Commodity Monthly Monitor

Has the Black Swan landed ?

17 Jan 2020 - 21 February 2020

Summary

Nassim Taleb in his book on uncertainty defined "Black Swans"—extremely unpredictable events that have massive impacts on human society. One of the defining elements of Black Swans is that models can explain their existence after the fact. In September 2019 a report compiled at the request of the United Nations secretary-general said "If it is true to say 'what's past is prologue', then there is a very real threat of a rapidly moving, highly lethal pandemic of a respiratory pathogen killing 50 to 80 million people and wiping out nearly 5% of the world's economy." The report went largely unnoticed at the time of publication. It reads eerily like some of the central bank stability reports written in 2007: many risks were correctly identified, but urgency of remedial action wasn't there. That is the nature of risks in the tail. Come February 2020, the report to some is starting to read like a prophesy. Thankfully things aren't that bad yet. But with close to half the population of China facing various forms of lock-down due to the coronavirus and many other parts of the world becoming affected (notably, Korea and Italy, where cases are growing at a rate that has taken many by surprise), the market is understandably experiencing extreme jitters. As of 27 February 2020, haven assets are up: gold (+8.3% YTD), US 10-Year Treasuries (yield down from 1.91% to 1.29% YTD), US Dollar Basket (+2.5% YTD). While cyclical assets are down: oil (-20.1% YTD), BCOM Industrial metals (-9.2% YTD). Equity markets, which had largely ignored the threat (S&P 500, +5.4% in year to 19th February 2020), is now -3.5% yea to date. The Chicago Board Options Exchange Volatility Index (VIX) has jumped to 29 (27 February 2020) from 16 a week ago (20 February 2020).

Getting clear data on how much demand has already declined at the epicentre (China) is difficult as data is already clouded by the lunar New Year (seasonally adjusting this data is fraught with difficulty). But we know that a sharp decline in flights, road journeys, factory activity (which can all be anecdotally monitored with satellites and thermal imagery) are likely to dent the demand for productive goods. In the 3rd February release of the Caixin China Manufacturing Purchasing Mangers' Index (PMI) press release, there wasn't even a mention of the word 'virus'. The PMI level was above the 50 demarcation between expansion and contraction. We expect the March 3rd release for February to be very different. We would be surprised if manufacturing is able to expand under current circumstances.

For now, we expect defensive assets to continue to perform well. A tail-wind of momentum, is likely to introduce gold into portfolios that have largely ignored the asset class in the past. Meanwhile cyclical assets will struggle to perform under the cloud of doubt placed on demand. However, should this just be another false dawn, for example if the contagion is contained and vaccines are developed quickly, we could see fantastic bargain hunting opportunities open up. There are some commodities like, oil which under the asspiciousness of a cartel that controls 60% of global production, that could get a boost in the near term from a production cut.

- Energy prices have come under pressure from coronavirus-related fears. However, with the Organization of Petroleum Exporting Countries and its allies (OPEC+) ready to act, we could get a bounce in oil prices if the cartel delivers more than the market expects. A decline in roll yields in the days leading up the publication of this report, could be reversed if OPEC acts with conviction.
- Precious metals posted another strong month boosted by safe-haven demand. Both gold and silver had a strong month as the spread of coronavirus globally ignited risk aversion among investors prompting them to seek haven investments. Palladium however lead the way yet again continuing its strong momentum from the previous month as strong fundamentals continue to support the metal.
- Agricultural commodity prices slumped over the period, apart from of sugar and cocoa. Higher supply
 deficits in the current crop year supported sugar and cocoa prices. While a significant expansion of US
 corn and soybean acreage by the US Department of Agriculture (USDA) dampened the outlook for
 corn and soybean prices.
- Industrial metals were down last month on diminished Chinese demand. With coronavirus disrupting supply chains and causing manufacturing activity to pull back in China, industrial metals had a difficult month.

Commodity Monthly Matrix'								
	Current Price ²	Returns (-1 Mth)	Price vs 200 days MA	Inventories ³ (- 3 Mths)	Positioning ⁴ (- 1 Mth)	Roll Yield ⁵	21 Feb Score	17 Se
WTI Oil	53	-8.5%	-5.2%	-1.7%	-22%	-0.2%	(2)	
Brent Oil	59	-9.4%	-6.3%	0.5%	-49%	1.0%	(2)	
Natural Gas	1.9	0.5%	-17.1%	-35.6%	10%	-0.6%	1	
Gasoline	1.7	0.9%	-2.5%	17.3%	-8%	-6.3%	(3)	
Heating Oil	1.7	-7.8%	-10.8%	-14.8%	-205%	0.3%	0	
Carbon	25.6	2.9%	0.2%	-	-	-0.1%	0	
Wheat	5.5	-5.2%	6.7%	-0.1%	31%	-0.2%	1	
Corn	3.8	-2.7%	-3.6%	0.3%	4%	-1.0%	(2)	
Soybeans	9	-2.8%	-0.3%	3.6%	-941%	-0.9%	(4)	
Sugar	0.2	7.1%	23.1%	-	28%	3.1%	2	
Cotton	0.7	-0.4%	7.0%	1.6%	-2%	-0.1%	(3)	
Coffee	1.1	-2.0%	3.3%	4.3%	-114%	-1.3%	(3)	
Soybean Oil	0.3	-6.4%	2.2%	-	-55%	-1.2%	(3)	
Сосоа	2,922	3.7%	16.8%	-	29%	2.8%	4	
Aluminium	1,701	-6.1%	-3.4%	6.6%	-12%	-0.5%	(4)	
Copper (COMEX)	2.6	-6.6%	-2.1%	-27.8%	-785%	-0.3%	(2)	
Copper (LME)	5,758	-6.3%	-2.0%	-26.4%	-31%	0.0%	(2)	
Zinc	2,102	-14.9%	-11.8%	87.7%	-31%	-0.3%	(4)	
Nickel	12,470	-8.4%	-14.3%	236.3%	-2%	-0.2%	(4)	
Lead	1,826	-7.0%	-8.0%	-0.6%	1%	-0.2%	0	
Tin	16,627	-5.3%	-3.7%	37.2%	12%	0.0%	(2)	
Gold	1,645	5.6%	11.6%	-	13%	-	4	
Silver	19	4.1%	9.4%	-	15%	-	4	
Platinum	976	-2.6%	8.5%	-	-9%	-	(2)	
Palladium	2,605	16.7%	51.3%	-	-47%	-	0	
Live Cattle	1.2	-5.3%	6.2%	-	-46%	1.2%	0	
Lean Hogs	0.7	-0.5%	-2.9%	-	-4%	-9.5%	(4)	
Feeder Cattle	1.4	-3.4%	-0.5%	-	-92%	-1.3%	(4)	

WisdomTree

Nitesh Shah Director

Mobeen Tahir Associate Director

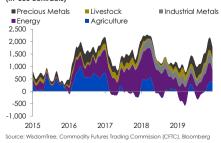
Aneeka Gupta Director

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Performance ²	- 1 Mth	- 6 Mth	- 12 Mth		
All Commodities	-3.6%	0.1%	-4.9%		
Energy	-6.5%	-6.6%	-14.9%		
Industrial Metals	-8.4%	-5.8%	-9.7%		
Precious Metals	5.3%	8.4%	21.5%		
Agriculture	-2.5%	6.3%	-3.9%		
MSCI World	-0.6%	13.1%	16.4%		
US Aggregate Bond	1.6%	2.6%	10.3%		
Bloomberg TR Indexes for basket returns, data to Friday 21 February 2020. Source:					

CFTC Net Speculative Positioning (in '000 contracts)



- Information not available. Green = returns positive, inventories falling, positioning rising, roll yield positive. Red = the opposite. Black = neutral. 1 Detailed explanation of the matrix calculations can be found at the end of this report. 2 All prices are futures prices to Friday 21 Feb 20. 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 CFIC futures and LME COTR net positioning as at Feb 18, 2020 and Feb 21, 2020 respectively, % change from previous month. 5 Calculated as % difference between front month and second month futures prices to report date.

