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Commodities are off to a constructive 2022 start

Global commodities: The commodities complex is off to a robust start to 2022 with Omicron concerns ebbing as its rapid transmissibility is not overwhelming health systems. Adding to the bullishness, Fed Chair Powell's less hawkish comments to the Senate Banking Committee on 11 January sought to reassure markets that the Fed can rein in inflation without hampering the US economy.

Energy: Oil prices have now retraced all their Omicron declines. The market narrative is firmly with oil bulls, centred on low inventories as well as low spare capacity amid a dearth of structural underinvestment – in effect carving out a scarcity premium – one of our core commodities themes for 2022 (see here and here).

Base metals: An already tight market is being roiled by everything from factory maintenance and Winter Olympics curbs in China, to pandemic labour shortages in places like Australia – markets are positioning towards scarcity across the subgroup.

Precious metals: Gold and silver have retraced most of their early 2022 trading days losses on a less hawkish Fed, whilst its been a slow start for platinum and palladium with prices stalling on news of the success of EV vehicles in China.

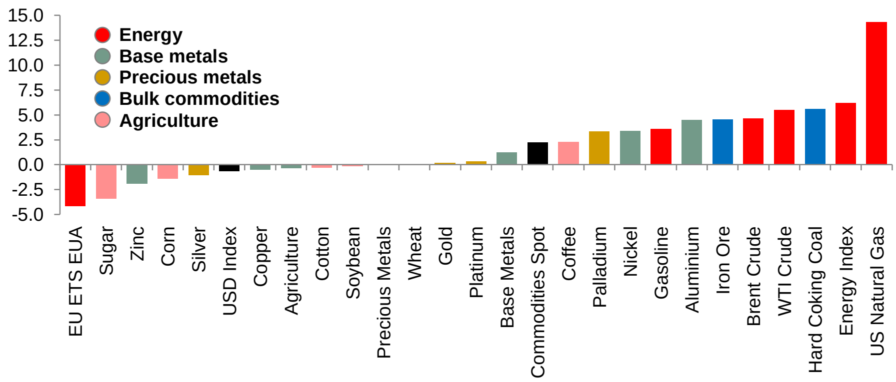
Bulk commodities: Iron ore is suffering from a bad case of irrational exuberance – while it has surged anew in the opening days of 2022 as rains hamper Brazilian supply these gains will unlikely endure given higher supply.

Agriculture: Supply-chain disruptions looks set to hamper sugar shipments from India (world's second largest producer), whilst Brazil's agricultural agency, CONAB, has revised down its corn production estimate adverse weather.

Core indicators: Price performance and forecasts, flows, market positioning, timespreads, futures, inventories, storage and products performance covered below.

WEEKLY COMMODITIES PERFORMANCE: ROBUST START TO 2022 FOR ENERGY WITH MARKETS BEGINNING TO CARVE OUT A SCARCITY PREMIUM

COMMODITY PRICE RETURNS, WEEK-ON-WEEK (%)



Source: Bloomberg, MUFG Research

COMMODITIES (2.2% W/W; 5.2% YTD): NEAR-TERM DEFLATION BUT LONG-TERM SUPPLY SCARCITY AND OVERSHOOTS

Broad commodity outperformance will come to an end in 2022

Commodities were the best performing asset class of 2021, up 27%, outstripping equities (17%), rates (-1%), credit (-3%) and debt (-5%). Recovering demand from the pandemic, supply chain disruptions, government policy and adverse weather all contributed to a tightening in markets in 2021, propelling commodity prices higher. In 2022, we expect a more moderate (and diversified) space as balances for major commodities appear more loose than last year, with a combination of easing supply chain disruptions, fading fiscal stimulus and broader policy tightening, signalling price deflation from current levels – albeit we still expect them to remain above long-term averages. We are bullish on both platinum group metals (PGMs) and base metals (specifically on aluminium and copper) given their central role in the path towards decarbonisation with the lack of investment in these commodity subgroups (influenced by ESG considerations), keeping these markets in a structural deficit. Meanwhile, we turn neutral on energy – whether oil, coal or natural gas – where we project higher supply to cap prices. Finally, we are bearish on precious metals, bulk commodities and agriculture due to the confluence of a tightening in global liquidity conditions, supply improvements and prospects for more normalised weather.

The intermittent nature of renewables means that the reduction in fossil fuel demand will not be smooth and orderly, which will drive fossil fuel commodities higher – not linear but in a series of ever-increasing spikes this decade

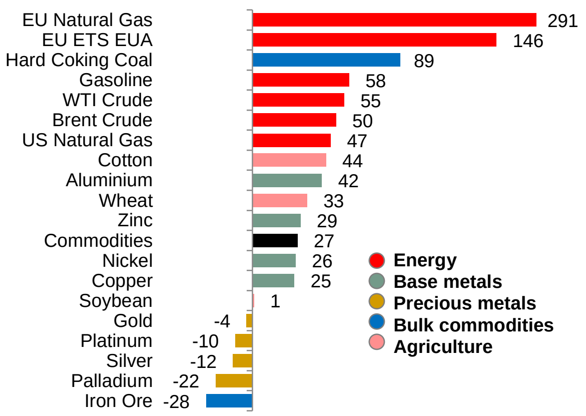
If policymakers' objectives of a large-scale buildout in green infrastructure are to be met, commodity prices will need to significantly overshoot to the upside to provide the incentives for renewable investments to rise. From this, our conviction is resolute that the less popular carbon-intensive commodities become by greening the economy, the more they will cost, as crimping supply without tackling demand (unlikely peaking until the 2030s) will only cause sharply higher (and more volatile) commodity prices, through renewed deficits and depleting inventories – carving out a scarcity premium.

The harder energy transition is pushed, the higher and more volatile commodity prices will become in the journey towards a cleaner global economy

Longer-term, there are unassailable challenges with climate change. The IEA's net-zero roadmap posits a future with no investment in new fossil fuel supply. That would be fine if that fossil fuel line bending down was mirrored perfectly by a zero carbon energy line rising to eclipse it. As the ambition behind net zero gains momentum, carbon-intensive commodity producers are scaling back supply faster than demand is tailing off. This lies at the heart of the conundrum. Put differently – in the 2000s, markets were bullish on commodity prices owing to demand from China. Now, the structural bullishness is because of increasing demand from green projects, and the green economy is the new China – we believe a structural bull commodity market will emerge this decade (see our commodities 2022 outlook report here).

COMMODITIES REGISTERED THEIR BEST ANNUAL PERFORMANCE IN 20 YEARS, LED BY ENERGY

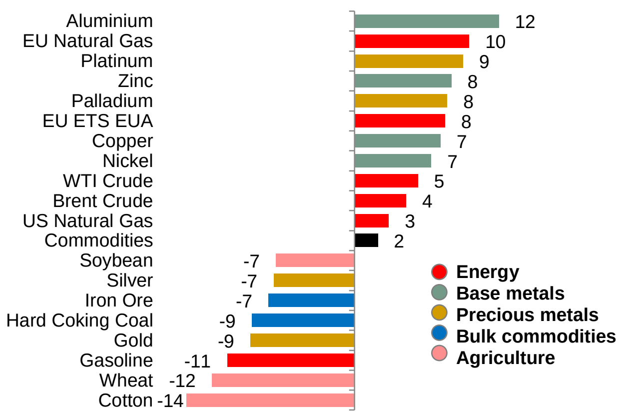
COMMODITY PRICE RETURNS IN 2021 (%)



Source: Bloomberg, MUFG Research

SHEER VELOCITY OF STERN OPEC+ COMPLIANCE ON ITS LARGEST CUTS IN HISTORY HAS BEEN IMPRESSIVE

MUFG'S PROJECTED COMMODITY PRICE RETURNS IN 2022 (%)



Source: Bloomberg, MUFG Research

ENERGY (6.2% W/W; 3.7% YTD): SCARCITY PREMIUM IN FOCUS

Crude oil

2022 off to a bullish start for oil as Omicron with concerns ebbing

Oil prices have now retraced all their Omicron declines. The market narrative is firmly with oil bulls, centred on low inventories as well as low spare capacity amid a dearth of structural underinvestment – in effect carving out a scarcity premium – one of our core commodities themes for 2022 (see here and here). The prospect of triple-digit prices before 2022 is out is already coming into view, with clear upside risks to our end Q4 2022 Brent USD92/b, and WTI USD89/b forecasts.

