

Commodity Monthly Monitor

Still waiting for China to rebound

21 April 2023 — 21 May 2023



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Summary

In last month's report, when the data cut-off was 18 April 2023, we noted that commodities had experienced their strongest growth in a year. All major commodity sectors – energy, precious metals, industrial metals, and agriculture had posted gains. Indeed, we titled the report 'Firing on multiple cylinders'. The picture looks substantially different this month, with all major commodity sectors down causing broad commodities to return -4% for the month ending 22 May 2023.

While this appears to be a dramatic turn of events, it isn't entirely surprising. And it perhaps isn't that dramatic either. For commodities, two major stories remain important this year. The first relates to how the reopening of China is panning out. While markets started the year with great optimism, they have since gone into reactive mode and remain fixated on data points which haven't been compelling enough to support the initial optimism. The idea that China's recovery is largely driven by services rather than manufacturing is offering relatively little support to commodities. This is evident in China's services Purchasing Managers' Index (PMI) becoming expansionary in January, and remaining expansionary since then, while the manufacturing PMI briefly became expansionary in February but slipped back into contractionary territory last month. As such, markets lack a clear narrative to latch on to with regards to China, which partly explains the see-saw in price performance so far this year. We still maintain a constructive view on China's recovery this year but believe market optimism at the start of the year was overdone. Instead, patience is warranted to allow China's recovery to pan out gradually this year.

The second driver relates to expectations of recession in major developed market economies. On this front again, markets lack a clear narrative given the divergence in views on whether the US will have a hard or soft landing or avoid a recession altogether this year. Economic data from the US is yet to give a clear picture of the road ahead. Inflation continues to edge lower, while both labour market and consumer confidence remain steady. Meanwhile, however, US debt ceiling talks have created a lot of noise in recent weeks and hurt sentiment across risk assets. While the noise isn't over yet, and the US defaulting on its loans is only a tail risk scenario, a deal would nonetheless calm nerves and lift risk sentiment across both equities and commodities.

Industrial metals took the biggest hit last month from the two narratives discussed above. Among the biggest detractors were nickel and zinc, both commodities where China is by far the biggest consumer. Futures curves for most industrial metals are now in contango, except for lead and tin which are in slight backwardation. This is an indication of markets not expecting supply tightness in the short term owing to the forces discussed above.

Precious metals were down 1.4% overall. Nonetheless, it was an eventful month for the sector with gold flirting with all-time highs. Dollar's depreciation since November has largely been supporting gold in recent months with additional support coming from the trouble in the banking sector and ongoing fears of an impending recession. In May, however, the dollar regained some of its lost ground as markets weigh on additional tightening from the Federal Reserve. This has caused gold to retreat again from close to record highs.

Energy commodities continued to weaken last month led by oil. The US plans to refill its strategic petroleum reserve, but the announcement had little impact on oil prices as market concerns revolve around US debt ceiling issues, monetary policy, and slowing economic conditions. Wildfires in Canada have caused several oil wells to shut down, but market reactions remain minimal. The futures market shows deep pessimism in Brent oil and WTI crude oil, while contrarian investors see opportunities in exchange-traded products. However, markets seem to overlook the fact that OPEC and its partner countries account for 45% of global oil supply, and there is a risk of further intervention by OPEC+ at their upcoming meeting. Natural gas has experienced losses this year but is expected to see increased demand as Europe prepares for winter, although current demand remains low.

While agricultural commodities were also down overall, there were some bright spots. Cotton prices rose 8.8% due to positive USDA outlook, with tighter US stocks and increased exports. Sugar prices increased by 4.7% as the global surplus is expected to decrease, while consumption is projected to rise. Wheat prices remain under pressure due to the extension of the grains deal between Russia and Ukraine, but lower US crop forecasts and adverse weather conditions in Argentina pose supply risks. Russian wheat crop forecast was revised upward, but exports are expected to remain stable.

Performance

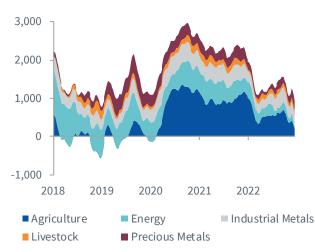
Performance*	- 1 Mth	- 6 Mth	- 12 Mth
All Commodities	-4.0%	-11.2%	-19.8%
Energy	-4.6%	-33.1%	-40.1%
Industrial Metals	-7.8%	-6.1%	-19.3%
Precious Metals	-1.4%	13.3%	7.8%
Agriculture	-3.8%	-0.6%	-12.8%
MSCI World	1.0%	7.3%	7.7%
US Aggregate Bond	-0.9%	2.1%	-2.5%

^{*}Bloomberg TR Indexes for basket returns, data to Monday 22 May 2023. Source: WisdomTree, Bloomberg.

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

CFTC Net Speculative Positioning

(in '000 contracts)



Source: WisdomTree, Commodity Futures Trading Commission (CFTC), Bloomberg. **Historical performance is not an indication of future performance, and any investments may go down in value.**

- + Not even the brinkmanship over the debt ceiling negotiations could sustain gold price gains. Rising bond yields and renewed dollar strength presented headwinds to the yellow metal. Closely correlated silver and platinum also sustained losses. However, physical buying from central banks and retail markets remains a source of strength for precious metals.
- + Cyclical headwinds return to put pressure on industrial metals. Following a strong start to the year in January, industrial metals have largely trended downwards as markets wait for data to compellingly point towards an economic recovery in China.
- + Risk-off sentiment weighs on the agricultural commodity complex. The United States Department of Agriculture (USDA) released their first projections for 2023/24 marketing year. The report was quite bearish for corn and soybeans, whilst constructive for the wheat market. The extension of the grains agreement between Russia and Ukraine added further pressure on the grains market.
- + Energy commodities continued to weaken, led by oil which has given back all price gains since the last OPEC+ intervention. Deepening speculative shorts have provoked the ire of the cartel once again and we expect OPEC to cut production to jolt the markets once again.

Commodity Monthly Matrix¹

Commodity	Current Price ²	Returns (-1 Mth)	Price vs 200 days MA	Inventories ³ (- 3 Mths)	Positioning ⁴ (- 1 Mth)	Roll Yield ⁵	22 May Score	18 Apr Score
WTI Oil	72.0	-7.6%	-10.0%	-2.4%	-19.1%	-0.1%	(1)	(1)
Brent Oil	76.0	-6.9%	-11.4%	-1.1%	-2478%	0.2%	2	0
Natural Gas	2.40	7.5%	-49.0%	2.1%	12%	-5.9%	(2)	0
Gasoline	2.65	1.8%	4.4%	-9.1%	-21%	4.3%	2	4
Heating Oil	2.37	-4.9%	-24.9%	6.0%	10%	0.4%	0	0
Carbon	85.7	-1.9%	3.9%	-	-	-0.3%	(1)	1
Wheat	6.06	-8.4%	-19.9%	-1.1%	-19%	-2.0%	(2)	0
Corn	5.71	-13.9%	-13.5%	-2.7%	-195%	13.1%	1	4
Soybeans	13.4	-9.6%	-8.8%	22.5%	-80%	5.2%	(1)	3
Sugar	0.26	4.7%	26.0%	-	-3%	1.3%	0	2
Cotton	0.85	8.8%	-2.1%	1.2%	-56%	1.2%	(2)	(4)
Coffee	1.89	-2.6%	1.3%	-	-17%	1.2%	0	4
Soybean Oil	0.49	-8.7%	-23.1%	3.5%	-187%	0.0%	(4)	0
Cocoa	3,023	-4.7%	15.5%	-	2%	-0.4%	(1)	3
Aluminium	2,246	-6.0%	-4.4%	-14.4%	-7%	-0.4%	(2)	(2)
Copper (COMEX)	3.67	-7.7%	-3.8%	38.6%	-555%	-0.1%	(4)	0
Copper(LME)	8,096	-7.9%	-3.7%	41.0%	-42%	-0.2%	(4)	4
Zinc	2,428	-10.5%	-19.9%	-33.8%	-24%	-0.1%	(1)	0
Nickel	21,338	-12.6%	-13.9%	-12.2%	15%	-0.2%	1	0
Lead	2,097	-3.2%	0.5%	-41.5%	-2%	0.2%	0	4
Tin	25,145	-6.0%	4.8%	-5.1%	3%	0.3%	3	4
Gold	1,975	-0.2%	8.1%	-	-5%	-0.1%	(3)	1
Silver	23.7	-5.3%	8.1%	-	-22%	-0.1%	(4)	0
Platinum	1,080	-4.4%	9.7%	-	5%	-0.5%	0	1
Palladium	1,500	-6.5%	-14.5%	-	12%	0.5%	3	(4)
Live Cattle	1.65	-5.1%	5.4%	-	-2%	0.9%	1	4
Lean Hogs	0.82	6.2%	-2.3%	-	31%	-0.4%	0	0
Feeder Cattle	2.07	1.4%	10.9%	_	1%	-12.1%	0	0

The score matrix is designed to highlight significant changes in key variables but should not be viewed as predictor of performance. Source: WisdomTree. Information not available.