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

Sector Overview



Agriculture

- Sugar prices staged the highest performance among the agricultural commodities rising 7.1% owing to expectations of a sizeable supply deficit in the current crop year. Thailand, the world's second largest sugar exporter after Brazil is experiencing its most severe drought in decades. Concerns about production in Thailand is pushing estimates for the sugar deficit even higher. Net speculative positioning on sugar futures has risen considerably and is approaching more than 1 standard deviation above its five-year average lending a tailwind to sugar prices. However higher sugar prices are likely to drive production higher in the next season in 2020/21. In part because a higher proportion of the sugar cane could be applied for ethanol production in Brazil. Petrobras hiked gasoline prices on 19th February at its refineries by 3% making it more attractive to produce ethanol in place of sugar.
- Cocoa prices continued its upward trajectory. While cocoa grinding data in January remained weak across North America, Europe and Brazil, apart from Asia. Cocoa prices are benefiting in part by the expected deficit in the 2019/20 balance and the Living Income Differential (LID) policy put in place by Ivory Coast and Ghana. The LID policy announced in Q3 2019, mandates cocoa crop year sales in 2020/21 from Ivory Coast and Ghana to trade at a minimum US\$400/t (per tonne) above the Intercontinental Exchange (ICE) futures price. Cocoa processors and the chocolate industry have so far complied with LID. However, cocoa prices could come under pressure as demand tends to be sensitive above the US\$3000/t and consumers are likely to source from other regions which could weigh on grinding activity.

Industrial Metals

- Last month, we highlighted how industrial metals had rebounded after a protracted period of trade
 wars related weakness. This uptick was driven by the eagerly awaited 'Phase One' trade deal
 between China and the US and supported by positive economic data from China and risk appetite in
 global markets as evident in equity markets. Industrial metals were not allowed much recovery time
 before coronavirus concerns gripped global markets and flipped the fortunes for the sector yet again.
 This resulted in another difficult month for industrial metals.
- Zinc was the worst performer among the group falling by 14.9% during the month. Inventories rose
 sharply with manufacturing remaining largely suspended in China beyond the extended Chinese New
 Year holiday as coronavirus kept several parts of the country in a lockdown state causing supply chains
 to be disrupted both locally and internationally. According to the International Lead and Zinc Study
 Group (ILZSG), zinc is expected to remain in a supply surplus this year. We however believe that
 resumption in manufacturing activity and further positive trade related developments this year can
 provide relief to zinc from current price levels.
- Nickel too was unable to withstand the headwinds facing industrial metals last month and fell by 8.4%. Nickel inventories have risen sharply in the last two months with supply chains and manufacturing activity curtailed, particularly in China. According to the International Nickel Study Group (INSG), nickel is expected to remain in a supply deficit this year. We believe that recent price weakness creates further opportunities for the metal to rise as its fundamentals remain strong given its increasing demand in batteries and relatively limited sources of supply.

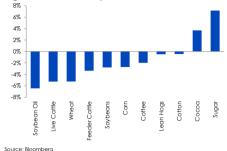
Energy

- Brent oil prices have fallen from a peak of U\$\$68/bbl in the first week of January to U\$\$56/bbl currently
 (24/02/2020). That is all attributable to fears of coronavirus destroying demand for energy. The sharp
 decline in flights, road journeys and factory activity (which can all be anecdotally monitored using
 satellites and thermal imagery) in China lend support to this view despite little hard data currently
 available.
- The Organization of Petroleum Exporting Countries and its allies (OPEC+), which collectively controls around 60% of global oil production recognises the issue. The Joint Technical Committee has already recommended to the group to cut 600k barrels of oil per day. That's on top of the 2.1mn barrel cut (relative to October 2018) that is already in place. OPEC policy ministers are due to meet on 5th March and the larger group on 6th March. We expect them to not only endorse this recommendation but cut deeper. In part, that is because more data on the grim situation now will be available than when the technical committee met a few weeks ago. Saudi Arabia has historically taken on voluntary cuts that goes beyond what they formally sign up to do. In the last policy meeting the first for the new Saudi Energy Minister, Prince Abdulaziz bin Salman Saudi Arabia announced the value of the intended voluntary cuts. As long as other countries sign up to cut a little, Saudi Arabia stands ready to cut enough to balance markets.
- We believe that the current backwardation in the Brent oil futures curve is generated by the fact that OPEC is ready to intervene. However, at the time of writing, that backwardation is close to evaporating. If OPEC cuts deeper than 600k barrels per day, we believe that stronger backwardation can be restored. Rolls yields can be an important component of returns for investors. For example, we estimate that out of the +34% return on the Bloomberg Brent Commodity Subindex (total return series), +8% came from roll yield (WisdomTree calculation from 31/12/2018 to 31/12/2019).

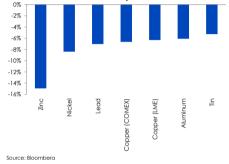
Precious Metals

- Precious metals were clear winners in an otherwise difficult month for commodities. With more cases of coronavirus becoming apparent globally, investors have turned to historically safe-haven assets to protect their portfolios. Gold rallied 5.6% in the month to 21 February and is continuing to surge since then. Speculative positioning on gold futures exchanges now stands at a record 388k net long contracts highlighting this defensive investor sentiment. Silver followed suit, as it typically does when gold rallies, with a price appreciation of 4.1% over the month. While silver's demand as an industrial metal is expected to face headwinds from coronavirus given the potential slowdown in manufacturing, its precious metal properties and correlation to gold is expected to offset these pressures. Silver's rally also typically lags that of gold. Thus, a widening gold to silver ratio is normally a good indicator for bullishness on silver.
- Another measure making a parabolic ascent is the palladium to platinum ratio. Speculative positioning
 in platinum has also been on the rise in recent months as investors perceive the precious metal as
 another safe-haven asset. This investor sentiment however has not resulted in a proportionate increase
 in prices as platinum continues to face industrial headwinds with its demand in diesel auto catalysts on
 the decline. On the other hand, palladium continues to rally owing to a strong supply deficit and
 healthy demand for higher loadings of the metal in gasoline auto catalysts to meet tighter emission
 standards.

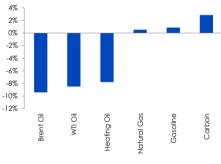
Agriculture - February Returns*



Industrial Metals - February Returns*

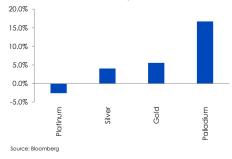


Energy - February Returns*



Source: Bloomberg

Precious Metals - February Returns*



*Note: all returns are based on front month futures prices in the month to Friday 21 February 2020. Historical performance is not an indication of future performance and any investments may go down in value.

Technical Overview (as of Feb 21, 2020)



Positioning

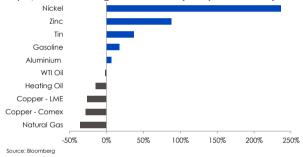
- Net speculative positioning on soybean futures declined 941% owing to a rise in shor positions by 72% underscoring bearish sentiment towards soybeans. USDA raised its estimate for alobal ending sovbeans stocks by 2.2mn tons higher versus the prior month owing to higher stocks for China and Brazil. US soybean acreage is also set to rise by nearly 9 million acres which should increase the soybean crop.
- Net speculative positioning on coffee futures declined 113.9% after a steep rise in short positions by 158% over the period. The upcoming crop in Brazil is from a high vield year in the two-year crop cycle due to which considerably more supply is likely to reach the market from Brazil in the coming months causing further downward pressure on coffee prices
- Net speculative positioning for copper fell during the month, becoming negative on COMEX from being positive briefly the month before as investor sentiment remained generally bearish for industrial metals last month.
- Positioning in heating oil (Ultra-low Sulphur Diesel), is more than 1 standard deviation below the 5-year historic average with net shorts standing at 19,986, a 205% jump from 6.543 last month. Unseasonable warm weather in the US accounts for most of the pessimism. Also, the demand boost expected from the International Marine Organization 2020 regulation that came into play in January 2020 fell short of the mark as coronavirus has choked off some shipping demand.
- Net speculative positioning rose by 14.9% for silver and 13.4% for gold over the month. Risk aversion among investors drove them to seek safe-haven assets bringing the spotlight on both precious metals.