Oil markets – and broader commodities – found comfort in Fed Chair Powell's less hawkish comments on 11 January

Adding to the oil bullishness this week, Fed Chair Powell's comments at his Senate renomination hearing were comforting for markets. Powell pledged that the Fed will do what's needed to curb inflation and without committing to any timelines did suggest that the balance sheet run off will happen this year and that the level of balance sheet is "far above where it needs to be". Whilst Fed hike expectations signalled by the Eurodollar curve and nominal US yields did not move by much following his comments, breakeven yields did push higher, driving real yields lower.

EIA's latest STEO report signals that US shale is set to surge in 2023

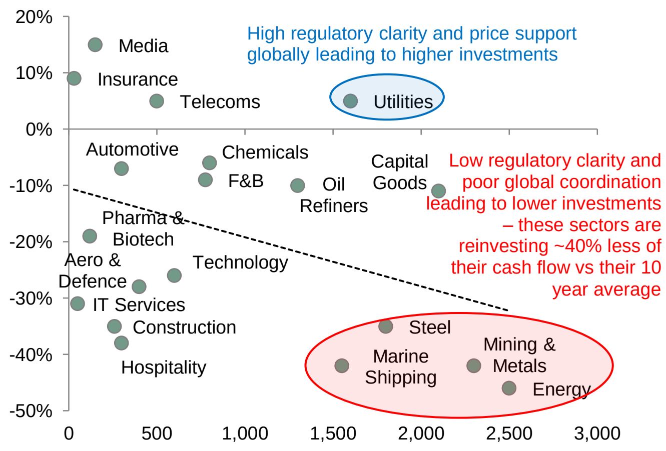
Elsewhere, the US Energy Information Administration's (EIA) latest Short Term Energy Outlook (STEO) signalled this week that US oil output will average 11.8m b/d this year, up 0.65m b/d from 2021. Of note were 2023 levels with the EIA forecasting US oil output to average 12.4m b/d y/y – exceeding 12.3m b/d in 2019. Whilst the current higher oil price environment should witness US drilling activity pick up, the rig count has grown negligibly relative to previous upcycles. Unlike past cycles, when higher energy prices usually meant more capital spending, more exploration, more oil rigs and so more hydrocarbon extraction, the current benign energy market has been met with frugal capital budgeting. The reasons are many but largely boil down to policy constraints, intense pressure from shareholders to return cash and ESG mandates not rewarding carbon energy producers for growing (see here and here).

Oil's margin of safety will begin to diminish in H2 2022

Brent crude prices rose 50% last year, making 2021 one of the strongest years in the oil market in recent history. We believe that there is more to run with further strength ahead. Our oil market balances are softer in H1 2022 with the market pivoting towards surplus on higher supplies and more normalised demand. Though we believe that the market will revert back to tightness in the back half of this year, owing to a deficit in inventories, a deficit in spare capacity and a deficit of investment.

STRUCTURAL UNDERINVESTMENTS IN CARBON-INTENSIVE SECTORS DUE TO ESG PRESSURES

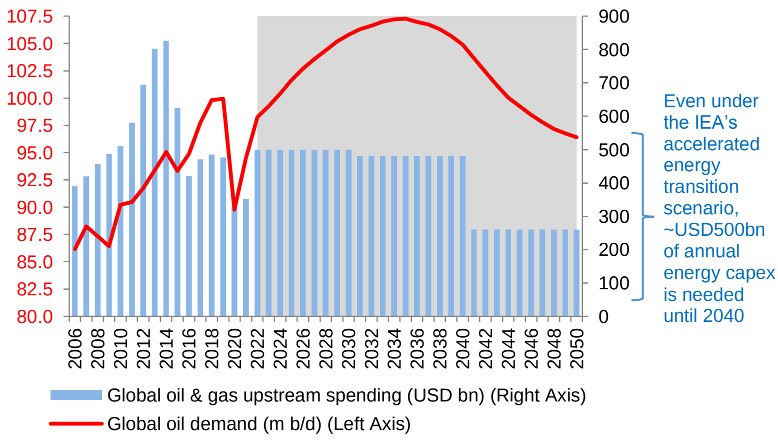
CARBON INTENSITIES (SCOPE 1-3) / REVENUE (X-AXIS, TON/CO2EQ/USDM) VS REINVESTMENT RATIO IN 2022, 10 YEAR AVG (Y-AXIS, %)



Source: Bloomberg, Corporate Financials, MUFG Research

OIL DEMAND TO ONLY PEAK IN 2035 WITH AN ORDERLY TRANSITION NEEDING STERNLY HIGHER CAPEX SPEND

GLOBAL OIL DEMAND (M B/D) VS GLOBAL OIL AND GAS UPSTREAM SPENDING (USD M)



Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Natural gas

No end in sight for the gas crunch

Since the start of the natural gas crisis in September 2021 – with Europe at the core – the global gas crunch lingers on. Gas prices in Europe and Asia remain historically high, with new records reached in late December before falling to still elevated levels. Prices should remain at exceptionally high levels this winter as there is little in the way of spare capacity available. Our base case is for a respite in prices post-winter, following the end of the northern hemisphere heating season. However, the delayed start to Russia's Nord Stream 2 pipeline, low inventories in Europe and continued LNG outages indicate that natural gas present clear upside risks.

European gas inventories continue to run treacherously low

As a result of low supplies and sustained demand, European inventories are currently 56% full, some 15ppts below the historical average of 71% for this time of year. The shortfall was as much as 18ppts a few weeks ago, but a bout of milder weather in recent weeks has helped to narrow the gap marginally. Facilities controlled by Gazprom are all but empty as the company prioritised replenishment of domestic storage facilities until early November, and has not increased exports westwards subsequently once domestic storage was refilled. Northwest European gas consumption typically more than doubles in winter compared with the summer period due to higher heating demand in the residential and commercial sectors. Assuming normal winter temperatures, European storage levels would end the heating season in by spring in the low 20s% compared with a historical average of ~35%. A colder-than-average winter might push European storage to extraordinary low-to-mid-teens levels – a storage level of 10% is regarded by markets as depleted.

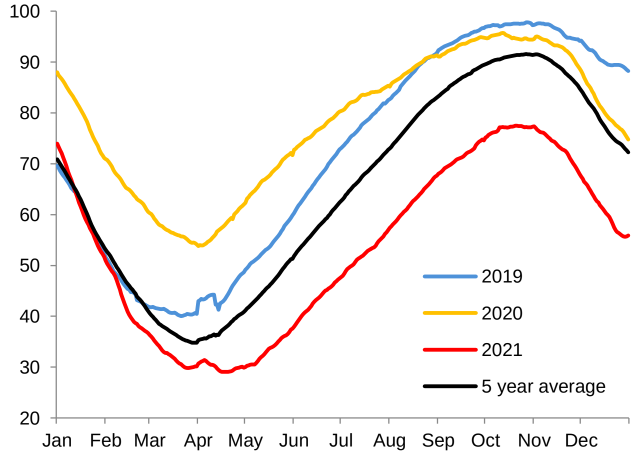
Carbon markets

ICE set to expand carbon products after a stellar 2021 performance

The Intercontinental Exchange (ICE) plans to expand its carbon products after credits worth ~USD1tn traded on the exchange in 2021. European allowances surged ~150% in value last year amid government efforts to rein in on emissions and the energy supply crunch that led to increased use of coal. With carbon credits a core instrument for placing a cost on emissions, the ICE plans to start a global carbon futures contract that will be based on the ICE Global Carbon Futures Index from 31 January. Last year's carbon market bumper performance saw the price of European Union carbon allowances (EUAs) nearly triple, reaching a record high of EUR90/t in December. Carbon will be a core commodity to watch in 2022, with reduced allowance supply, market reforms and elevated gas prices will continue to offer support to the European carbon price (we forecast EUA prices of EUR78/t from EUR54/t in 2021).