Green = returns positive, inventories falling, positioning rising, roll yield positive.

Red = the opposite. Black = neutral.

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

¹ Detailed explanation of the matrix calculations can be found at the end of this report.

² All prices are futures prices to Monday 22 May 23. Broad sector returns based on Bloomberg Commodity Index family.

³ % change in inventory over the past 3 months except for sugar and coffee which are based on past 6 months as data is updated bi-annually by USDA.

⁴ CFTC futures and LME COTR net positioning as at May 16 2023, % change from previous month.

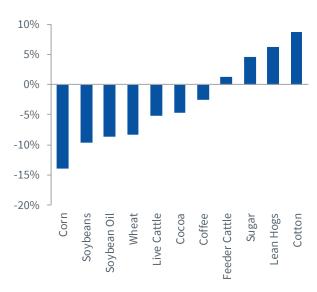
⁵ Calculated as % difference between front month and second month futures prices on report date. Historical performance is not an indication of future performance and any investments may go down in value.

Sector Overview

Agriculture

- Cotton prices rebounded 8.8% over the prior month, helped by a more optimistic outlook in USDA's May production and supply/demand report. USDA's report confirmed that US cotton stocks are tighter than previously anticipated. The 2022 US crop was lowered 210,000 bales and US exports for the 2022 crop year were raised 400,000 bales by USDA. This reduced US carry-in stocks to the 2023 crop year by 600,000 bales. USDA also released its first estimates for the 2023-24 marketing year and were more optimistic than most expected. World use/demand for the 2023 crop year is projected to increase 6.6mn bales or 6% from 2022 crop year. At the same time, world production is expected to decline 670,000 bales.
- + Sugar continued its upward trajectory, rising 4.7% over the prior month. The International Sugar Organisation (ISO) expects the global sugar surplus to fall 852kt in 2022/23, 79% below its previous estimate. Total sugar output projections were lowered to 177.4mt for 2022/23, compared to prior estimates of 180.4mt owing to lower output from the EU, India, and Thailand. At the same time, ISO expects global consumption to increase to 176.5mt in 2022/23, up by 233kt from its previous estimate.
- Wheat continues to remain under pressure following the extension of the grains deal between Russia and Ukraine. The deal was only extended for 60 days, far shorter than the 120-day period originally agreed. Despite Moscow continuing to insist that the obstacles to its own agricultural exports be removed, wheat markets are trading as if it sees no further risk of the agreement being terminated given that Russia has already agreed twice to an extension despite threats to withdraw from it. Yet there is price supportive news on the supply side; USDA has lowered its forecasts for the US wheat crop in the 2023/24 season owing to the drought in some growing regions that has impaired the quality of the winter wheat plants to a greater extent than previously expected. Argentinian farmers are also continuing to battle with adverse weather conditions which is posing a risk to wheat sowing. If the rainfall in the next few days remains insufficient, the forecasts for the upcoming wheat crop are likely to be downwardly revised again. However, the Russian research institute IKAR meanwhile has upwardly revised its forecast for Russia's 2023/24 wheat crop from 84 million to 86 million tons. Though this is considerably lower than last season, IKAR nonetheless expects exports to remain at roughly the same level as storage facilities remain amply filled.

Agriculture — May Returns*



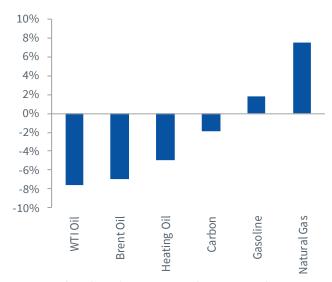
Source: *Bloomberg*. *May returns refer to returns from 21 Apr 2023 to 22 May 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Energy

- The US announced on Monday 15 May it will be refilling its strategic petroleum reserve soon, with a test of 3 million barrels by August 2023, followed by purchases of 10 million barrels by the year end, even as the Department of Energy complete mandated sales of 26 million barrels. Markets, however, shrugged off the news and oil prices have slipped since the announcement. US debt ceiling woes, tightening monetary policy, and decelerating economic conditions seem to be driving price behaviour primarily.
- + Several oil wells in Canada have been forced to shut because of wildfires. A total of 92 wildfires were burning in Alberta as of 18 May 2023. Meteorologists are expecting hotter and drier weather over the coming week prompting concerns of further spread of fires. Once again, markets have barely reacted to this news.
- Net shorts in Brent oil futures are the steepest since November 2020. Meanwhile, net positioning in WTI crude oil is getting close to 2 standard deviations below 5-year average. That deep pessimism in futures markets is contrasted with inflows into exchange-traded products, where contrarian investors have sensed a bargain-hunting opportunity.
- Markets appear to be forgetting that 45% of global oil supply comes from the Organization of the Petroleum Exporting Countries (OPEC) and its partner countries (together OPEC+). President Putin of Russia, OPEC's largest partner country, bluntly stated "All our actions, including those related to voluntary production cuts, are connected with the need to support a certain price environment on global markets in contact with our partners in OPEC+". To the cartel, market balance is of secondary concern compared to price stability. That the US SPR refill announcement has done little to bolster prices, increases the risk that the OPEC+ group will make a further intervention when they meet at their 4 June ministerial meeting. In fact, on 23 May, Saudi Arabia's Energy Minister Prince Abdulaziz bin Salman said he would inflict more pain on short sellers and told them to watch out just days before a planned OPEC+ meeting to decide on future oil policy.

Natural gas gained 7.5% in the past month. However, that barely makes a dent in the 70% annual losses. Also, natural gas has one of steepest negative roll yields of the commodities covered in this report. However, we believe as Europe prepares for the winter of 2023/24, demand for US natural gas in the form of liquified natural gas will pick up. But for now, we are in a seasonally low demand period.

Energy — May Returns*



Source: *Bloomberg*. *May returns refer to returns from 21 Apr 2023 to 22 May 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Industrial Metals

- Industrial metals were down 7.8% last month and were the worst performing sector in a challenging month for commodities overall. Price performance for industrial metals last month highlights how cyclical headwinds continue to dominate market sentiment. Following a strong month in January, when industrial metal markets felt optimistic about China's reopening and recovery, the commodity sector has largely trended downwards in subsequent months on fears of a recession in major developed market economies and China's reopening story perhaps underdelivering its promise. China's manufacturing Purchasing Managers' Index (PMI) slipped back into contractionary territory in April, following an expansionary reading in February and flat reading in March. We remain strong proponents of the long-term demand prospects of industrial metals from the energy transition. We, however, recognise that it is hard to say when the cyclical headwinds will dissipate, and prices will bottom out.
- Among the biggest detractors last month were nickel and zinc. For both metals, China is, by far, the biggest source of demand worldwide. The notion that China's recovery is likely to be organic and services-driven rather than manufacturing driven appears to be the main thing markets are thinking about currently. This narrative could get challenged if China's manufacturing PMI becomes notably and sustainably expansionary, something it is yet to do this year. Both nickel and zinc futures curves are in contango, which suggests that markets do not expect near-term tightness in supply. This is especially noteworthy for zinc which was in backwardation in February this year.
- Copper (COMEX) was down 7.7% and copper (LME) was down 7.9% last month. The most important sectors for copper are housing and the grid. While property sales in China are driving housing upward, the number of new housing starts is still decreasing. On the other hand, grid spending experienced a 35% year-over-year increase in April. However, recent surveys conducted among industry participants indicate that this growth has not yet resulted in higher orders earlier this quarter. Nevertheless, the latest industry feedback suggests that buyers are cautiously re-entering the market, partly enticed by the recent decline in prices. The limited impact of downstream spending on upstream demand has been somewhat influenced by the accumulation of inventories throughout the supply chain, which significantly grew during the pandemic. Overall, copper's demand is likely to grow steadily over the course of the

Industrial Metals — May Returns*

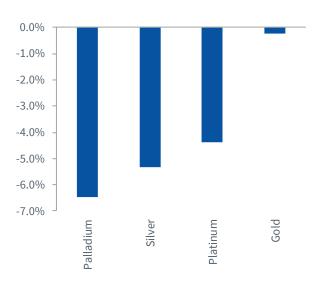


Source: *Bloomberg*. *May returns refer to returns from 21 Apr 2023 to 22 May 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Precious Metals