Inventories

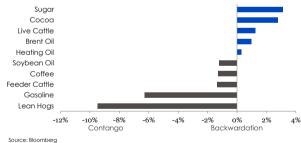
- Nickel inventories have built up considerably with a 236.3% increase in the last 3 months. Indonesia, which produces nearly a quarter of nickel's global supply, announced in September last year its decision to bring forward its ban on nickel ore exports from January 2022 to January 2020. This possibly prompted a large withdrawal of nickel inventory from exchanges at the time. With falling nickel prices and a slowdown in manufacturing, nickel inventories have risen sharply again.
- Zinc inventories have also increased materially, particularly in the last month on weak industrial demand. A similar trend has been seen across most base metals as stockpiles have risen while supply chains remain disrupted in China and beyond.
- Gasoline inventory arew 17% over the past 3 months and now is very close to a standard deviation above the seasonal average for this time of year.

Top 5/Bottom 5 Change in CFTC Net Positions (over past month)¹ Cocoa Suga Silver Gold Feeder Cattle Coffee Heating Oil Copper (COMEX) Soybeans -1000% -800% -600% -400% -200% 0% 200%

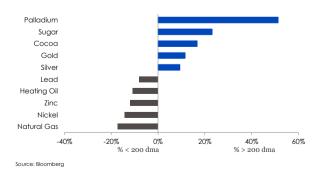
Top 5/Bottom 5 Change in Inventories (over past 3 months)²



Source: Bloomberg



Top 5/Bottom 5 Price Diff to 200 day moving av. (dma)⁴



CFIC futures net positioning as at report date, percent change from previous month, ² Percent change in inventory based on 3 month change (in %). Roll yields colculated as percent change between front month futures price and next month futures price on Feb 21, 2020.

ce between the front month futures price and its 200 day moving average on Feb 21, 2020 ent diffe

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Top 5/Bottom 5 Roll Yields (front to next month)³



As of 21st February 2020, the front end of the Brent futures curve was still providing a positive 1% roll yield. However, at the time of writing (25th February 2020), the front end of the curve has dropped considerably, will little backwardation remaining. However, we believe the OPEC+ meeting on 5th/6th March to be a catalyst to restore stronger backwardation into the curve.

Technicals

Curve Dynamics

current crop year.

effect for new crop sales this October.

- Sugar and cocoa prices have both risen above their 50 and 200-day moving average (dma), generally seen as a bullish technical signal.
- Natural gas is trading 17% below the 200-day moving average as unseasonably warm weather in the US this winter has led to a sharp drop in demand.
- Following a 16.7% price rally last month driven by strong industrial fundamentals, palladium is now trading at 51.3% above its 200-dma
- Gold and silver are trading at 11.6% and 9.4% respectively above their 200-dma after strong demand from investors seeking safe-haven assets amid the coronavirus outbreak