EUROPEAN GAS INVENTORIES CONTINUE TO RUN AT TREACHEROUSLY LOW LEVELS

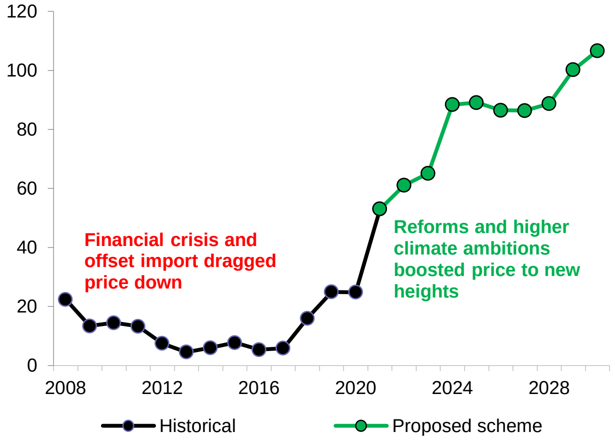
NATURAL GAS INVENTORIES IN EUROPE (% OF TOTAL)



Source: ASGI, Bloomberg, MUFG Research

TRADED AND VOLUNTARY CARBON MARKETS LOOK BULLISH FOR YEARS TO COME

EU EMISSIONS TRADING SCHEME (ETS) CARBON PRICE (EUR/T)



Source: Bloomberg, MUFG Research

BASE METALS (1.3% W/W; 2.4% YTD): CYCLICAL AND STRUCTURAL TIGHTNESS CONTINUES TO PERSIST

Base metals expected outperformance in 2022 has already got off to a robust start

The base metals complex has extended gains since the turn of the year, aided by the ongoing supply squeeze as well as by a retreat in the US dollar. Also, an already tight market is being roiled by everything from factory maintenance and Winter Olympics curbs in China, to pandemic-related labour shortages in places like Australia. More broadly, with China's policy gearing towards more easing at a time of acutely depleted inventories across base metals, markets are positioning towards scarcity across the subgroup. We anticipate deficits across all refined metals, due to a confluence of marked developed market demand, moderating Chinese demand and power-related supply hampering across Europe.

Aluminium

Aluminium leads the way in base metals

Aluminium has been the standout outperformer amongst base metals so far in 2022 with 3 month prices rising by ~6% with tight supply due to power shortage as well as rising costs of energy and raw materials more generally supportive for prices. The upside for the aluminium price is further strengthened by the challenges decarbonisation presents to the market in terms of solving the forward deficits. As we highlighted in our annual outlook (see here and here) the metal is a key raw material for the green transition and yet is also a carbon-intensive production process. Critically, the primary smelting sector currently lacks economic and straightforward decarbonising, which has as result limited any progress towards investment in new supply so far. With an increasing magnitude of fundamental adjustment needed to solve the depletion path this market faces, we see an accelerated price path higher.

Nickel

Nickel is also performing well on lower inventories and persistent tightness

LME nickel has also performed well thus far this year with prices up ~5% thus far this year and hovering close to the highest level since 2014. This is against the backdrop of low inventories and persistent tightness in the class 1 market, whilst reportable inventories at LME warehouses continue to decline, augmenting further apprehensions over the availability of the base metal.

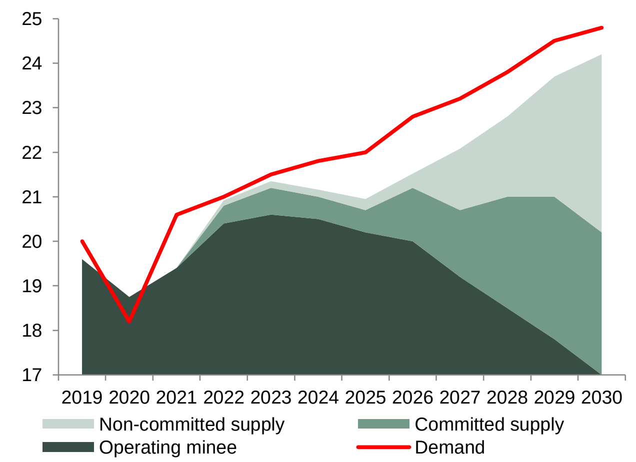
Copper

Copper has thus remained flat but set to outperform in 2022

As for copper, prices have remained firm as macro tailwinds haven't yet turned. Low inventory levels continue to lend support and the market is also contemplating some

CLIMATE CHANGE SUPPORTS HIGHER COPPER DEMAND BUT INADEQUATE SUPPLY, SIGNALS HIGHER PRICES

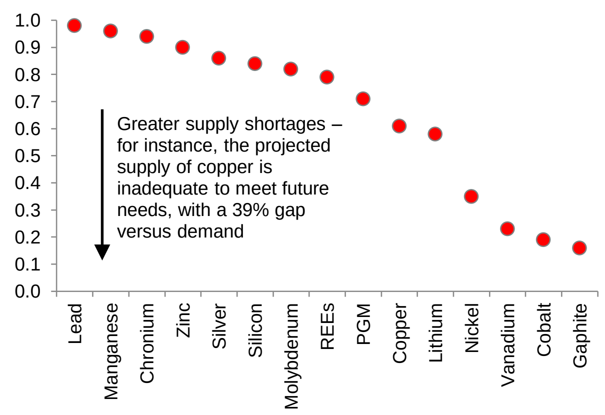
GLOBAL COPPER DEMAND AND SUPPLY (MT)



Source: Bloomberg, Woodmac, MUFG Research

SUPPLY OF ENERGY TRANSITION METALS FALL SHORT TO MEET FUTURE DEMAND, SPURRING "GREENFLATION"

PROJECTED SUPPLY / FUTURE DEMAND RATIO IN NET ZERO SCENARIO



Source: IEA, IMF, US Geological Survey, MUFG Research stimulus from China to drive demand. However, the concentrate market has improved with some new projects coming online, with the Kamoa-Kakula copper complex in Congo expected to produce ~300kt of copper concentrate in 2022. Looking ahead, we remain resolutely bullish on copper as depleting inventories and persistent deficit carve out a scarcity premium into the price. What's more, Chinese policy to stabilise the completions function in the property sector as well as investor positioning in copper remaining robust are additional supportive factors for the base metals this year.

Zinc

Zinc has traded flat so far in 2022 but the market deficit indicates prices are set to rise

Finally on zinc, prices have traded flat thus far this year but our conviction remains that with the deficit set to widen further in 2022 from modest tight levels last year, with ongoing restraints in refined output and low visible onshore refined inventories, higher global ex-China (mainly US and Europe) demand is set to channel into progressively higher metal import volumes. This offers the space for outperformance this year in an operating environment of heightened competition on scarcity concerns for the metal this year.

PRECIOUS METALS (0.0% W/W; -0.9% YTD): ATTENTION CENTRED ON FINDING A FLOOR

A push-and-pull between less hawkish Fed Chair Powell's comments and no material sign for a recovery in the global automotive sector (just yet) has kept precious metals prices in check

Despite being the only sub-group to witness annualised losses in 2021, precious metals have started the year on a weaker footing. For gold and silver, investors have started to price in tighter monetary policy tightening, while monitoring the surge in inflation and the pace of the economic recovery. Encouragingly, both of these precious metals retraced some 2022 losses this year as Fed Chair Powell sought to reassure investors that the Fed can contain high inflation without hampering US economic growth. Meanwhile, despite platinum and palladium set to gain on the expected robust recovery in global automotive production, both precious metals have started the year flat.