- Even precious metals succumbed to the downward price pressure across the commodity spectrum in the past month. US debt negotiations going to brinkmanship failed to provide gold any further lift after the first week of May. After rising briefly above US\$2050/oz on 4 May, gold crashed to US\$1944/oz at the time of writing (25/05/2023) as US 10-year Treasury yields rose from 3.33% to 3.79% and US Dollar Basket appreciated 3.0% over the same time horizon. Despite all the fiscal worries, Fed Fund Futures markets are pricing in another rate hike in the US by July. Overnight index swap markets are also pricing in at least two further rate hikes in the Euro area before the year is finished.
- + Although we have these short-term headwinds against gold, markets are pricing in interest rate cuts in the US later this year and US dollar depreciation is widely anticipated, which will be gold price positive. If recession risks increase, gold could see further safe-haven demand.
- + Positioning in gold futures remains firmly positive at over 200,000 contracts net long and central banks are still buying gold at the pace set last year (central bank gold purchases were at an all-time high).
- The London Platinum and Palladium week in mid-May felt down-beat this year. While participants were optimistic on gold and silver, it was difficult to find people who were bullish on platinum group metal (PGM) demand. Nevertheless, many are expecting supply challenges to drive deficits. Supply concentration from South Africa (a country with electrical power supply issues) and Russia (a country operating under bullion sanctions in international markets and capital markets challenges from sanctions elsewhere) are key risks for the PGM market.

Precious Metals — May Returns*



Source: *Bloomberg*. *May returns refer to returns from 21 Apr 2023 to 22 May 2023. **Historical performance is not an indication of future performance, and any investments may go down in value.**

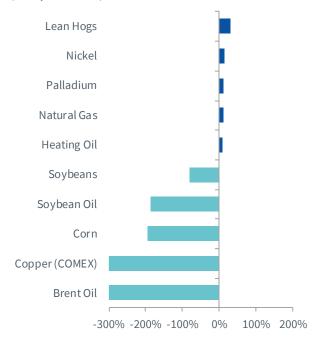
Technical Overview

as of 22 May, 2023

Positioning

- + Net speculative positioning in lean hogs rose 30.7% helped by a 9% reduction in short positioning underscoring an improvement in sentiment owing to the seasonal price climb.
- + Net speculative positioning in soybean fell 79.5% owing to a 173% build up in short positioning. USDA expects global soybean ending stocks at 122.5mt for 2023/24, compared to 101mt from a year ago.
- + Net speculative positioning in corn fell 194.6% owing to a combination of a 49% build up in short positioning and a 14% decline in long positioning. USDA's first forecasts for the 2023/24 marketing year was bearish for corn with global corn production to total 1.22bn tonnes in 2023/24, up 6% year on year.
- + While net shorts in palladium trimmed a little, positioning in the metal is firmly negative and over 1 standard deviation below 5-year average.
- + Net shorts in Brent oil futures are the steepest since November 2020. Meanwhile net positioning in WTI crude oil is getting close to 2 standard deviations below 5-year average. That represents deep pessimism among speculative investors and is provoking the ire of OPEC+ once again.
- + Net shorts in natural gas trimmed following a 7.5% price rally in the past month.
- Despite nickel's weak performance in terms of price movement last month, there was a slight improvement in its net speculative positioning potentially indicating that some investors are seeing the dip as a buying opportunity.

Top 5/Bottom 5 Change in CFTC Net Positions (over past month)*



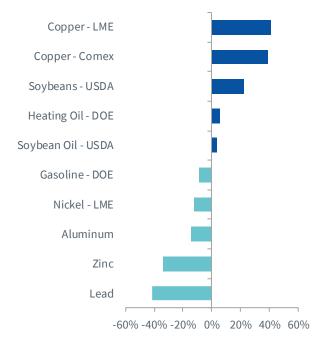
Source: Bloomberg

*CFTC futures net positioning as at report date, percent change from previous month. **Historical performance is not an indication of future performance and any investments may go down in value.**

Inventories

- + Soybeans inventories have risen 22.5% over the prior three months. USDA expects global soybean production to rise almost 11% YoY to 410.6mt with higher supplies coming from Argentina, Brazil, the US, and Paraguay. Global soybean ending stocks are estimated at 122.5mt for 2023/24, compared to 101mt from a year ago.
- + Gasoline inventory in the US has fallen below 1 standard deviation under the 5-year average and is in line with last year's strong stock draws. As the summer driving season heats up, we could see steeper inventory withdrawal. Marathon Petroleum's Galveston Bay 600-k b/d refinery on the US Gulf Coast was halted on 15 May as a fire disrupted operations, contributing to supply tightness.
- + Copper's COMEX and LME copper inventories saw a slight decline at the start of the year but have accumulated again over the last three months.
- + In contrast, zinc inventory, which saw a sharp increase at the start of the year, has largely been on a steady decline over the last three months.
- Aluminium and lead inventories have also seen drawdowns over the last three months but this indicator of tightness in physical supply has not yet helped offer support to prices.

Top 5/Bottom 5 Change in Inventories (over past 3 months)*



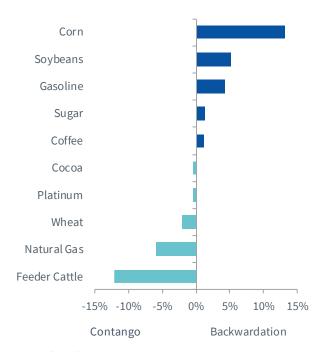
Source: Bloomberg

*Percent change in inventory based on 3-month change (in %). Historical performance is not an indication of future performance and any investments may go down in value.

Curve Dynamics

- + The front end of the corn and soybeans futures curve has extended its backwardation, now providing investors a 13.1% and 5.2% roll yield compared to 7.8% and 2.4% respectively last month.
- + The prospect of weak supply from India and Thailand continues to weigh on the sugar market. The front end of the sugar futures curve remains in backwardation providing a roll yield of 1.3% versus 2.0% a month back.
- + Cocoa moved into contango from backwardation last month, lowering returns for long term investors by -0.4%.
- + Wheat moved more deeply into contango, with the negative roll yield of 2.0% weighing on performance.
- + Feeder Cattle has the steepest contango, providing a negative roll yield of 12.1% driven by higher supply.
- + With a negative front-month roll yield of 5.9% natural gas has the second highest contango across the commodities tracked in this report.

Top 5/Bottom 5 Roll Yields (front to next month)*



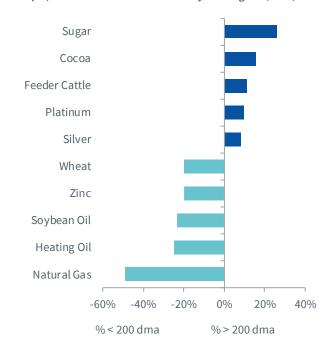
Source: Bloomberg

*Roll yields calculated as percent change between front month futures price and next month futures price on 22 May 2023. Historical performance is not an indication of future performance and any investments may go down in value.

Technicals

- + Tighter supply on the sugar market has helped prices rise 26% above its 200-day moving average (dma). While Brazil's strong harvest could derail sugar upward trajectory, we expect supply bottle necks in Brazil to buoy sugar prices higher.
- + Cocoa is trading 15.5% above its 20-dma as adverse weather conditions in western Ivory coast threatened supply. However cocoa prices could come under pressure as weather conditions become more favourable and demand softens on the back of a weak macro-economic cycle.
- + Wheat is trading 19.9% below its 200-dma owing to the extension of the grains deal between Russia and Ukraine. However, price supportive news on the supply side could help wheat stage a rebound.
- + Soybean Oil is trading 23.1% below its 200-dma. The 2023/24 global oilseed outlook shows higher production, crush, and ending stocks compared with the last marketing year. Soybean products account for the majority of the growth in oilseed meal and vegetable oil trade, counter to the last marketing year when lower Argentine supplies depressed soybean product exports and were replaced by palm oil and sunflower seed and rapeseed products.
- + Despite the pullback in silver and platinum prices, both metals are trading above their 200-dma.
- + Despite a 7.5% rally in US natural gas prices in the past month, prices still remain 50% below 200 day-moving-average.
- + With a 10.5% price decline last month, zinc is now trading at 19.9% below its 200-dma.