Summary Tables



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PRICES ¹	Current	Unit	1 Month	3 Month	6 Month	1 Year	ROLL YIELDS ²	Unit	Exchange	21-Feb	1 Week	1 Month	3 Mo
Energy							Energy						
WTI Oil	53	USD/bbl.	-8.5%	-8.9%	-4.1%	-6.3%	WTI Oil	USD/bbl.	NYMEX	-0.2%	-0.5%	-0.1%	0.3%
Brent Oil	59	USD/bbl.	-9.4%	-8.6%	-3.0%	-12.8%	Brent Oil	USD/bbl.	ICE	1.0%	0.2%	1.2%	1.69
Natural Gas	1.9	USD/MMBtu	0.5%	-25.8%	-12.2%	-29.4%	Natural Gas	USD/MMBtu	NYMEX	-0.6%	-1.0%	0.3%	-2.19
Gasoline	1.7	USd/gal.	0.9%	-3.2%	-2.6%	2.2%	Gasoline	USd/gal.	NYMEX	-6.3%	-8.3%	-0.9%	0.4
Heating Oil	1.7	USd/gal.	-7.8%	-13.3%	-9.2%	-17.2%	Heating Oil	USd/gal.	NYMEX	0.3%	0.3%	-0.3%	0.15
Carbon	25.6	EUR/MT	2.9%	6.8%	-1.7%	36.6%	Carbon	EUR/MT	ICE	-0.1%	-0.1%	-0.1%	-0.2
Agriculture							Agriculture						
Wheat	5.5	USd/bu.	-5.2%	8.3%	19.1%	13.3%	Wheat	USd/bu.	CBOT	-0.2%	0.2%	0.1%	-0.6
Corn	3.8	USd/bu.	-2.7%	2.3%	4.0%	0.4%	Corn	USd/bu.	CBOT	-1.0%	-1.1%	-1.5%	-2.8
Soybeans	8.9	USd/bu.	-2.8%	-1.2%	3.5%	-2.3%	Soybeans	USd/bu.	CBOT	-0.9%	-1.1%	-1.5%	-1.6
Sugar	0.2	USd/lb.	7.1%	23.6%	36.9%	17.7%	Sugar	USd/lb.	NYBOT	3.1%	3.5%	0.4%	-0.9
Cotton	0.7	USd/lb.	-0.4%	11.5%	15.1%	-4.5%	Cotton	USd/lb.	NYBOT	-0.1%	-1.5%	-1.5%	-3.4
Coffee	1.1	USd/lb.	-2.0%	-5.6%	17.2%	13.3%	Coffee	USd/lb.	NYBOT	-1.3%	-2.0%	-2.0%	-0.9
Soybean Oil	0.3	USd/lb.	-6.4%	-0.2%	6.6%	0.5%	Soybean Oil	USd/lb.	CBOT	-1.2%	-1.2%	-1.0%	-0.6
Сосоа	2,922	USD/MT	3.7%	8.4%	33.4%	29.5%	Сосоа	USD/MT	NYBOT	2.8%	0.6%	-0.6%	2.0
ndustrial Metals							Industrial Meto	als					
Aluminum	1,701	USD/MT	-6.1%	-2.3%	-3.5%	-10.1%	Aluminum	USD/MT	LME	-0.5%	-0.7%	-0.4%	0.9
Copper	2.6	USd/lb.	-6.6%	-2.5%	-3.5%	-10.0%	Copper	USd/lb.	COMEX	-0.3%	-0.3%	-0.4%	-0.5
Copper (LME)	2.0 5,758	USD/MT	-6.3%	-0.8%	0.9%	-10.0%	Copper (LME)		LME	-0.3%	-0.3%	-0.3%	-0.
linc	2,102	USD/MT	-14.9%	-9.2%	-8.5%	-22.3%	Zinc	USD/MT	LME	-0.3%	-0.3%	0.2%	-0. 0.4
Nickel	12,470	USD/MT	-14.7%	-7.2%	-0.5%	-22.3%	Nickel	USD/MT	LME	-0.3%	-0.3%	-0.2%	-0.2
_ead	1,826	USD/MT	-7.0%	-6.6%	-12.6%	-11.4%	Lead	USD/MT	LME	-0.2%	1.3%	0.2%	-0.1
lin	16,627	USD/MT	-5.3%	1.4%	2.3%	-22.6%	Tin	USD/MT	LME	0.0%	-0.1%	-0.1%	-0.
Precious Metals							Precious Meta						
Gold	1,645	USD/t oz.	5.6%	12.4%	9.3%	24.3%	Gold	USD/† oz.	COMEX	-0.3%	-0.2%	-0.4%	-0.
Silver	18.5	USD/t oz.	4.1%	8.6%	8.0%	17.3%	Silver	USD/† oz.	COMEX	-0.4%	-0.5%	-0.5%	-0.8
Platinum	976	USD/t oz.	-2.6%	6.4%	13.8%	18.1%	Platinum	USD/† oz.	NYMEX	-0.6%	-0.5%	-0.5%	-0.6
Palladium	2,605	USD/t oz.	16.7%	50.4%	77.8%	80.3%	Palladium	USD/† oz.	NYMEX	0.1%	0.2%	0.4%	0.0
ivestock							Livestock						
ive Cattle	1.2	USd/lb.	-5.3%	0.3%	16.6%	-6.2%	Live Cattle	USd/lb.	CME	1.2%	0.4%	-0.7%	-4.6
Lean Hogs	0.7	USd/lb.	-0.5%	10.5%	5.9%	19.8%	Lean Hogs	USd/lb.	CME	-9.5%	-13.1%	-8.8%	-10.
Feeder Cattle	1.4	USd/lb.	-3.4%	-3.7%	2.1%	-2.1%	Feeder Cattle	USd/lb.	CME	-1.3%	-2.0%	0.3%	2.1
TC NET POSITIONI	ING ³	Current	5 Yr Average	1 Month	6 Month	1 Year	INVENTOR'	Y LEVELS⁴	Current	5 Yr Average	1 Month	3 Month	6 Mc
ergy							Energy						
WTI Oil		410,285	447,526	528,423	437,063	343,674	Oil - US		442,883	-4.1%	3%	-2%	19
Brent Oil**		166,283	196,999	325,501	160,820	45,960	Oil - OECD Euro	pe**	362	5%	1.1%	0.5%	25
Natural Gas		-226,077	-114,557	-252,118	-198,110	-33,284	Natural Gas - D	OE	2,343	7.8%	-20%	-36%	-16
Gasoline		118,334	73,939	129,000	61,799	92,275	Gasoline - DOE		259,078	1.2%	0%	17%	11
Heating Oil		-19,986	13,448	-6,543	-194	-10,151	Heating Oil - DO	DE	9,746	-22%	-11%	-15%	-7
riculture							Industrial Metal	s					
Wheat		60,302	-39,843	45,919	12,418	-33,417	Aluminum	-	1,548,610	-34%	1%	7%	16
Corn		-16,186	38,815	-16,915	40,972	-31,783	Aluminum - LME		1,138,975	-40%	-13%	-3%	20
		-56,409	33,101	6,707		-22,389			409,635	-9%	86%	45%	69
Soybeans					-41,907		Aluminium - SHF	-					
Sugar		202,197	47,583	157,724	-123,224	-7,489	Copper		491,001	-10%	48%	23%	-8
Cotton		37,489	54,198	38,396	-30,937	-6,299	Copper - LME		163,425	-36%	0%	-26%	-50
Coffee		-5,114	-15,291	36,864	-36,212	-56,943	Copper - SHFE		298,619	61%	122%	120%	83
Soybean Oil		50,404	38,206	111,398	34,327	56,230	Copper - COM	ΕX	28,957	-72%	-16%	-28%	-31
Cocoa		80,931	20,616	62,686	-9,771	10,080	Nickel - LME		224,700	-30%	21%	236%	50
lustrial Metals⁵							Zinc		218,589	-47%	1 39 %	88%	51
Copper (COMEX)		-41,362	1,817	6,035	-50,312	-126	Zinc - LME		75,425	-74%	48%	27%	6
Copper (LME)		37,952	35,018	55,039	17,575	39,657	Zinc - SHFE		143,164	17%	254%	151%	94
Aluminum		161,575	156,756	183,367	152,787	158,227	Lead		105,616	-39%	12%	-1%	-9
Nickel		28,256	20,261	28,786	31,073	8,728	Lead - LME		66,850	-53%	1%	0%	-16
		39,001	44,919	56,387	31,994	49,591	Lead - SHFE		38,766	25%	37%	-1%	65
linc		57,368	52,632	56,719	57,874	42,520	Tin		14,218	61%	2%	37%	19
		9,785	8,111	8,735	8,926	8,764	Tin - LME		7,435	73%	5%	14%	20
ead							Tin - SHFE		6,783	50%	-2%	77%	18
Lead Tin		388,803	160,429	342,946	349,647	170,628	Agriculture						
Lead Tin cious Metals		<u> 300.0U</u> 3		70,160	53,429	51,332	Wheat - USDA		288,030	47.0%	0.0%	-0.1%	0.9
Lead lin cious Metals Gold			-20 0 / 2	/ 0, 100	JJ,427		Corn - USDA		288,030 296,840	47.0% 103%	-0.3%	-0.1%	-3.
Lead Tin cious Metals Gold Silver		80,646	39,976 25 191		10 0/4	2 4 80			∠70,04U	103%	-0.3%	0.0/0	-3.
Lead Tin Cious Metals Gold Silver Platinum		80,646 63,093	25,191	69,159	19,964	2,680			00 020	5707	0.007	3/07	2
Lead fin cious Metals Gold Silver Platinum Palladium		80,646			19,964 9,722	2,680 14,495	Soybeans - USD	A	98,860	57%	2.3%	3.6%	-3
Lead fin Cious Metals Gold Silver Platinum Palladium estock		80,646 63,093 5,255	25,191 12,847	69,159 9,932	9,722	14,495	Soybeans - USD Sugar - USDA	A	49,580	38%	-	-	49
Lead fin cious Metals Gold Silver Platinum Palladium estock Live Cattle		80,646 63,093 5,255 59,551	25,191 12,847 80,087	69,159 9,932 111,301	9,722 31,177	14,495 139,114	Soybeans - USD Sugar - USDA Cotton - USDA	A	49,580 82,120	38% 15%	- 3.2%	- 1.6%	49 -0.4
Zinc Lead Cious Metals Gold Silver Platinum Palladium estock Live Cattle Lean Hogs Feeder Cattle		80,646 63,093 5,255	25,191 12,847	69,159 9,932	9,722	14,495	Soybeans - USD Sugar - USDA		49,580	38%	-	-	49

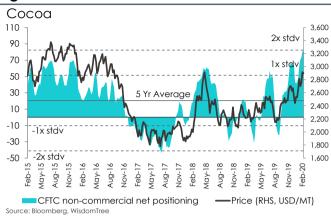
1Performance of front month futures from 21 Feb 19 (1 Year), 21 Aug 19 (6 Month), 21 Nov 19 (3 Month) and 21 Jan 20 (1 Month) to 21 Feb 20. 2Roll return non-annualised from front month futures into second " month on 21 Nov 19 (3 Month), 21 Jan 20 (1 Month), 14 Feb 20 (1 Week), 21 Feb 20.

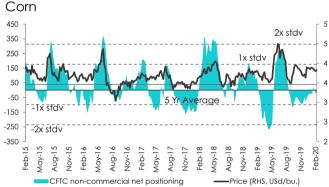
³Net positions in number of contracts. ⁴Current inventories relative to 1, 3, 6 months ago. Under the column "5 yr average" is the current inventory level relative to 5 year average inventory. For energy, 5 yr average is the average of the same month as report month over the past 5 years. SHFE started reporting inventory data from April 2015. 5All 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. **Brent 5 Yr average of net positions from January 2011 as positions were not reported by CFTC before then and inventory data (OECD) reported with 3 month lag with current = Nov 2019. Historical performance is not an indication of future performance and any investments may go down in value.



CFTC Speculative Net Long Futures Positions

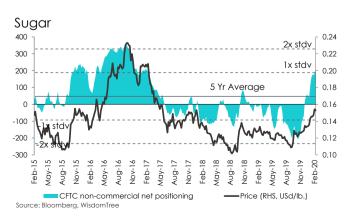
Agriculture

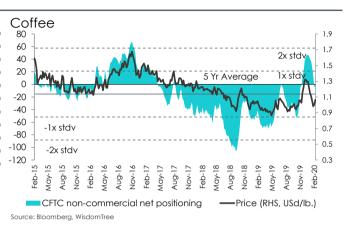


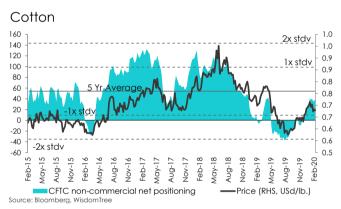


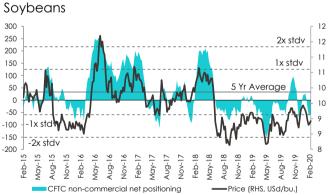
Source: Bloomberg, WisdomTree

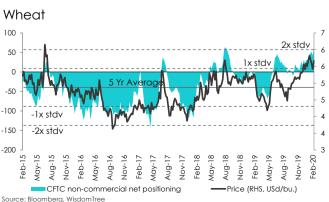










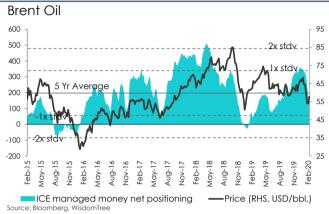


Note: positioning in '000 contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning

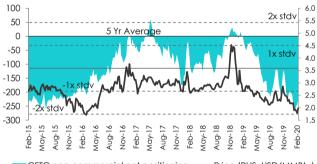
All commodity futures price data is denominated in USD unless otherwise indicated. CFTC futures and LME COTR net positioning as at Feb 18, 2020 and Feb 21, 2020 respectively Historical performance is not an indication of future performance and any investments may go down in value.