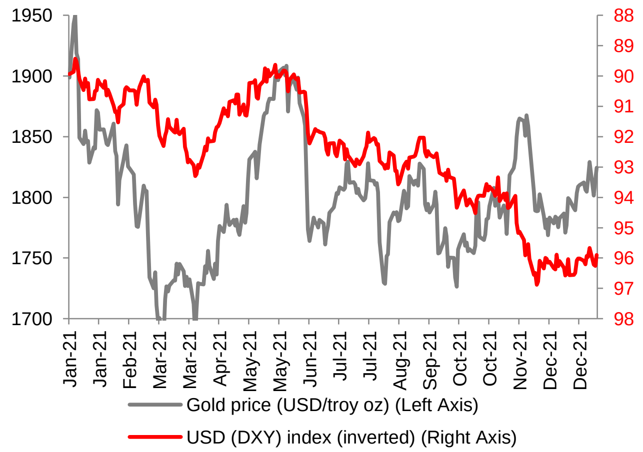
Gold

Gold retracted its early 2022 trading days losses on a less hawkish Fed

Gold's rally this week has retraced most of the early trading days losses this year. This has been fuelled by a pullback in yields and a slightly lower USD on the back of the less hawkish Powell comments at the Senate Banking Committee hearing. Gold

RISING US REAL YIELDS AND TIGHTENING GLOBAL LIQUIDITY CREATES SIZABLE HEADWINDS FOR GOLD

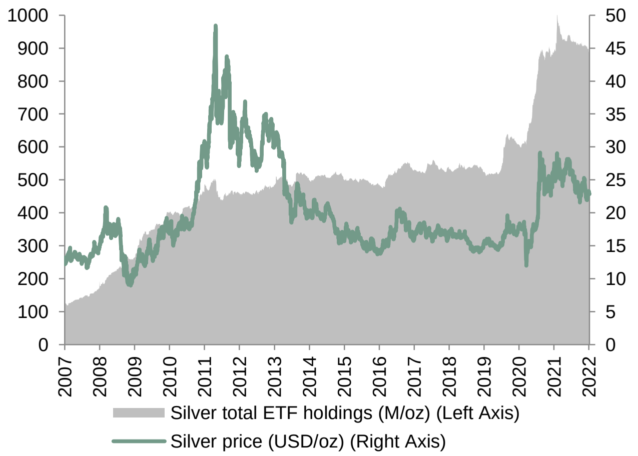
GOLD PRICE (USD/OZ) VS USD (DXY) INDEX (INVERTED)



Source: Bloomberg, MUFG Research

DESPITE STRONGER INDUSTRIAL DEMAND, SILVER WILL STRUGGLE TO BREAK AWAY FROM GOLD

SILVER PRICE (USD/OZ) VS SILVER TOTAL ETF HOLDINGS (M/OZ)



Source: Bloomberg, MUFG Research

price fell in 2021 with our expectation that many of the factors undercutting gold to carryover and help shape prices this year. While the global economy is slowing, it's likely to remain above trend over the next couple of years, and this, along with higher yields, is detracting from the need to own bullion as a perceived safe haven. The rise in inflation is buoying retail demand but institutional investors remain reluctant to add to holdings. Looking ahead, with the Fed ready for policy rate lift-off and global liquidity conditions tightening, headwinds from rising US real yields, alongside weaker-than-expected physical emerging market demand, will result in a directionally bearish tilt for gold.

Silver

Silver fated to follow gold lower this year

Silver has followed gold's trend thus far this year with slightly more underperformance owing to industrial demand uncertainty. We expect silver to struggle to break way materially from gold on higher rates and a stronger trend USD with ETF holdings remaining elevated, creating an overhang.

Platinum and palladium

Slow start to the year for PGMs but these metals are likely to outperform on a resurging global automotive sector

Its been a slow start to the year for platinum group metals (PGM) with prices trading range bound with gains on a less hawkish Fed stalling on fresh news on the success of EV vehicles in China. Going forward, we are of the view that the anticipated rebound in PGM demand stemming from the sequential recovery in the global automotive sector to be supportive for PGM prices in 2022. Moreover, rising real rate expectations against the backdrop of a primary market surplus and soft investment demand should buttress the PGM complex.

BULK COMMODITIES (5.1% W/W; 14.2% YTD): ROBUST START TO 2022 BUT PRICES WILL EASE ONCE AGAIN

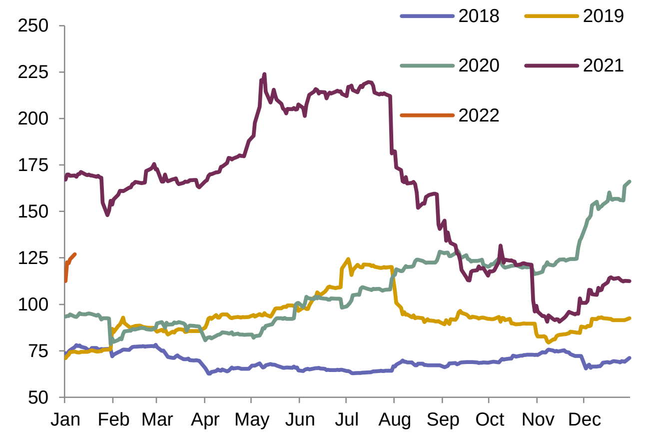
Iron ore

Iron ore off to a robust start as rains hamper Brazilian supply but likely to prove short-lived

Iron ore is suffering from a bad case of irrational exuberance – while it has surged anew thus far in 2022 (up ~15%) as rains hamper Brazilian supply these gains will unlikely endure given a rebound in supply. Holdings of Brazilian ore at China's port are close to an all-time high after surging last year, signalling that there's ample cushion of material on hand. The upcoming Winter Olympics in Beijing are likely to

IRON ORE PRICES HAVE STARED ROBUSTLY IN 2022 BUT MAY SUFFER FROM IRRATIONAL EXUBERANCE

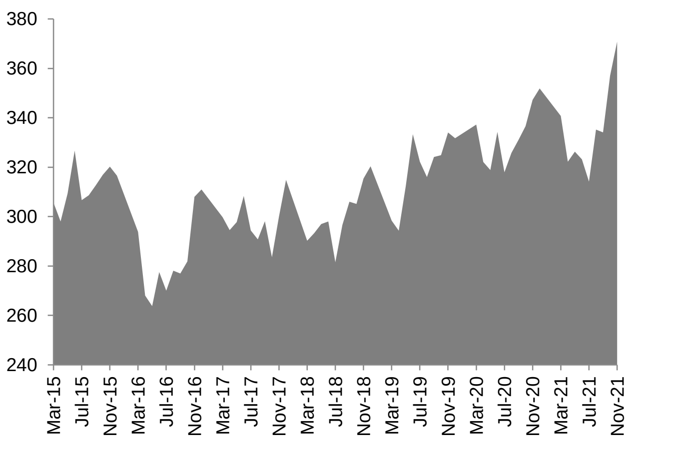
IRON ORE SPOT PRICE (USD/T)



Source: Bloomberg, MUFG Research

CHINA HAS SUCCESSFULLY RAMPED UP COAL SUPPLY BUT IMPORTS ARE SET TO FALL BACK

CHINA COAL PRODUCTION (MT/DAY)



Source: Bloomberg, MUFG Research

lead to reduced steel production to keep the air clean, curbing demand for iron ore in the near-term. Finally, iron ore is flooding out of Australia at a tremendous pace right now, with top gateway Port Hedland setting a record for the month of December. Looking ahead, iron ore prices are expected to follow a U-shaped profile this year with Chinese credit easing prompting property starts and sales to bounce back in H2 2022 following major declines in H1 2022.

Coal

Coal prices are up so far in 2022 but we anticipate incremental weakness stemming from projected declines in Chinese steel output

Hard coking coal prices have started the year much in the same way that they concluded 2021, with prices rising ~8% thus far in 2022. Indonesia announced that it will gradually resume coal exports once supply for state utility Perusahaan Listrik Negara has been secured. Meanwhile, China has successfully ramped coal supply, which is now stable at >12Mt/day, according to China's National Development and Reform Commission (NRDC). As a result, China's utility inventories are ~7% higher than over the summer last year, and power shortages are easing. Going forward, we see tightness in the seaborne market gradually easing through 2022, as China's import demand falls back and some supply disruptions prove transitory.