Top 5/Bottom 5 Price Diff to 200 day moving av. (dma)*



Source: Bloomberg

*Percent difference between the front month futures price and its 200-day moving average on 22 May 2023. **Historical performance is not an indication of future performance and any investments may go down in value.**

Summary Tables

Prices

	Current	Unit	1 Month	3 Month	6 Month	1 Year
Energy						
WTI Oil	72.0	USD/bbl.	-7.6%	-2.7%	-11.1%	-36.4%
Brent Oil	76.0	USD/bbl.	-6.9%	-5.7%	-14.0%	-32.5%
Natural Gas	2.40	USD/MMBtu	7.5%	10.4%	-64.6%	-70.3%
Gasoline	2.65	USd/gal.	1.8%	13.3%	4.3%	-31.0%
Heating Oil	2.37	USd/gal.	-4.9%	-12.8%	-31.8%	-36.7%
Carbon	85.7	EUR/MT	-1.9%	-8.5%	16.1%	7.0%
Agriculture						
Wheat	6.1	USd/bu.	-8.4%	-17.7%	-23.4%	-48.1%
Corn	5.7	USd/bu.	-13.9%	-15.3%	-13.1%	-26.7%
Soybeans	13.4	USd/bu.	-9.6%	-12.9%	-6.2%	-21.3%
Sugar	0.26	USd/lb.	4.7%	22.1%	31.7%	30.3%
Cotton	0.85	USd/lb.	8.8%	3.7%	2.5%	-40.0%
Coffee	1.89	USd/lb.	-2.6%	-5.2%	16.9%	-12.3%
Soybean Oil	0.49	USd/lb.	-8.7%	-22.4%	-34.0%	-39.7%
Cocoa	3,023	USD/MT	-4.7%	10.4%	27.0%	24.5%
Industrial Metals						
Aluminum	2,246	USD/MT	-6.0%	-5.9%	-6.9%	-23.6%
Copper	3.67	USd/lb.	-7.7%	-12.6%	1.6%	-14.2%
Copper (LME)	8,096	USD/MT	-7.9%	-11.2%	1.2%	-14.3%
Zinc	2,428	USD/MT	-10.5%	-20.9%	-16.6%	-34.8%
Nickel	21,338	USD/MT	-12.6%	-18.8%	-17.6%	-23.7%
Lead	2,097	USD/MT	-3.2%	0.2%	0.6%	-4.0%
Tin	25,145	USD/MT	-6.0%	-6.0%	12.9%	-28.0%
Precious Metals						
Gold	1,975	USD/t oz.	-0.2%	7.8%	13.6%	7.2%
Silver	23.7	USD/t oz.	-5.3%	9.5%	12.7%	9.4%
Platinum	1,080	USD/t oz.	-4.4%	14.0%	6.6%	14.2%
Palladium	1,500	USD/t oz.	-6.5%	1.4%	-19.1%	-22.6%
Livestock						
Live Cattle	1.65	USd/lb.	-5.1%	0.1%	7.3%	25.4%
Lean Hogs	0.82	USd/lb.	6.2%	-5.5%	-2.9%	-24.8%
Feeder Cattle	2.07	USd/lb.	1.4%	9.9%	13.7%	34.7%

Performance of front month futures from 22 May 22 (1 Year), 22 Nov 22 (6 Month), 22 Feb 23 (3 Month) and 21 Apr 23 (1 Month) to 22 May 23. **Historical performance is not an indication of future performance and any investments may go down in value.**

Roll Yields*

	Unit	Exchange	22-May	1 Week	1 Month	3 Month
Energy			•			
WTI Oil	USD/bbl.	NYMEX	-0.1%	0.0%	0.2%	-0.3%
Brent Oil	USD/bbl.	ICE	0.2%	0.3%	0.2%	0.2%
Natural Gas	USD/MMBtu	NYMEX	-5.9%	-6.6%	-7.3%	-5.4%
Gasoline	USd/gal.	NYMEX	4.3%	2.0%	1.0%	-8.3%
Heating Oil	USd/gal.	NYMEX	0.4%	0.8%	0.4%	0.5%
Carbon	EUR/MT	ICE	-0.3%	-0.3%	-0.3%	-0.2%
Agriculture						
Wheat	USd/bu.	СВОТ	-2.0%	-1.7%	-1.7%	-1.8%
Corn	USd/bu.	CBOT	13.1%	14.4%	7.8%	0.0%
Soybeans	USd/bu.	СВОТ	5.2%	5.5%	2.4%	0.3%
Sugar	USd/lb.	NYBOT	1.3%	1.3%	2.0%	7.0%
Cotton	USd/lb.	NYBOT	1.2%	-0.2%	-2.2%	0.5%
Coffee	USd/lb.	NYBOT	1.2%	1.9%	1.4%	3.2%
Soybean Oil	USd/lb.	СВОТ	0.0%	0.2%	-0.3%	-0.3%
Cocoa	USD/MT	NYBOT	-0.4%	6.0%	6.3%	-1.5%
Industrial Metals						
Aluminum	USD/MT	LME	-0.4%	0.8%	0.0%	-0.7%
Copper	USd/lb.	COMEX	-0.1%	-0.2%	0.0%	0.3%
Copper (LME)	USD/MT	LME	-0.2%	-0.5%	0.0%	0.0%
Zinc	USD/MT	LME	-0.1%	-0.4%	-0.1%	0.1%
Nickel	USD/MT	LME	-0.2%	-0.3%	-0.1%	-0.3%
Lead	USD/MT	LME	0.2%	-0.6%	0.2%	-0.2%
Tin	USD/MT	LME	0.3%	0.2%	0.2%	-0.2%
Precious Metals						
Gold	USD/t oz.	COMEX	-0.1%	-0.2%	-0.1%	-0.1%
Silver	USD/t oz.	COMEX	-0.1%	-0.2%	0.0%	-0.1%
Platinum	USD/t oz.	NYMEX	-0.5%	-0.5%	-0.6%	-0.6%
Palladium	USD/t oz.	NYMEX	0.5%	0.5%	-0.7%	-0.2%
Livestock						
Live Cattle	USd/lb.	CME	0.9%	1.0%	5.7%	-0.1%
Lean Hogs	USd/lb.	CME	-0.4%	-1.5%	-10.5%	-9.6%
Feeder Cattle	USd/lb.	CME	-12.1%	-10.6%	-4.1%	-2.0%

^{*}Roll return non-annualised from front month futures into second month on the date shown. 22 Feb 23 (3 Month), 21 Apr 23 (1 Month), 15 May 23 (1 Week). **Historical performance is not an indication of future performance and any investments may go down in value.**

CFTC Net Positioning¹

	Current	5 Yr Average	1 Month	6 Month	1 Year
Energy					
WTI Oil	234,272	450,007	289,431	282,970	379,194
Brent Oil ²	-137,537	82,758	5,783	-11,351	114,806
Natural Gas	-125,187	-95,923	-141,720	-171,069	-114,356
Gasoline	40,484	66,704	51,170	53,167	33,730
Heating Oil	9,416	9,826	8,560	26,566	-3,213
Agriculture					
Wheat	-92,947	2,801	-78,245	-33,138	31,425
Corn	-74,424	173,272	78,688	213,200	439,416
Soybeans	32,460	76,030	158,487	71,785	158,856
Sugar	234,716	104,052	241,764	203,208	205,354
Cotton	1,983	46,182	4,508	16,332	78,431
Coffee	29,377	7,006	35,220	-17,767	35,653
Soybean Oil	-41,258	44,295	-14,359	101,290	95,679
Cocoa	58,267	18,277	57,119	1,699	9,324
Industrial Metals ³					
Copper (COMEX)	-32,577	7,468	7,152	2,454	-23,408
Copper (LME)	36,269	43,790	62,530	30,964	47,753
Aluminum	137,017	165,717	146,829	166,687	140,739
Nickel	24,993	27,087	21,681	35,104	33,224
Zinc	23,432	49,829	31,001	29,308	29,270
Lead	53,344	52,196	54,421	48,583	43,461
Tin	8,516	7,939	8,262	7,787	6,613
Precious Metals					
Gold	205,266	192,460	215,152	124,478	178,365
Silver	22,590	29,020	28,997	16,848	13,485
Platinum	26,550	17,297	25,306	22,127	2,421
Palladium	-4,843	3,421	-5,531	-1,108	-3,215
Livestock					
Live Cattle	129,392	79,311	132,051	77,274	50,356
Lean Hogs	-20,012	44,311	-28,885	47,995	15,120
Feeder Cattle	13,739	1,964	13,547	-4,891	-7,580

¹ Net positions in number contracts.

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

² Brent 5-Yr average of net positions from January 2011 as positions were not reported by CFTC before then.

³ All Industrial metals positioning data (excluding copper) is sourced from LME COTR data in Bloomberg from 30 January 2018 (first available date) under post-MIFID rules.