Energy







CFTC non-commercial net positioning —Price (RHS, USD/MMBtu) Source: Bloomberg, WisdomTree





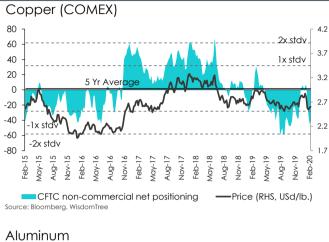


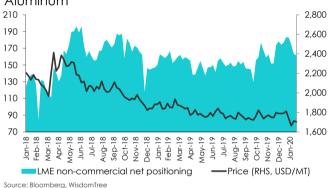




Industrial Metals

Nickel

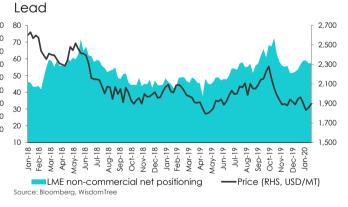


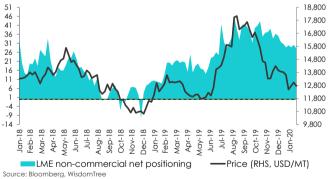


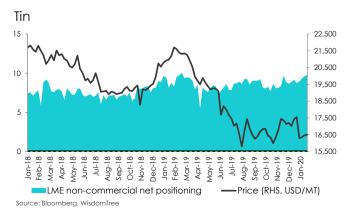
Copper (LME) 70 7,400 7,200 60 7.000 50 6,800 6,600 40 6.400 30 6,200 6,000 20 5.800 10 5,600 5,400 0 Jan-18 Feb-18 Mar-18 Apr-18 May-18 Jun-18 Jul-18 Aug-18 Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 Oct-19 Nov-19 Dec-19 Apr-19 May-19 Jun-19 91-IUL Aug-19 Sep-19 8 ļα LME non-commercial net positioning Price (RHS, USD/MT)

Source: Bloomberg, WisdomTree





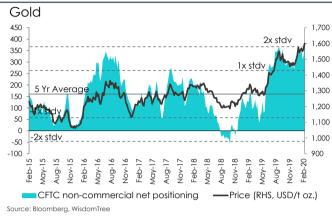


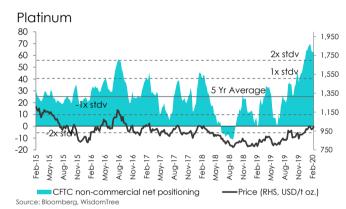


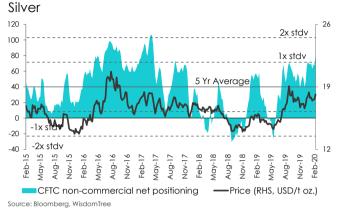
Note: positioning in '000 contracts. Standard deviation based on 5 year average CFTC non-commercial net positioning. LME non-commercial net positions from 30 January 2018 post MIFID II data and respective graphs represent daily data. All commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value. 7

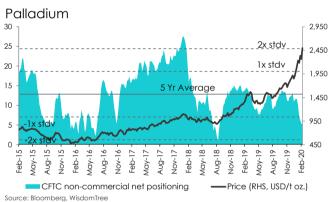


Precious Metals







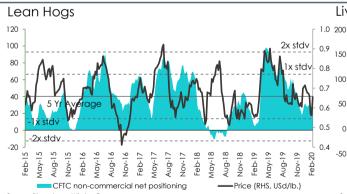


May-18

Aug-18

Feb-18

Livestock



-2x stdv -50 Aug-15 Aug-17 CLLC uou-commay-16 Aug-17 Nov-17 CLLC uou-commercial use hositionial Nov-17 May-15 15 Feb-

Live Cattle

Source: Bloomberg,

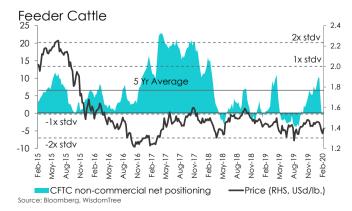
150

100

50

0

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.

1.7

1.6

1.5

1.4

1.3

1.2

1.1

10

0.9

Feb-20

2x stdv

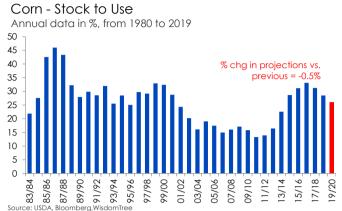
1x stdv

brice (RH2) Nov-18 Feb-19 SAMay-19 SAUG-19 Nov-19

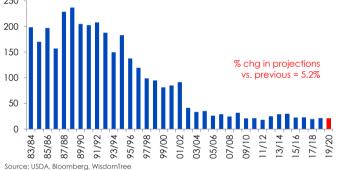


Inventories

Agriculture



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



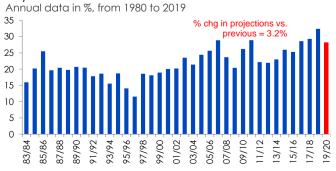
Cotton - Stock to Use

Annual data in %, from 1980 to 2019



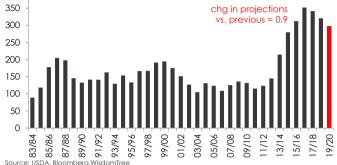
Source: USDA, Bloomberg,WisdomTree





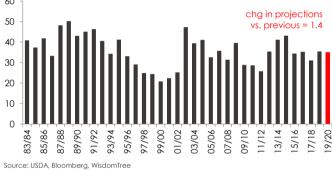
Source: USDA, Bloomberg, WisdomTree

Corn - Ending Stocks Annual data in mln tons, from 1980 to 2019 400



Coffee - Ending Stocks

Annual data in mln bags (60 kg), from 1980 to 2019

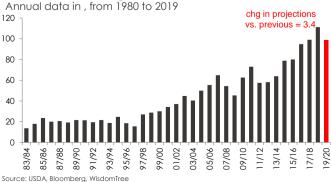


Cotton - Ending Stocks

Annual data in mln 480 lb Bales, from 1980 to 2019



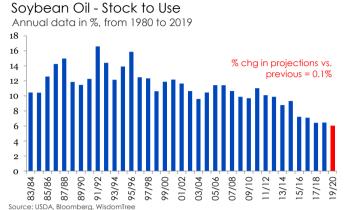
Soybeans - Ending Stocks



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









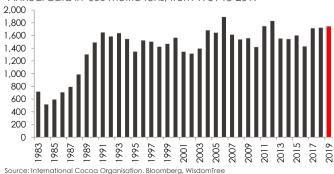


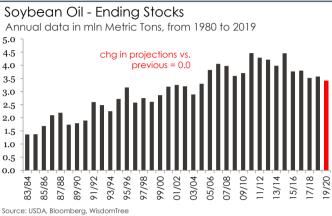




Cocoa - Inventory

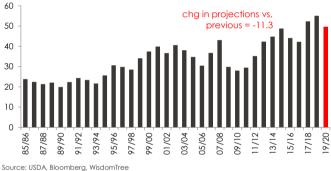
Annual data in '000 metric tons, from 1981 to 2019