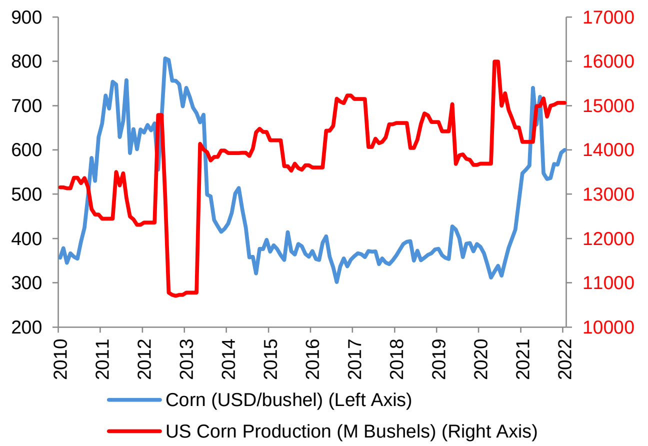
AGRICULTURE (-0.4% W/W; 2.6% YTD): MIXED START TO 2022 BUT OUTLOOK REMAINS BEARISH

Mixed start for the Agricultural commodity subgroup with coffee performing best and sugar trailing

The agriculture commodity subgroup has had a mixed start to 2022. Supply-chain disruptions looks set to hamper sugar shipments from India (world's second largest producer), with a surge in local freight costs squeezing trader margins. The availability of railway wagons is scarce due to high demand from other core sectors such as coal for power plants, resulting in a surge in truck transport rates. Switching gears, Brazil's agricultural agency, CONAB, has revised down its domestic corn production estimate to 112.9m/t in 2021/22 compared to its previous estimates of 117.2m/t on account of dry weather over recent weeks. The downward revision in production estimates was lower than the 115.7m/t the market was expecting. CONAB expects that adverse weather will have a significant impact on the first corn crop. Yields for the first crop were revised down from 6.5t/ha to 5.5t/ha. Production estimates for the larger safrinha crop were left unchanged for now. For soybeans, the agency revised down production estimates from 142.8m/t to 140.5m/t. The market was expecting output to be revised down to around 135.8m/t.

PRUDENT MARKET MANAGEMENT BY OPEC+ TO REACT TO THE VIRUS HAS PROVEN HIGHLY SUCCESSFUL

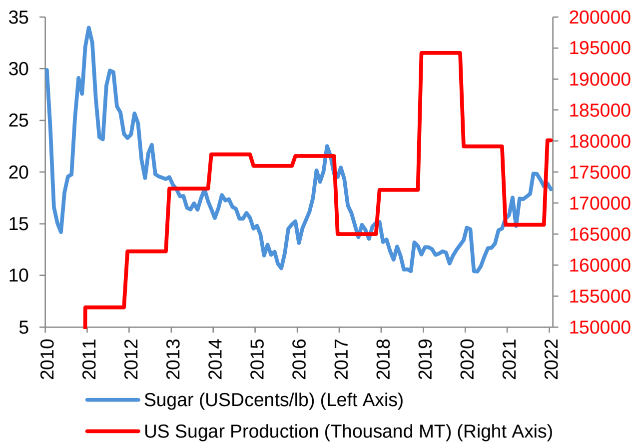
CORN (USD/BUSHEL) VS US CORN PRODUCTION (M BUSHELS)



Source: Bloomberg, MUFG Research

SHEER VELOCITY OF STERN OPEC+ COMPLIANCE ON ITS LARGEST CUTS IN HISTORY HAS BEEN IMPRESSIVE

SUGAR (USD CENTS/LB) VS US SUGAR PRODUCTION (THOUSAND MT)



Source: Bloomberg, MUFG Research

Commodity prices – performance

				2021	2021/2022				Change %						
	Commodity	Ticker	Unit	31-Dec	22-Dec	29-Dec	05-Jan	12-Jan	Week	1 MTD	3 MTD	YTD	1 Year	3 Years	5 years
1	Bloomberg BCOM Total Returns	BCOMTR Index	Index	211.80	207.48	213.70	214.82	219.49	2.17	4.28	0.68	4.28	28.32	33.07	23.43
2	Bloomberg BCOM Spot Index	BCOMSP Index	Index	502.25	492.00	506.75	509.39	520.95	2.27	3.72	-0.06	3.72	26.83	55.75	54.08
3	Energy	BCOMENSP Index	Index	368.86	358.03	376.83	376.95	400.34	6.21	8.54	-8.44	8.54	52.34	47.90	49.26
4	US Natural Gas	NG1 Comdty	USD/MMBtu	3.73	3.87	4.06	3.72	4.25	14.31	18.71	-19.56	18.71	60.84	42.88	30.77
5	WTI Crude	CL1 Comdty	USD/b	75.21	71.12	75.98	76.99	81.22	5.49	8.20	0.92	8.20	52.94	57.74	53.52
6	Brent Crude	CO1 Comdty	USD/b	77.78	73.98	78.94	80.00	83.72	4.65	7.62	0.35	7.62	47.95	38.41	49.46
7	Gasoline	HO1 Comdty	USD/lb	222.85	215.22	224.71	227.63	235.74	3.56	5.69	-1.16	5.69	51.66	68.15	46.22
8	EU ETS EUA	MO1 Comdty	USD/gal	80.22	80.49	78.86	84.55	81.03	-4.16	1.40	38.03	1.40	135.36	259.91	1,514
9	Metals	BCOMIN Index	Index	172.89	167.69	172.15	174.85	177.04	1.25	3.81	5.37	3.81	31.74	61.39	57.09
10	Industrial Metals Index	BCOMINSP Index	Index	303.57	294.44	302.26	307.01	310.91	1.27	2.42	3.61	2.42	32.59	66.49	70.92
11	Copper	HG1 Comdty	USD/lb	9,721	9,534	9,568	9,768	9,720	-0.50	-0.01	1.85	-0.01	23.59	63.57	70.10
12	Aluminium	LA1 Comdty	USD/MT	2,803	2,744	2,840	2,834	2,961	4.50	5.65	-2.86	5.65	47.80	63.29	68.30
13	Zinc	ZNC1 Comdty	USD/MT	3,580	3,455	3,557	3,648	3,579	-1.90	-0.04	10.79	-0.04	27.72	60.40	71.61
14	Nickel	LN1 Comdty	USD/MT	20,874	19,686	20,128	21,250	21,966	3.37	5.23	14.79	5.23	28.95	92.46	116.84
15	Precious Metals Index	BCOMPRSP Index	Index	530.97	517.89	525.81	526.35	526.38	0.01	-0.87	2.99	-0.87	-3.35	42.14	47.65
16	Gold	GC1 Comdty	USD/t oz	1,829	1,788	1,810	1,815	1,819	0.21	-0.62	3.36	-0.62	-1.46	40.93	51.47
17	Silver	SI1 Comdty	USD/t oz	23.35	22.50	23.11	23.06	22.81	-1.06	-2.56	1.07	-2.56	-10.54	45.34	35.25
18	Platinum	PL1 Comdty	USD/t oz	964.40	927.80	979.40	970.40	973.80	0.35	0.31	-4.19	0.31	-8.98	18.99	-1.38
19	Palladium	PA1 Comdty	USD/t oz	1,912	1,791	1,998	1,860	1,922	3.36	0.31	-6.34	0.31	-19.28	50.00	150.64
20	Bulk Commodities														
21	Hard Coking Coal	XW1 Comdty	USD/MT	341.76	337.33	341.00	360.50	380.67	5.60	14.12	-1.68	14.12	266.54	101.03	107.45
22	Iron Ore	SCO1 Comdty	USD/MT	112.50	114.55	112.71	122.09	127.62	4.53	15.47	2.46	15.47	-23.31	75.14	64.39
23	Agriculture	BCOMAG Index	Index	60.79	60.51	61.48	62.20	61.96	-0.37	2.06	8.67	2.06	23.69	46.14	10.47
24	Agriculture Index	BCOMAGSP Index	Index	406.67	404.83	411.30	416.07	414.52	-0.37	1.93	8.32	1.93	23.51	65.14	53.50
25	Grain Index	BCOMGRSP Index	Index	293.87	296.71	299.80	300.45	298.11	-0.78	1.45	12.03	1.45	10.41	55.35	59.37
26	Soybean	S 1 Comdty	USD/bu	1,328.75	1,308.00	1,359.25	1,378.75	1,376.75	-0.15	3.61	12.09	3.61	0.16	53.10	37.26
27	Wheat	W 1 Comdty	USD/bu	770.75	799.00	783.50	770.00	770.25	0.03	-0.36	4.63	-0.36	15.49	47.83	80.18
28	Corn	C 1 Comdty	USD/bu	593.25	598.25	604.75	609.50	601.00	-1.39	1.14	14.83	1.14	16.00	58.63	67.48
29	Soft Index	BCOMOSSP Index	Index	394.34	391.46	392.73	400.68	399.96	-0.18	1.43	4.01	1.43	51.49	79.41	28.69
30	Cotton	CT1 Comdty	USD/lb	112.60	107.27	110.05	116.39	116.02	-0.32	3.20	9.23	3.20	42.23	60.30	60.63
31	Coffee	KC1 Comdty	USD/lb	226.10	228.25	225.60	231.75	237.05	2.29	6.70	13.18	6.70	98.72	132.31	61.26
32	Sugar	SB1 Comdty	USD/lb	18.88	18.74	18.96	18.75	18.11	-3.41	-3.34	-9.07	-3.34	18.05	42.80	-12.09
33	Livestock Index	BCOMLISP Index	Index	196.83	194.80	197.38	194.02	195.41	0.72	-0.72	6.11	-0.72	19.06	14.37	20.76
34	Live Cattle	LC1 Comdty	USD/lb	138.90	135.53	138.48	137.83	137.68	-0.11	-0.88	9.59	-0.88	21.41	10.16	15.57
35	Lean Hogs	LH1 Comdty	USD/lb	81.48	82.43	82.63	80.15	77.85	-2.87	-4.45	-13.45	-4.45	13.69	24.26	18.67
36	USD Index	DXY Index	Index	95.67	96.49	96.20	96.26	95.62	-0.66	-0.04	1.18	-0.04	6.14	-0.04	-5.64