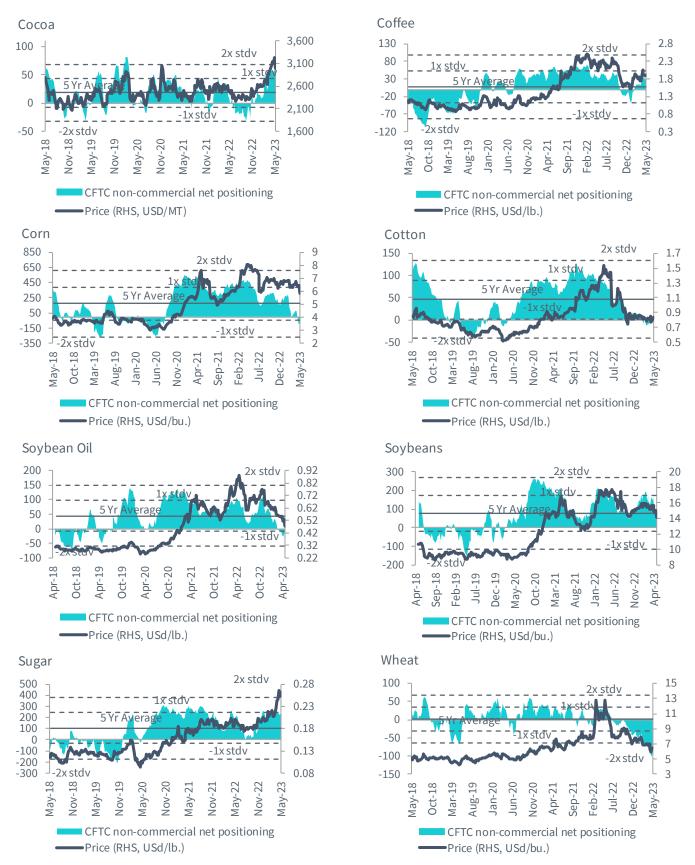
Inventory Levels*

	Current	5 Yr Average	1 Month	3 Month	6 Month
Energy	·			•	!
Oil - US	467,624	-1.9%	1%	-2%	8%
Oil - OECD Europe**	337	1%	-1.3%	-1.1%	3%
Natural Gas - DOE	2,240	4.2%	11%	2%	-37%
Gasoline - DOE	218,330	-6%	-1%	-9%	3%
Heating Oil - DOE	7,907	-11%	10%	6%	-16%
Industrial Metals					
Aluminium	741,158	-49%	-11%	-14%	15%
Aluminium - LME	555,000	-48%	-3%	-3%	7%
Aluminium - SHFE	186,158	-52%	-29%	-36%	49%
Copper	222,408	-40%	0%	-34%	3%
Copper - LME	92,250	-44%	78%	41%	0%
Copper - SHFE	102,511	-26%	-30%	-59%	19%
Copper - COMEX	27,647	-61%	9%	39%	-27%
Nickel - LME	39,078	-76%	-5%	-12%	-22%
Zinc	100,973	-53%	-24%	-34%	54%
Zinc-LME	46,275	-66%	-14%	49%	10%
Zinc - SHFE	54,698	-30%	-32%	-55%	131%
Lead	59,792	-53%	3%	-41%	-19%
Lead - LME	34,175	-54%	6%	37%	20%
Lead - SHFE	25,617	-52%	-1%	-67%	-43%
Tin	11,253	31%	6%	-5%	57%
Tin - LME	1,830	-46%	19%	-41%	-45%
Tin - SHFE	9,423	80%	4%	8%	146%
Agriculture					
Wheat - USDA	264,340	-7.8%	-0.3%	-1.1%	-1.9%
Corn - USDA	297,410	-5%	-3.1%	-2.7%	-2.9%
Soybeans - USDA	122,500	21%	22.1%	22.5%	20.1%
Sugar - USDA	44,488	-10%	-	-	-
Cotton - USDA	92,280	7%	0.3%	1.2%	3.6%
Coffee - USDA	32,565	-5%	-	-	-
Soybean Oil - USDA	4,558	-3%	8%	4%	-2%

^{*}Current inventories relative 1, 3, 6 months ago. The column "5-yr average" is the current inventory level relative to 5 years average inventory. For energy, 5-yr average is the average of the same month as report month over the past 5 years. SHFE started reporting inventory data from April 2015. ** (OECD) inventory data reported with 3-month lag with current = Feb 2023. **Historical performance is not an indication of future performance and any investments may go down in value.**

CFTC Net Positioning

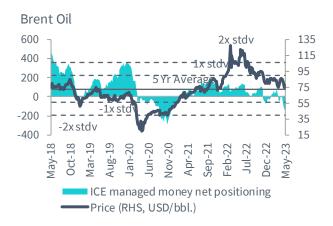
Agriculture

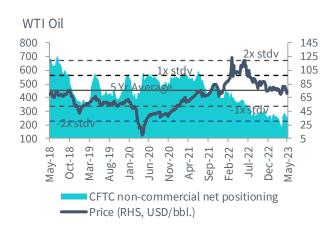


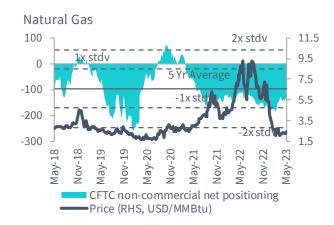
Source: Bloomberg, WisdomTree.

Note: positioning in '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. CFTC futures and LME COTR net positioning as at May 16 2023. Historical performance is not an indication of future performance and any investments may go down in value.

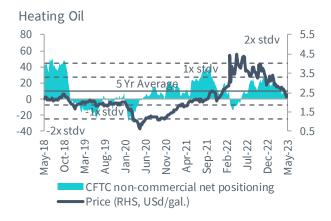
Energy







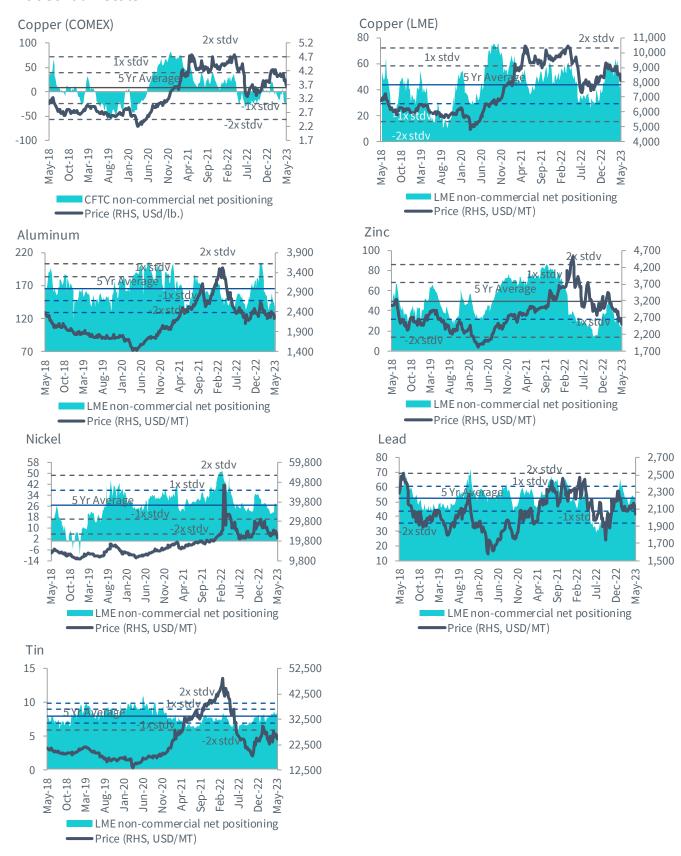




Source: Bloomberg, WisdomTree.

Note: positioning in '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.**

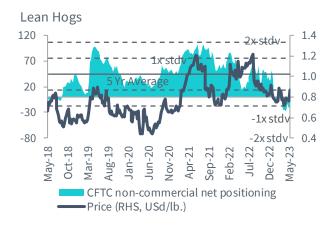
Industrial Metals

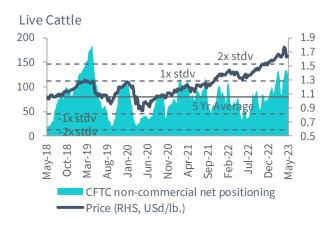


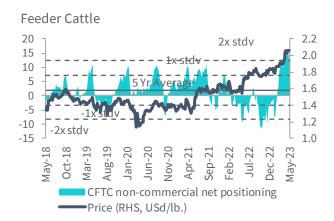
Source: Bloomberg, WisdomTree.