Sugar - Ending Stocks

Annual data in min Metric Tons, from 1980 to 2019



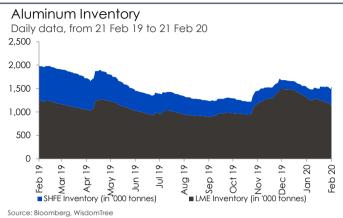
Wheat - Ending Stocks

Annual data in mIn tons, from 1980 to 2019 $_{\rm 350}$ $_{\rm 1}$



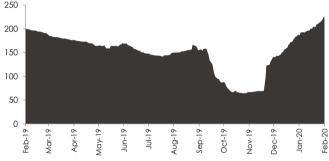


Industrial Metals



Nickel Inventory

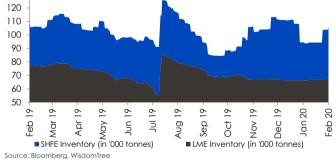
Daily data in '000 MT, from 21 Feb 19 to 21 Feb 20



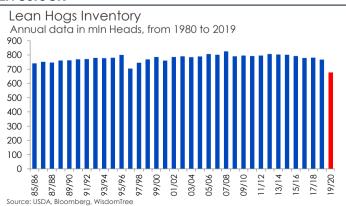
Source: LME, Bloomberg, WisdomTree

Lead Inventory

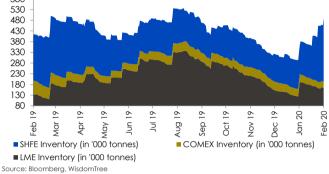
Daily data, from 21 Feb 19 to 21 Feb 20



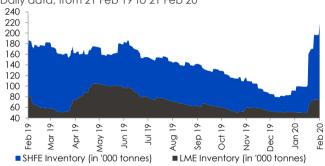
Livestock



Copper Inventory Daily data, from 21 Feb 19 to 21 Feb 20



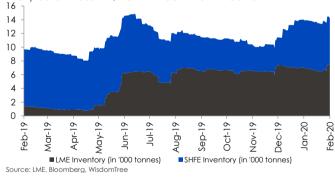
Zinc Inventory Daily data, from 21 Feb 19 to 21 Feb 20



Source: Bloomberg, WisdomTree

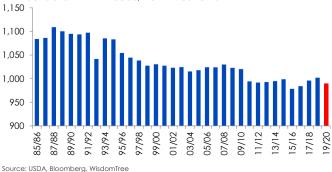
Tin Inventory

Daily data in '000 MT, from 21 Feb 19 to 21 Feb 20



Live Cattle Inventory

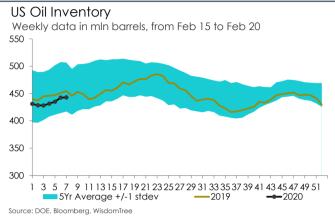




Note: Ending stocks, inventories and stock to use data from the USDA are annual with monthly update of 2018/2019 estimates. Historical performance is not an indication of future performance and any investments may go down in value.

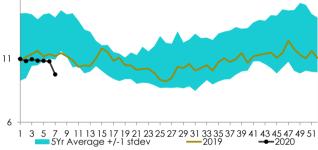


Energy



Heating Oil Inventory

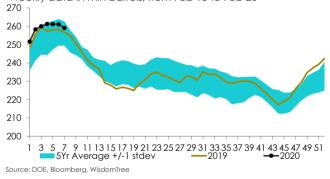
Weekly data in mln barrels, from Feb 15 to Feb 20 16 $_{\rm l}$



Source: DOE, Bloomberg, WisdomTree

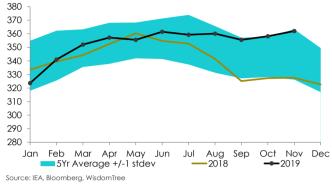
Gasoline Inventory

Weekly data in mln barrels, from Feb 15 to Feb 20



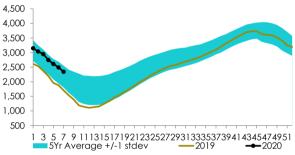
OECD Europe Oil Industry Inventory

Monthly data in mln barrels, from Nov 14 to Nov 19



Natural Gas Inventory

Weekly data in billion cubic feet, from Feb 15 to Feb 20



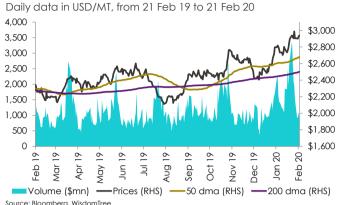
Source: DOE, Bloomberg, WisdomTree



Commodities Front Month Futures and Trading Volumes

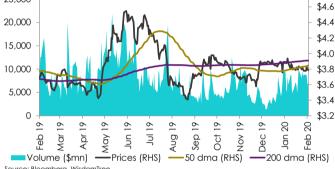
Agriculture

Cocoa Front Month Futures Price



Corn Front Month Futures Price

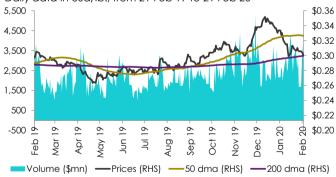
Daily data in USd/bu., from 21 Feb 19 to 21 Feb 20 25,000



Source: Bloomberg, WisdomTree

Soybean Oil Front Month Futures Price

Daily data in USd/lb., from 21 Feb 19 to 21 Feb 20

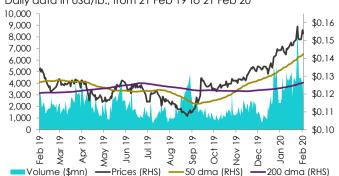


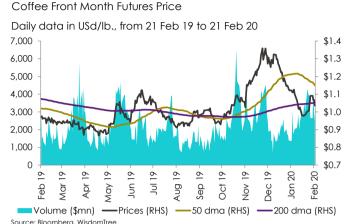
Source: Bloomberg, WisdomTree

Sugar Front Month Futures Price

Source: Bloomberg, WisdomTree

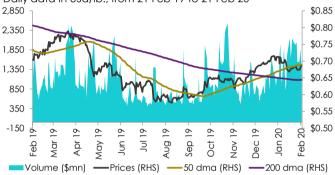






Cotton Front Month Futures Price

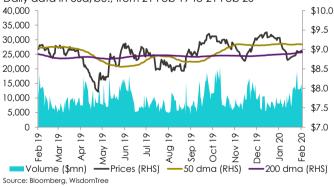
Daily data in USd/lb., from 21 Feb 19 to 21 Feb 20



Source: Bloomberg, WisdomTree

Soybeans Front Month Futures Price

Daily data in USd/bu., from 21 Feb 19 to 21 Feb 20



Wheat Front Month Futures Price

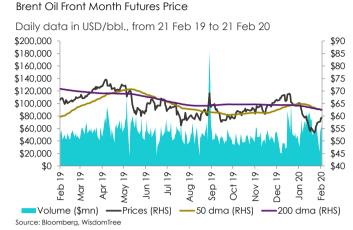
Daily data in USd/bu., from 21 Feb 19 to 21 Feb 20



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.

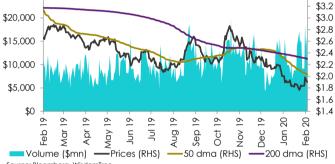


Energy



Natural Gas Front Month Futures Price

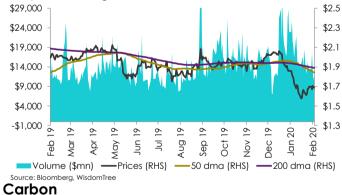
Daily data in USD/MMBtu, from 21 Feb 19 to 21 Feb 20 \$25,000



Source: Bloomberg, WisdomTree

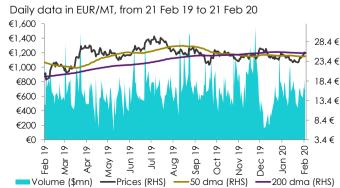
Heating Oil Front Month Futures Price

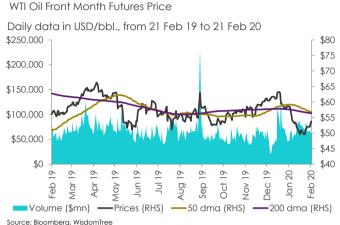
Daily data in USd/gal., from 21 Feb 19 to 21 Feb 20





Source: Bloomberg, WisdomTree





Gasoline Front Month Futures Price

Daily data in USd/gal., from 21 Feb 19 to 21 Feb 20



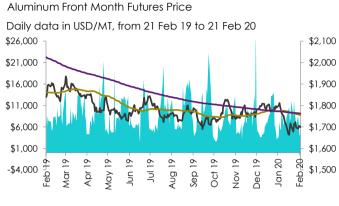
Source: Bloomberg, WisdomTree

\$3.4

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.