Source: Bloomberg, MUFG Research

Commodity prices – quarterly and annual forecasts

	Commodity	Ticker	Unit	12-Jan	Quarter Averages							Annuals			
				Spot	Q4-21	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23	2021	2022	2023	2024
1	**Energy**														
2	US Natural Gas	NG1 Comdty	USD/MMBtu	4.25	4.82	3.93	3.84	3.73	3.84	3.88	3.82	3.72	3.84	3.90	3.76
	EU Natural Gas	TZTA Comdty	EUR/MWh	78.74	96.50	74.00	70.00	65.00	77.50	72.00	60.00	47.76	71.63	64.00	60.00
	EU ETS EUA	MO1 Comdty	EUR/MT	81.03	68.78	75.00	77.00	73.00	86.50	83.00	88.00	53.46	77.88	90.00	104.00
3	WTI Crude	CL1 Comdty	USD/b	81.22	77.07	70.90	68.50	67.20	79.70	83.40	85.20	68.00	71.58	85.80	90.20
4	Brent Crude	CO1 Comdty	USD/b	83.72	79.66	74.50	72.30	70.40	82.10	86.70	88.40	70.85	74.83	89.20	93.40
5	**Base Metals**														
6	Copper	HG1 Comdty	USD/lb	9,720	9,584	9,800	9,600	10,400	10,850	10,500	10,800	9,292	10,163	10,750	11,250
7	Aluminium	LA1 Comdty	USD/MT	2,961	2,761	2,875	2,500	2,800	3,285	3,250	3,400	2,477	2,865	3,150	3,385
8	Zinc	ZNC1 Comdty	USD/MT	3,579	3,336	3,400	3,450	3,200	3,850	3,500	3,550	3,022	3,475	3,450	3,800
9	Nickel	LN1 Comdty	USD/MT	21,966	19,770	20,450	20,600	21,000	22,050	22,250	22,400	18,457	21,025	22,300	21,800
10	**Precious Metals**														
11	Gold	XA1 Comdty	USD/t oz	1,828.60	1,819	1,796	1,895	1,750	1,713	1,694	1,638	1,799	1,763	1,650	1,580
12	Silver	SI1 Comdty	USD/t oz	23.35	22.81	23.35	22.80	22.00	21.50	21.20	20.50	25.16	21.88	20.20	19.50
13	Platinum	PL1 Comdty	USD/t oz	964.40	973.80	997.16	980	1,025	1,040	1,110	1,125	1,089	1,039	1,165	1,190
14	Palladium	PA1 Comdty	USD/t oz	1,912.10	1,922	1,941	1,930	2,050	2,150	2,155	2,200	2,391	2,071	2,260	2,305
15	**Bulk Commodities**														
16	Hard Coking Coal	XW1 Comdty	USD/MT	380.67	315.77	373.00	395.00	340.00	320.00	290.00	275.00	213.98	357.00	285.00	220.00
17	Iron Ore	SCO1 Comdty	USD/MT	127.62	108.30	90.00	95.00	102.00	105.00	90.00	80.00	159.83	98.00	102.00	113.00
18	**Agriculture**														
19	Soybean	S 1 Comdty	USD/bu	1,376.8	1,254.3	1,300	1,370	1,380	1,270	1,200	1,160	1,375	1,330	1,215	1,176
20	Wheat	W 1 Comdty	USD/bu	770.25	801.73	780.00	790.00	785.00	705.00	770.00	750.00	683.47	765.00	799.55	757.46
21	Corn	C 1 Comdty	USD/bu	601.00	567.65	595.00	605.00	600.00	570.00	550.00	500.00	581.69	592.50	542.42	503.32
22	Cotton	CT1 Comdty	USD/lb	116.02	112.14	111.00	109.00	106.00	96.00	90.00	88.00	93.43	105.50	84.00	80.00
23	Coffee	KC1 Comdty	USD/lb	237.05	220.46	220.00	215.00	225.00	220.00	180.00	190.00	168.75	220.00	232.00	250.00
24	Sugar	SB1 Comdty	USD/lb	18.11	19.51	18.00	17.00	18.50	18.30	19.00	20.00	17.86	17.95	18.00	16.00

Source: Bloomberg, MUFG Research

Commodity prices – 6-12 month forward outlook, vs. spot/nearby forwards

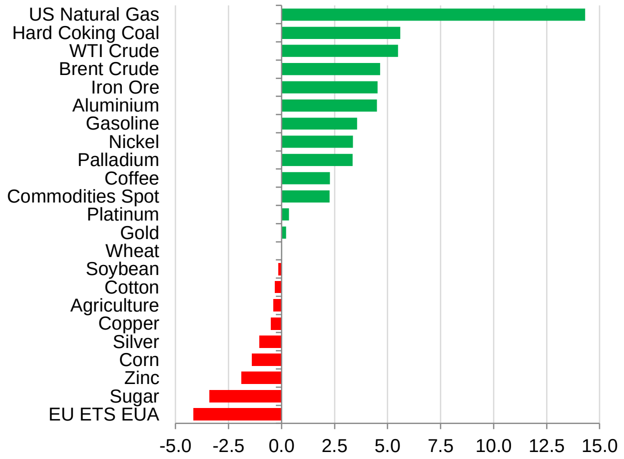
		Bullish	Neutral-to-bullish	Neutral	Neutral-to-bearish	Bearish
1	Energy	Carbon prices	---	Brent, WTI, Natural Gas	Gasoline	
2	Base Metals	Aluminium, Copper, Zinc, Nickel	---	---	---	---
3	Precious Metals	Platinum, Palladium	---	---	---	Gold, Silver
4	Bulk Commodities	---	---	---		Iron Ore, Hard Coking Coal
5	Agriculture	---	---	---	Coffee, Sugar	Soybean, Wheat, Corn, Cotton

Source: Bloomberg, MUFG Research

Core indicators – commodities flows and returns

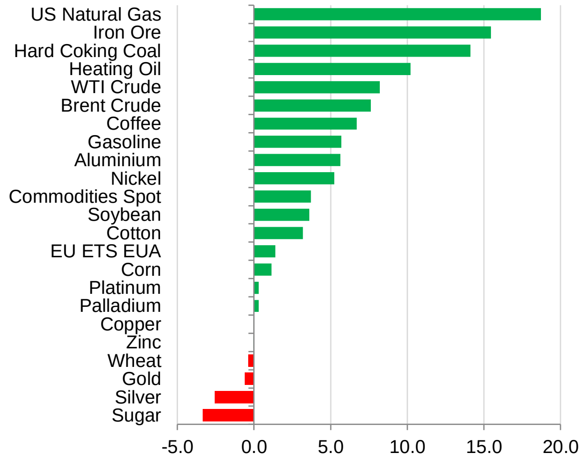
COMMODITIES MARKET PRICE RETURNS

WEEK ENDING 12 January 2022 (% W/W)