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.**

Livestock



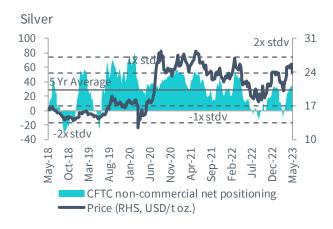


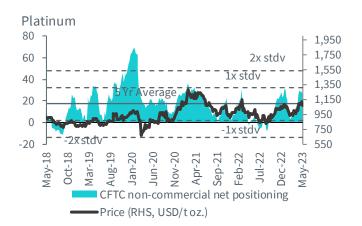


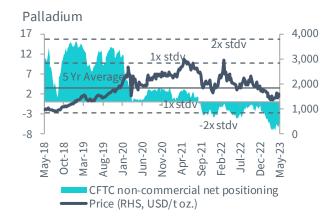
Source: Bloomberg, WisdomTree. Note: positioning in '000 contracts. Standard deviation based on 5-year average CFTC non-commercial net positioning. respective graphs represent daily data. All commodity futures price data is denominated in USD unless otherwise indicated. **Historical performance is not an indication of future performance and any investments may go down in value.**

Precious Metals







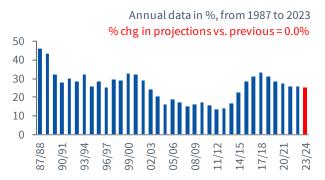


Source: Bloomberg, WisdomTree. Note: positioning in '000 contracts. Standard deviation based on 5-year average CFTC non-commercial net positioning. respective graphs represent daily data. All commodity futures price data is denominated in USD unless otherwise indicated. **Historical performance is not an indication of future performance and any investments may go down in value.**

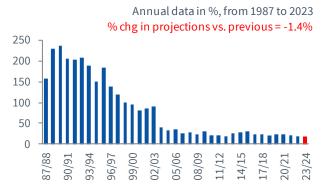
Inventories

Agriculture

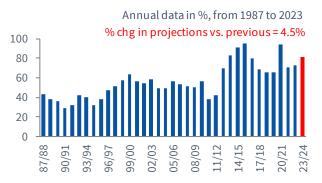




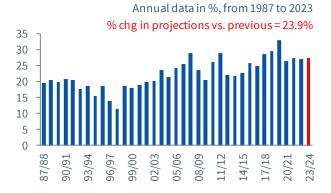
Coffee - Stock to Use



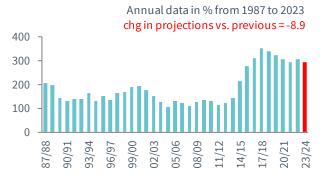
Cotton - Stock to Use



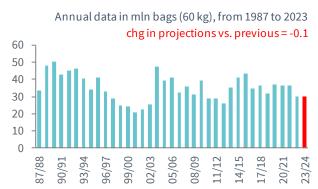
Soybeans - Stock to Use



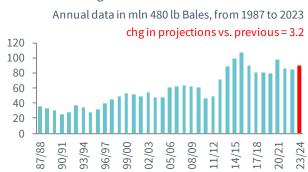
Corn - Ending Stocks



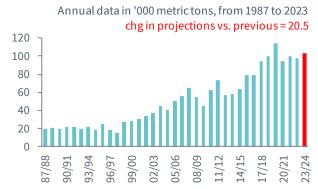
Coffee - Ending Stocks



Cotton - Ending Stocks



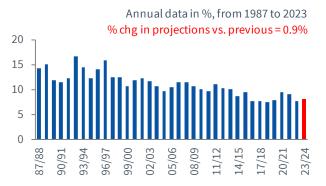
Soybeans - Ending Stocks



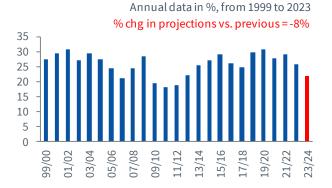
Source: USDA, Bloomberg, WisdomTree. Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2023/2024 estimates. Historical performance is not an indication of future performance and any investments may go down in value.

Agriculture

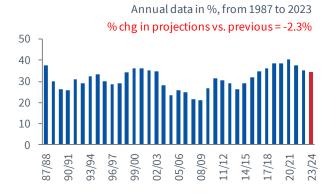
Soybean Oil - Stock to Use



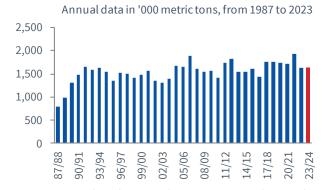
Sugar - Stock to Use



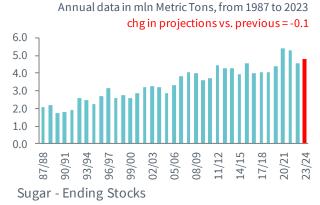
Wheat - Stock to Use



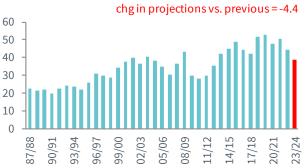
Cocoa - Inventory



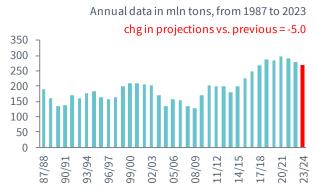
Soybean Oil - Ending Stocks



Annual data in mln Metric Tons, from 1987 to 2023



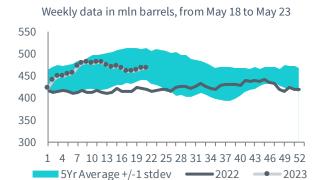
Wheat - Ending Stocks



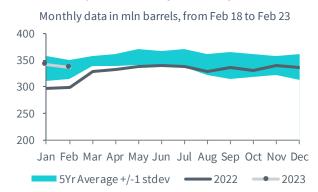
Source: USDA, Bloomberg, WisdomTree. Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2023/2024 estimates. Historical performance is not an indication of future performance and any investments may go down in value.

Energy

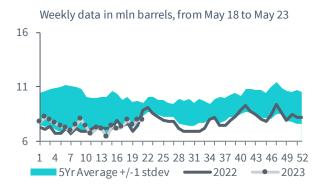
US Oil Inventory



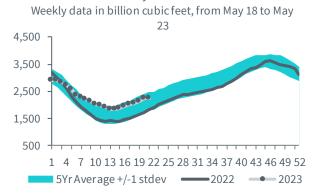
OECD Europe Oil Industry Inventory



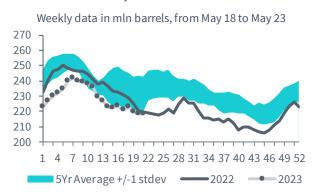
Heating Oil Inventory



Natural Gas Inventory

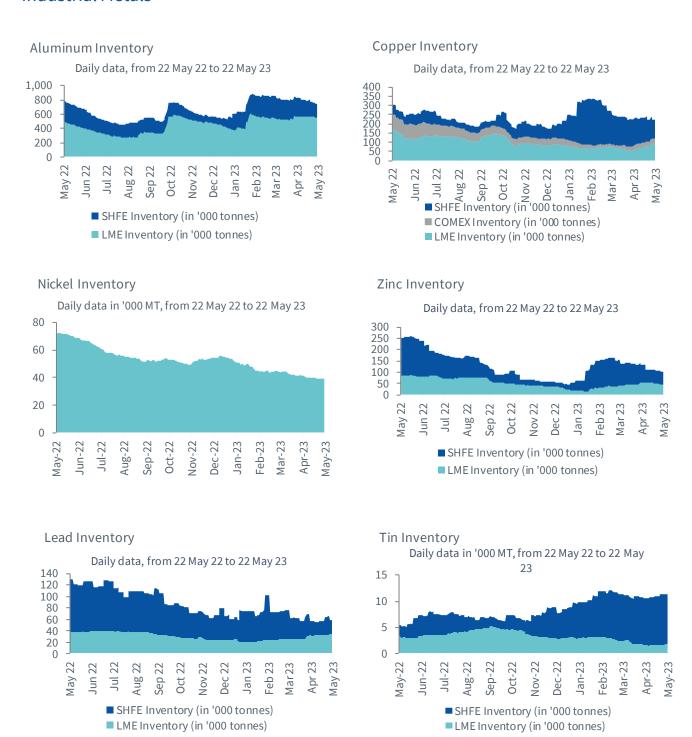


Gasoline Inventory



Source: Source: IEA / DOE, Bloomberg, WisdomTree. Note: "Oil - OECD Inventory" represents OECD industry stocks and is reported with a 3-month lag. Historical performance is not an indication of future performance and any investments may go down in value.