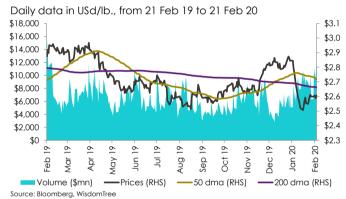


Industrial Metals



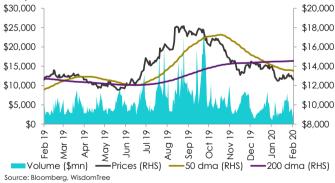
Volume (\$mn) – Prices (RHS) — 50 dma (RHS) — 200 dma (RHS) Source: Bloomberg, WisdomTree

Copper (COMEX) Front Month Futures Price



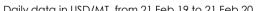
Nickel Front Month Futures Price

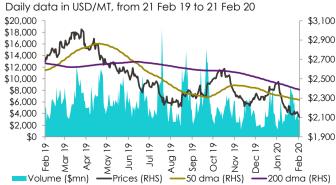
Daily data in USD/MT, from 21 Feb 19 to 21 Feb 20

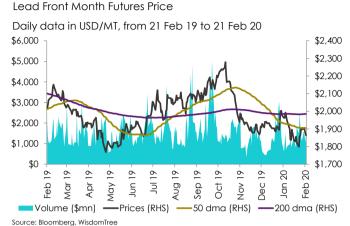


Zinc Front Month Futures Price

Source: Bloomberg, WisdomTree







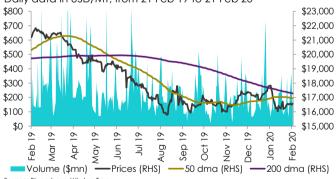
Copper (LME) Front Month Futures Price

Daily data in USD/MT, from 21 Feb 19 to 21 Feb 20



Tin Front Month Futures Price

Daily data in USD/MT, from 21 Feb 19 to 21 Feb 20

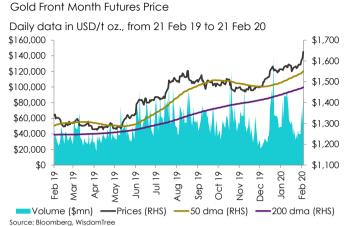


Source: Bloomberg, WisdomTree

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.

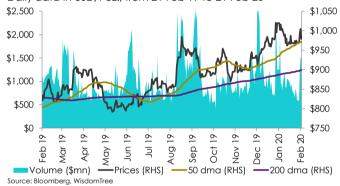


Precious Metals



Platinum Front Month Futures Price

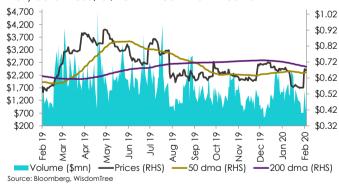
Daily data in USD/t oz., from 21 Feb 19 to 21 Feb 20



Livestock

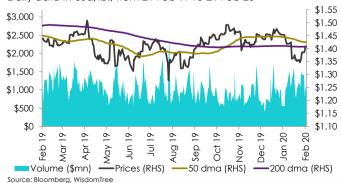
Lean Hogs Front Month Futures Price

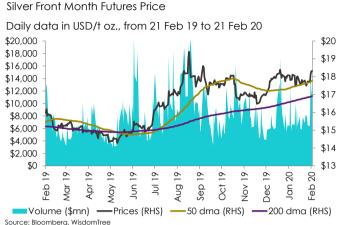
Daily data in USd/lb., from 21 Feb 19 to 21 Feb 20



Feeder Cattle Front Month Futures Price

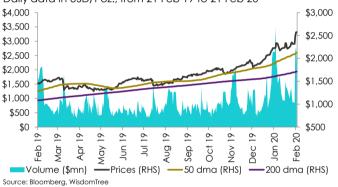
Daily data in USd/lb., from 21 Feb 19 to 21 Feb 20





Palladium Front Month Futures Price

Daily data in USD/t oz., from 21 Feb 19 to 21 Feb 20



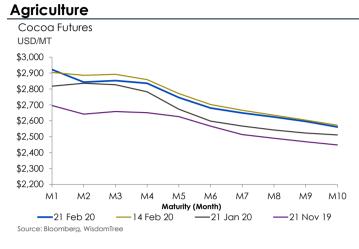
Live Cattle Front Month Futures Price

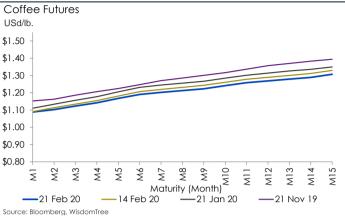


Note: all commodity futures trading volume and price data is denominated in USD unless otherwise indicated Historical performance is not an indication of future performance and any investments may go down in value.

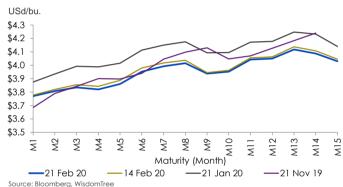


Futures Curves

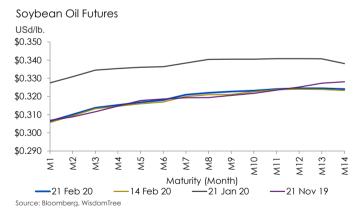








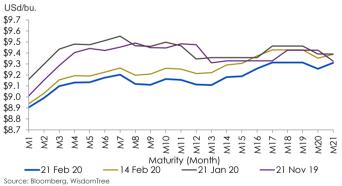
Cotton Futures USd/lb. \$0.74 \$0.72 \$0.70 \$0.68 \$0.66 \$0.64 \$0.62 \$0.60 \$0.58 M10 М8 6W M12 M13 M15 Ч2 ЧЗ ٨6 М7 M14 44 ١ 5 Maturity (Month) -21 Nov 19 -21 Feb 20 -14 Feb 20 —21 Jan 20



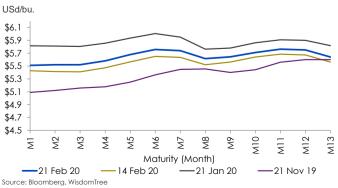
Sugar Futures USd/lb. \$0.160 \$0.155 \$0.150 \$0.145 \$0.140 \$0.135 \$0.130 \$0.125 \$0.120 \$0.115 \$0.110 M12 Я MЗ M4 Μ5 M6 Ň М8 6W M10 Σ ĪW Maturity (Month) -21 Feb 20 -14 Feb 20 –21 Jan 20 -21 Nov 19 Source: Bloomberg, WisdomTree