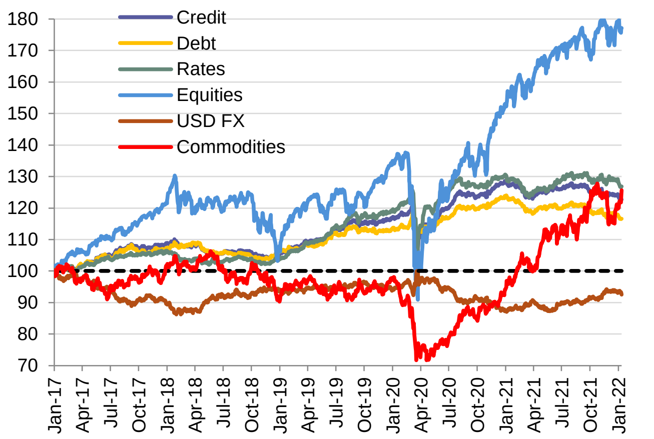
COMMODITIES MARKET PRICE RETURNS

YEAR-TO-DATE 2022 (%)



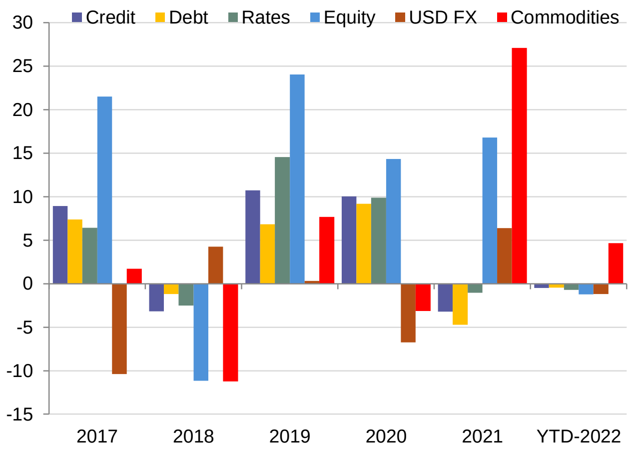
USD-DENOMINATED GLOBAL ASSET MARKET RETURNS

REBASED JANUARY 2019 = 100



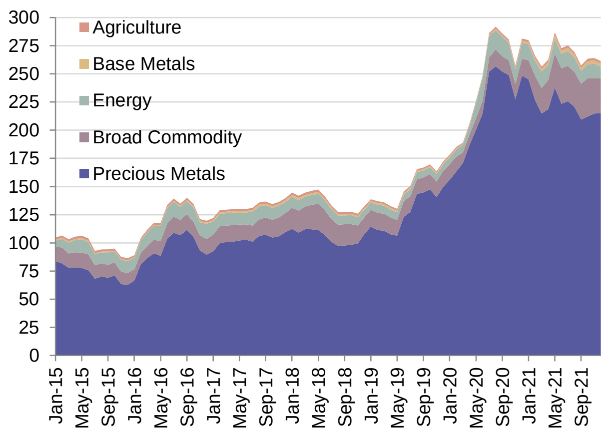
USD-DENOMINATED GLOBALL ASSET MARKET RETURNS

ANNUALISED PERFORMANCE (%)



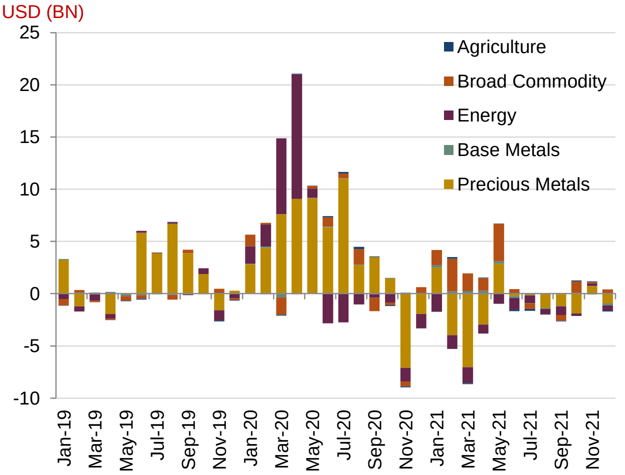
COMMODITIES ETF COMBINED CUMULATIVE AUM

USD (BN)



COMMODITIES ETF COMBINED CUMULATIVE FUND FLOWS

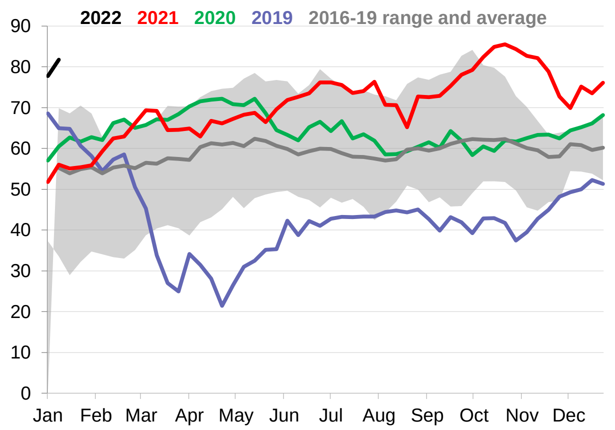
USD (BN)