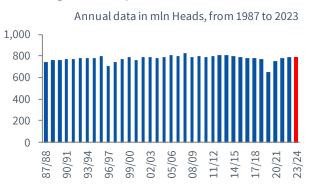
Industrial Metals



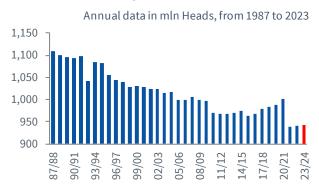
Source: Bloomberg, WisdomTree. Historical performance is not an indication of future performance and any investments may go down in value.

Livestock

Lean Hogs Inventory



Live Cattle Inventory



Source: USDA, Bloomberg, WisdomTree. Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2023/2024 estimates. Historical performance is not an indication of future performance and any investments may go down in value.

Moving Average and Volumes

Agriculture

Cocoa Front Month Futures Price Coffee Front Month Futures Price Daily data in USd/lb., from 22 May 22 to 22 May 23 Daily data in USD/MT, from 22 May 22 to 22 May 23 10,000 5,000 \$3.0 4,000 8,000 \$2.5 \$2,800 6,000 3,000 \$2,600 \$2.0 2,000 4,000 \$2,400 \$1.5 2,000 1,000 \$2,200 \$1.0 \$2,000 0 Mar 20 an I Jan May ۷ar Мау Volume (\$mn) Prices (RHS) Volume (\$mn) Prices (RHS) -50 dma (RHS) 200 dma (RHS) 50 dma (RHS) 200 dma (RHS) Corn Front Month Futures Price Cotton Front Month Futures Price Daily data in USd/bu., from 22 May 22 to 22 May 23 Daily data in USd/lb., from 22 May 22 to 22 May 23 30,000 \$10.0 5,850 \$1.50 20,000 \$8.0 \$1.30 3,850 \$1.10 10,000 \$6.0 1,850 \$0.90 \$0.70 0 \$4.0 -150 \$0.50 Jan 23 Sep 22 Jul 22 Nov 22 Mar 23 Sep 22 **Nov 22** Mar 23 May May JII Jan Mav Prices (RHS) Volume (\$mn) Volume (\$mn) Prices (RHS) -50 dma (RHS) = 200 dma (RHS) = 200 dma (RHS) 50 dma (RHS) Soybeans Front Month Futures Price Soybean Oil Front Month Futures Price Daily data in USd/bu., from 22 May 22 to 22 May 23 Daily data in USd/lb., from 22 May 22 to 22 May 23 14,000 12,000 10,000 40,000 \$19.0 \$17.0 30,000 8,000 6,000 4,000 \$15.0 20,000 \$13.0 10,000 2,000 \$11.0 0 \$9.0 May 23 22 **Nov 22** 23 ⊒ lan Mar Sep \equiv 20 Jan lay ■Volume (\$mn) Volume (\$mn) Prices (RHS) Prices (RHS) -50 dma (RHS) 200 dma (RHS) **-**50 dma (RHS) 200 dma (RHS) Wheat Front Month Futures Price Sugar Front Month Futures Price Daily data in USd/bu., from 22 May 22 to 22 May 23 Daily data in USd/lb., from 22 May 22 to 22 May 23 20,000 \$13.5 12,000 \$0.28 \$11.5 10,000 \$0.26 15,000 8,000 \$0.24 \$9.5 10,000 6,000 \$0.22 \$7.5 \$0.20 4,000 5,000 \$5.5 2,000 \$0.18 \$3.5 \$0.16 Mar 23 23

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.

Nov 22

Jan

Mar

Prices (RHS)

= 200 dma (RHS)

May

Jn

Volume (\$mn)

■50 dma (RHS)

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■Volume (\$mn)

-50 dma (RHS)

Nov 22

Jan

May

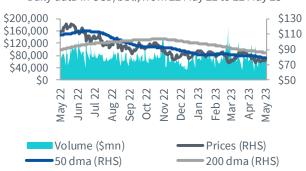
Prices (RHS)

200 dma (RHS)

Energy

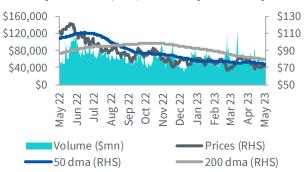
Brent Oil Front Month Futures Price

Daily data in USD/bbl., from 22 May 22 to 22 May 23



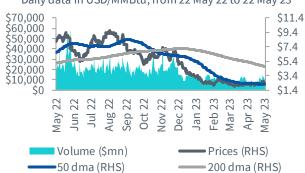
WTI Oil Front Month Futures Price

Daily data in USD/bbl., from 22 May 22 to 22 May 23



Natural Gas Front Month Futures Price

Daily data in USD/MMBtu, from 22 May 22 to 22 May 23



Gasoline Front Month Futures Price





Heating Oil Front Month Futures Price

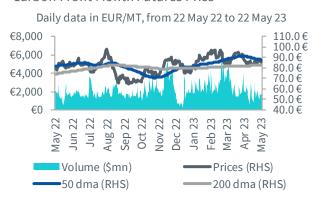
Daily data in USd/gal., from 22 May 22 to 22 May 23



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.

Carbon

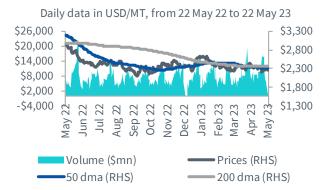
Carbon Front Month Futures Price



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.

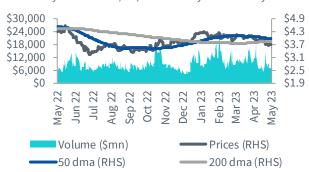
Industrial Metals

Aluminum Front Month Futures Price



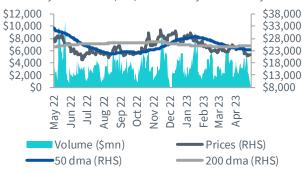
Copper (COMEX) Front Month Futures Price





Nickel Front Month Futures Price

Daily data in USD/MT, from 22 May 22 to 22 May 23



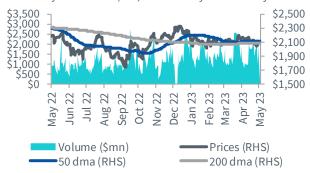
Zinc Front Month Futures Price

Daily data in USD/MT, from 22 May 22 to 22 May 23



Lead Front Month Futures Price

Daily data in USD/MT, from 22 May 22 to 22 May 23



Copper (LME) Front Month Futures Price

Daily data in USD/MT, from 22 May 22 to 22 May 23



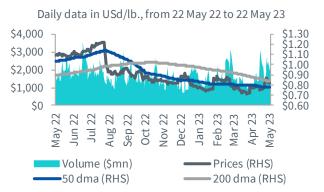
Tin Front Month Futures Price

Daily data in USD/MT, from 22 May 22 to 22 May 23

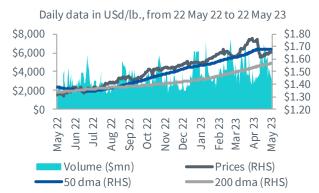


Livestock

Lean Hogs Front Month Futures Price

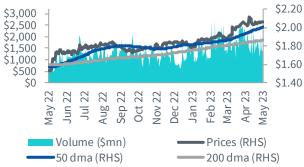


Live Cattle Front Month Futures Price



Feeder Cattle Front Month Futures Price





Precious Metal

Gold Front Month Futures Price



Silver Front Month Futures Price



Platinum Front Month Futures Price

■50 dma (RHS)



200 dma (RHS)

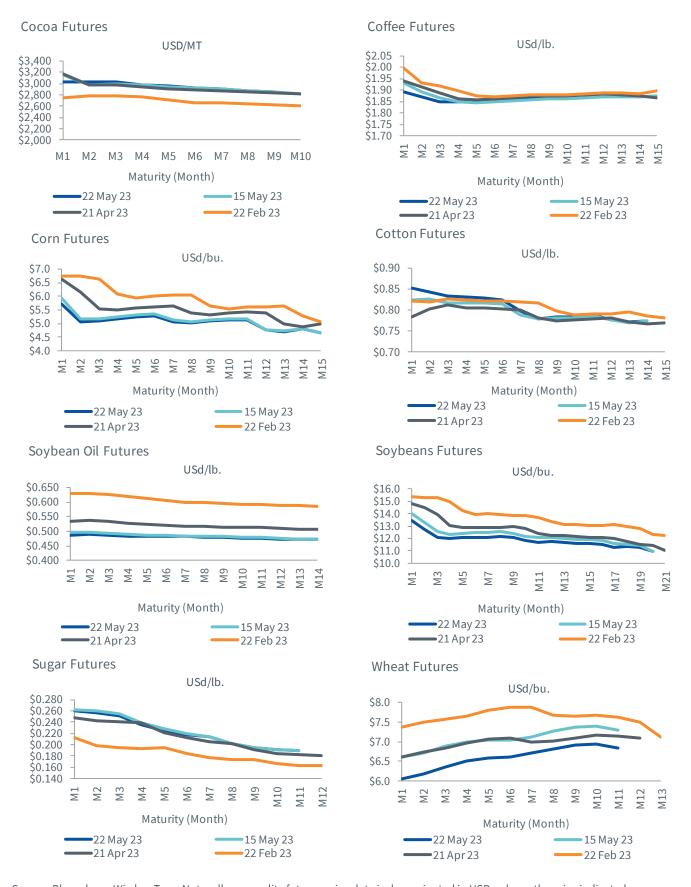
Palladium Front Month Futures Price



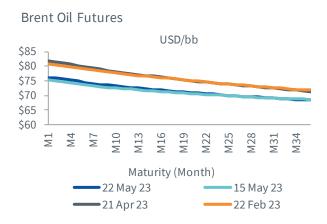
May 23 Feb 23 Mar 23 Apr 23 Jul 22 Nov 22 Jun 22 Oct 22 Jan 23 Aug 2 Volume (\$mn) Prices (RHS) ■50 dma (RHS) =200 dma (RHS)