Source: Bloomberg, WisdomTree

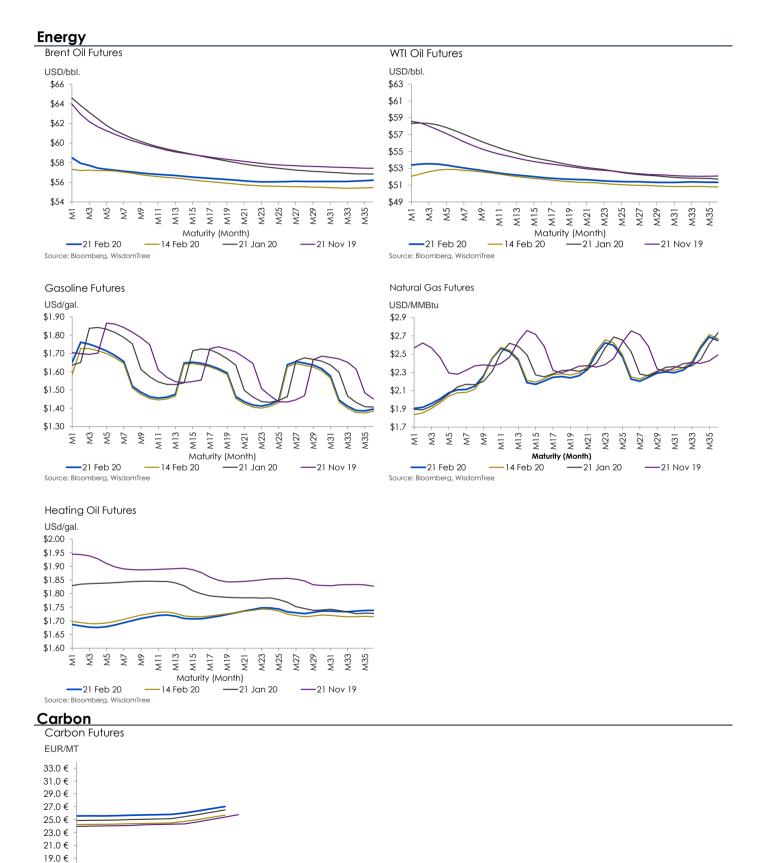






Note: all commodity futures price data is denominated in USD unless otherwise indicated. Historical performance is not an indication of future performance and any investments may go down in value.





17.0 €

M1 M2 M3 M5 M5

-21 Feb 20

Source: Bloomberg, WisdomTree

M6 M7

-14 Feb 20

Watarith (Wouth) Watarith (Wouth)

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

-21[′] Jan 20

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

M18 M19 M20

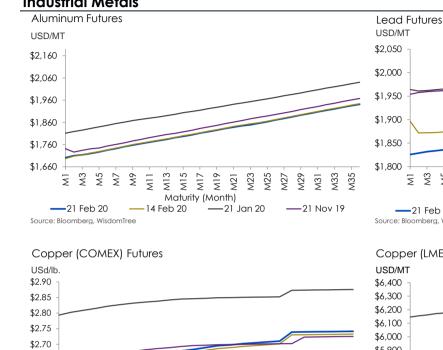
-21 Nov 19

M21

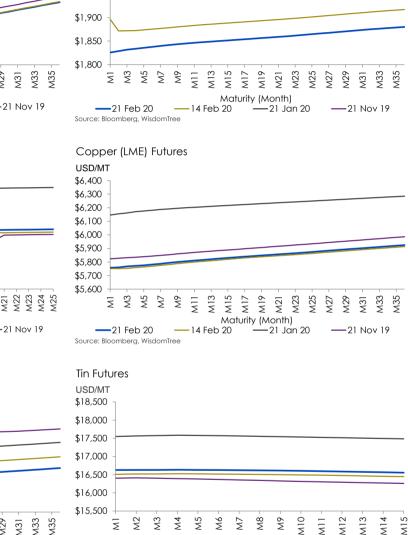
M22 M23

M17





Industrial Metals



Ξ

-21 Feb 20

Source: Bloomberg, WisdomTree

-21 Feb 20 Source: Bloomberg, WisdomTree

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٨6 <u>۸</u>8 64

5

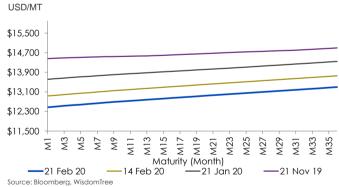


Ξ ş ŝ 4

\$2.65

\$2.60

\$2.55



M10

14 Feb 20

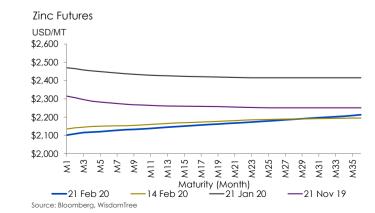
M11 - M12 - M13 - M13 - M13 - M13 - M13 - M14 - M15 - M18 - M19 -

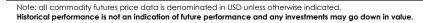
-21 Jan 20

Maturity (Month)

M20 M22

M21





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-21 Nov 19

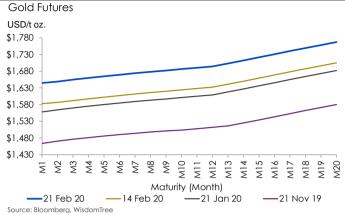
Maturity (Month)

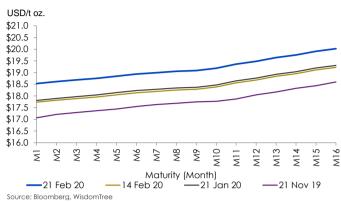
–21 Ján 20

-14 Feb 20



Precious Metals



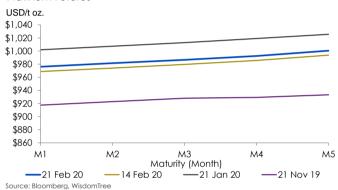


Silver Futures

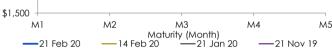
Palladium Futures

Source: Bloomberg, WisdomTree

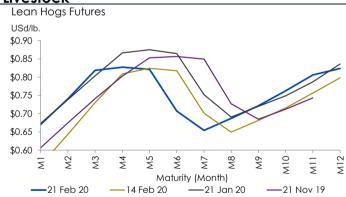


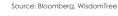




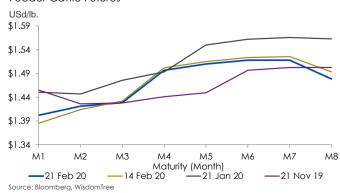


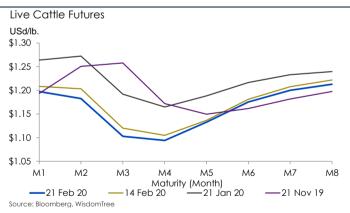
<u>Livestock</u>













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 - R	ecent Blogs	
19-Feb-20	Pierre Debru	Defensive Assets: The duration your portfolio needs
17-Feb-20	Kevin Flanagan	Going Viral
12-Feb-20	Pierre Debru	Defensive Assets: Are all equity strategies created equal?
11-Feb-20	Jason Guthrie	Why Blockchain matters
05-Feb-20	Pierre Debru	Defensive Assets: Is playing too safe too risky?
28-Jan-20	Aneeka Gupta	Implications of the viral outbreak in China
21-Jan-20	David Linden	Battery Storage: Driving the Energy Transition
17-Jan-20	Nitesh Shah	Gold outlook for Q4 2020: Trade turbulence and Middle East tensions still to dominate
15-Jan-20	Mobeen Tahir	Another geopolitical jolt for oil markets?
13-Jan-20	Jesper Koll	Japan in 2020: Surprises on the horizon?
08-Jan-20	Pierre Debru	Quality Investing, an All-Weather Approach
17-Dec-19	WisdomTree	Was this Cloud grown organically?
16-Dec-19	Jesper Koll	Beyond Abenomics
WisdomTree - P	ast Issues of Commodity Monthly Monit	or
Dec- Jan 2020	Research Team	Commodities moving beyond trade and geopolitics
Oct - Nov 2019	Research Team	Commodities wait while equities rally
Sep - Oct 2019	Research Team	Phase1 of trade deal bifurcates commodity markets
Aug - Sep 2019	Research Team	Jitters in the oil market and beyond
Jul - Aug 2019	Research Team	Trump and Xi's Midas touch
	otes are for qualified investors only.	
Key Reports		
Current	Next release	

11-Feb-20	10-Mar-20	USDA	World Agricultural Supply and Demand Estimates
11-Feb-20	10-Mar-20	EIA	Short-Term Energy Outlook
12-Feb-20	11-Mar-20	OPEC	OPEC Oil Market Report
11-Feb-20	09-Mar-20	IEA	IEA Oil Market Report

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