil Front Month Futures Price
Daily data in USD/bbl., from 25 Nov 18 to 25 Nov 19

Natural Gas Front Month Futures Price
Daily data in USD/MMBtu, from 25 Nov 18 to 25 Nov 19

Gasoline Front Month Futures Price
Daily data in USD/gal., from 25 Nov 18 to 25 Nov 19

Heating Oil Front Month Futures Price
Daily data in USD/gal., from 25 Nov 18 to 25 Nov 19

Carbon
Carbon Front Month Futures Price
Daily data in EUR/MT, from 25 Nov 18 to 25 Nov 19

Note: all commodity futures trading volume and price data is denominated in USD unless otherwise indicated.

Historical performance is not an indication of future performance and any investments may go down in value.
Industrial Metals

Aluminum Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Copper (COMEX) Front Month Futures Price
Daily data in USD/lb., from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Nickel Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Tin Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Lead Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Copper (LME) Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 200 dma (RHS) — 50 dma (RHS)
Source: Bloomberg, WisdomTree

Zinc Front Month Futures Price
Daily data in USD/MT, from 25 Nov 18 to 25 Nov 19

Volume ($mn) — Prices (RHS) — 50 dma (RHS) — 200 dma (RHS)
Source: Bloomberg, WisdomTree

Note: all commodity futures trading volume and price data is denominated in USD unless otherwise indicated.
Historical performance is not an indication of future performance and any investments may go down in value.
Precious Metals

Gold Front Month Futures Price
Daily data in USD/t oz., from 25 Nov 18 to 25 Nov 19

Silver Front Month Futures Price
Daily data in USD/t oz., from 25 Nov 18 to 25 Nov 19

Platinum Front Month Futures Price
Daily data in USD/t oz., from 25 Nov 18 to 25 Nov 19

Palladium Front Month Futures Price
Daily data in USD/t oz., from 25 Nov 18 to 25 Nov 19

Livestock

Lean Hogs Front Month Futures Price
Daily data in USD/lb., from 25 Nov 18 to 25 Nov 19

Live Cattle Front Month Futures Price
Daily data in USD/lb., from 25 Nov 18 to 25 Nov 19

Feeder Cattle Front Month Futures Price
Daily data in USD/lb., from 25 Nov 18 to 25 Nov 19

Note: all commodity futures trading volume and price data is denominated in USD unless otherwise indicated.
Historical performance is not an indication of future performance and any investments may go down in value.
Note: all commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.
Energy

Brent Oil Futures

USD/bbl.

Maturity (Month)

Source: Bloomberg, WisdomTree

WTI Oil Futures

USD/bbl.

Maturity (Month)

Source: Bloomberg, WisdomTree

Gasoline Futures

USd/gal.

Maturity (Month)

Source: Bloomberg, WisdomTree

Natural Gas Futures

USD/MMBtu

Maturity (Month)

Source: Bloomberg, WisdomTree

Heating Oil Futures

USd/gal.

Maturity (Month)

Source: Bloomberg, WisdomTree

Carbon

Carbon Futures

EUR/MT

Maturity (Month)

Source: Bloomberg, WisdomTree

Note: all commodity futures price data is denominated in USD unless otherwise indicated.

Historical performance is not an indication of future performance and any investments may go down in value.
Industrial Metals

Note: all commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.
Precious Metals

Gold Futures

USD/t oz.

Silver Futures

USD/t oz.

Platinum Futures

USD/t oz.

Palladium Futures

USD/t oz.

Lean Hogs Futures

USD/lb.

Live Cattle Futures

USD/lb.

Feeder Cattle Futures

USD/lb.

Note: all commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.
Commodity Monthly Matrix Explained

Score based on unweighted sum of four fundamental/technical measures detailed below with each measure awarded a possible score of -1, 0, or 1 depending on whether variable is viewed as fundamentally negative, neutral or positive. Score ranging from -4 to +4. For commodities where data is not available or not relevant, scores are calculated on remaining variables and adjusted to the -4 to +4 scale. The score matrix is designed to highlight significant changes in key variables but should not be viewed as predictor of performance.

The four fundamental/technical measures are as follow:

- Price vs. 200 days moving average: 1 when price is above 200dma and return is positive, -1 when price is below 200dma and return is negative, 0 otherwise
- % change in net positioning over the past month: 1 when % change is positive, -1 when % change is negative, 0 when no change
- % change in inventory level over the past 3 months: 1 when % is negative, -1 when % is positive, 0 when no change
- Roll yield between the front and second month futures contracts: 1 when in backwardation, -1 when in contango, 0 when no change

CALENDAR

WisdomTree - Recent Blogs

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<td>Nitesh Shah</td>
<td>Gold could rise to over US$1800/oz if geopolitical risks remain elevated</td>
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WisdomTree - Past Issues of Commodity Monthly Monitor

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The research notes are for qualified investors only.

Key Reports

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