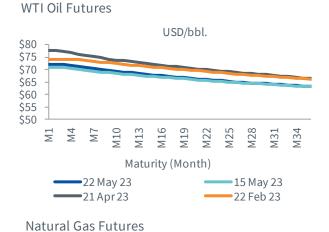
Future Curves

Agriculture

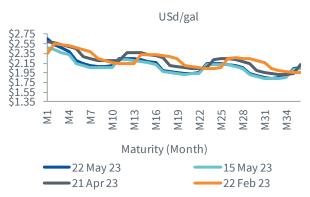


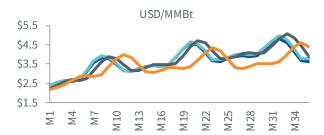
Energy











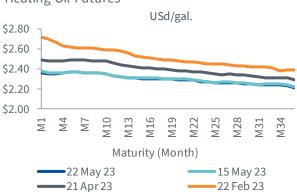
Maturity (Month)

15 May 23

22 Feb 23

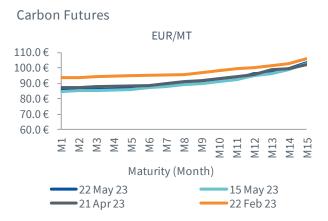
-22 May 23

21 Apr 23

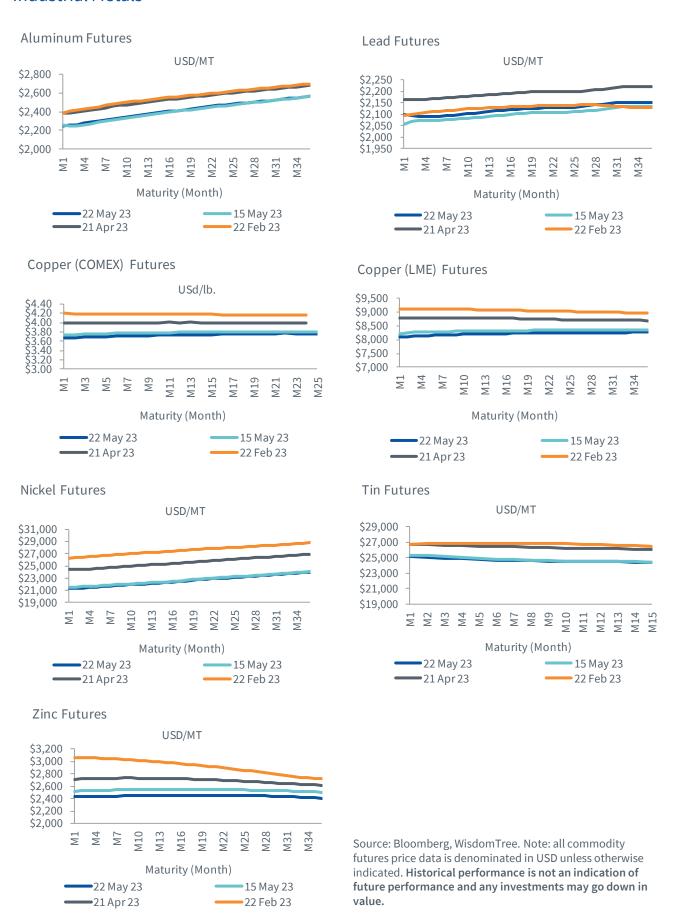


Heating Oil Futures

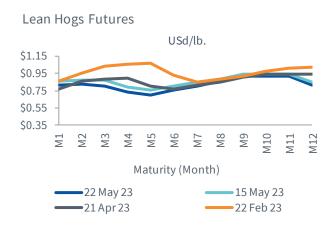
Carbon

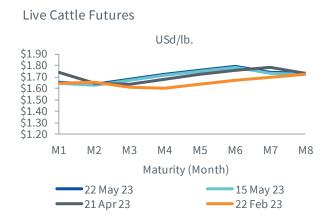


Industrial Metals

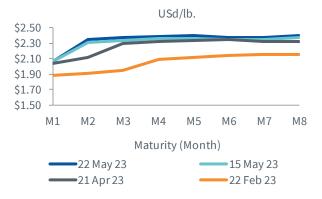


Livestock

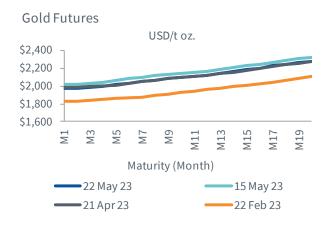


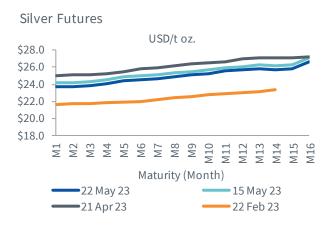


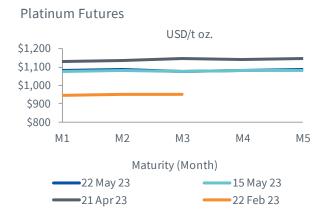
Feeder Cattle Futures

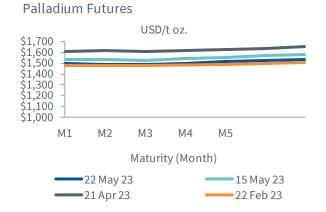


Precious Metals









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				
25-May-23	Chris Gannatti	Behind the Markets Podcast: a conversation about deep decarbonisation		
24-May-23	Chris Gannatti	The end of the SaaSacre and the rise of generative AI		
22-May-23	Chris Gannatti	What we learned from the 2023 State of the Cloud Report from Bessemer Venture Partners		
19-May-23	Nitesh Shah	What's Hot: Strategic Petroleum Reserve refill and Canadian wildfires fail to lift oil prices, but contrarian ETP investors maintain their resolve		
18-May-23	Chris Gannatti, Team8	A military perspective on cybersecurity (Part 2)		
17-May-23	Chris Gannatti	Tap into the Al revolution with WisdomTree		
15-May-23	Wood Mackenzie	Can we really 'westernise' the battery supply chain?		
15-May-23	Aneeka Gupta	A stock exchange policy update opens a compelling case for Japan		
12-May-23	Mobeen Tahir	What's Hot: Gold is flirting with record highs again		
11-May-23	Jeremy Schwartz	Behind the Markets: around the world with GMO's asset allocation team		
10-May-23	Chris Gannatti, Team8	A military perspective on cybersecurity (Part 1)		
09-May-23	CenterSquare	What is new economy real estate and why is it important?		
05-May-23	Nitesh Shah	What's Hot: Oil too low for OPEC+'s comfort		

WisdomTree - Past Issues of Commodity Monthly Monitor					
Mar-Apr 2023	Research Team	Firing on multiple cylinders			
Feb-Mar 2023	Research Team	Risk-off in commodities as the impact of long and variable policy lags arrives			
Jan-Feb 2023	Research Team	Supply tightness vs macro headwinds			
Dec-Jan 2023	Research Team	Commodities rally on China's accelerated reopening and hopes of monetary policy pivoting			
Nov-Dec 2022	Research Team	The Eye of the Tiger			

The research notes are for qualified investors only.

Key Reports					
Current	Next release				
12-May-23	09-Jun-23	USDA	World Agricultural Supply and Demand Estimates		
09-May-23	06-Jun-23	EIA	Short-Term Energy Outlook		
11-May-23	13-Jun-23	OPEC	OPEC Oil Market Report		
16-May-22	14-Jun-22	IEA	IEA Oil Market Report		

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