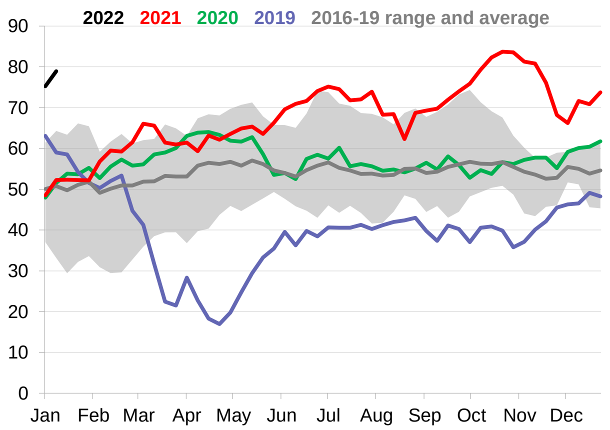
Source: Bloomberg, MUFG Research

Core indicators – prices

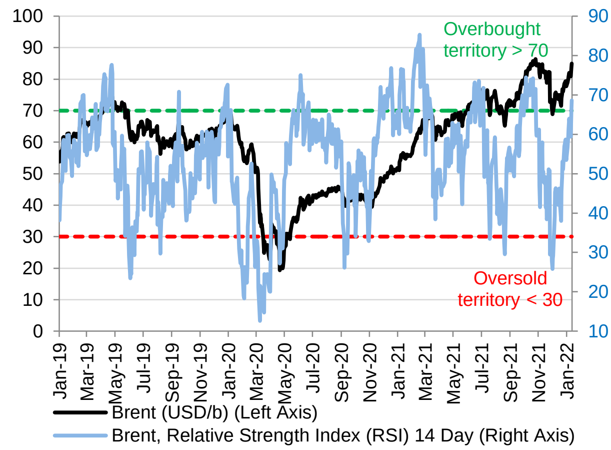
BRENT SPOT
USD/B



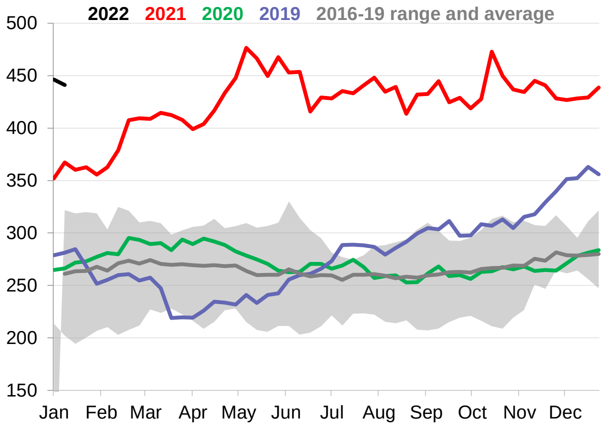
NYMEX WTI SPOT
USD/B



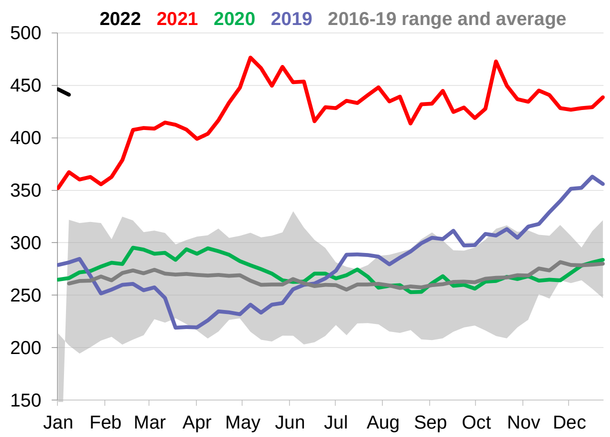
14 DAY RELATIVE STRENGTH INDEX (RSI) AND WTI
USD/B AND 0-100 INDEX (<30 = OVERSOLD; >70 = OVERBOUGHT)



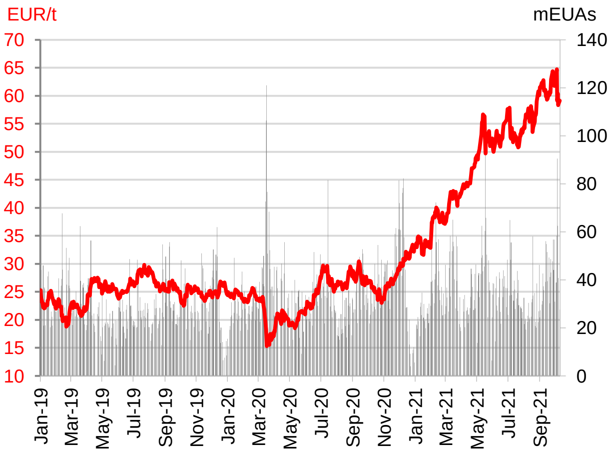
COPPER SPOT
USD/LB



GOLD SPOT
USD/T OZ



EU CARBON PRICE AND VOLUME
EUR/T AND EUA'S (THOUSAND VOLUME)

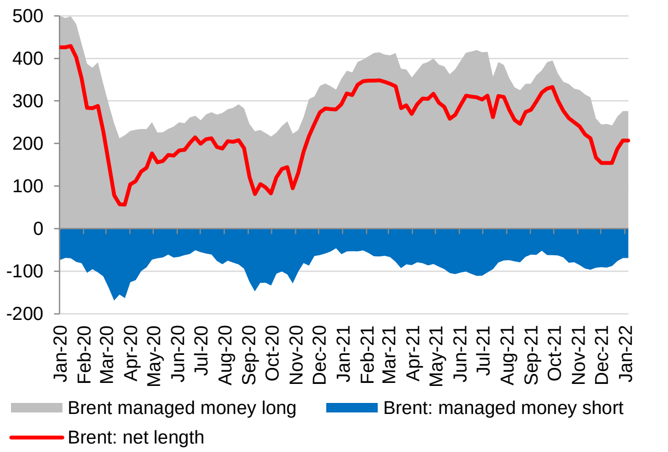


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – market positioning

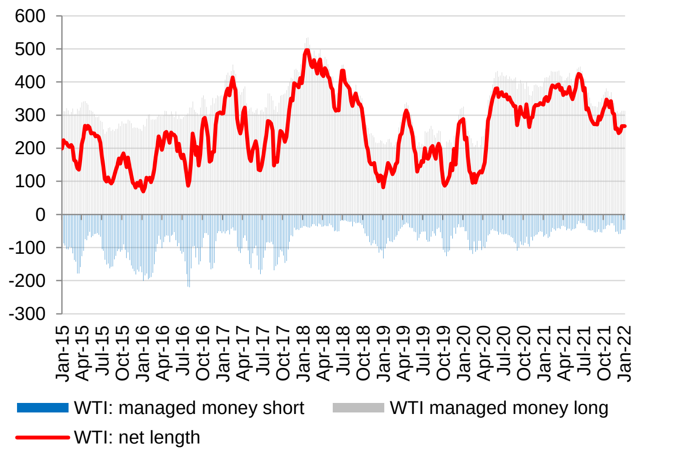
BRENT CRUDE MANAGED MONEY

CONTRACTS (THOUSANDS)



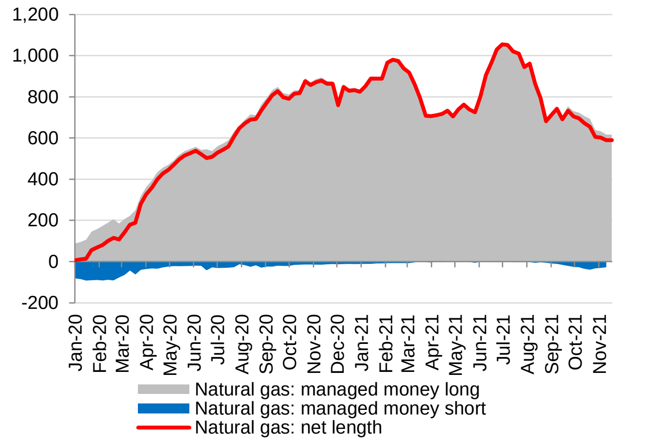
WTI CRUDE MANAGED MONEY

CONTRACTS (THOUSANDS)



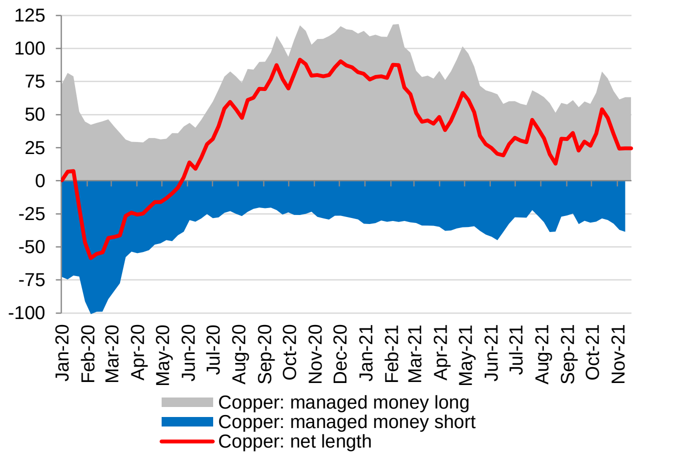
HENRY HUB NATURAL GAS MANAGED MONEY

CONTRACTS (THOUSANDS)



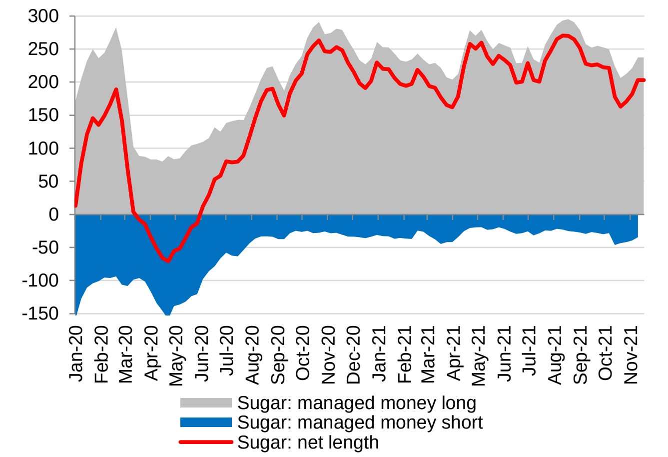
BRENT NET LENGTH MANAGED MONEY

CONTRACTS (THOUSANDS)



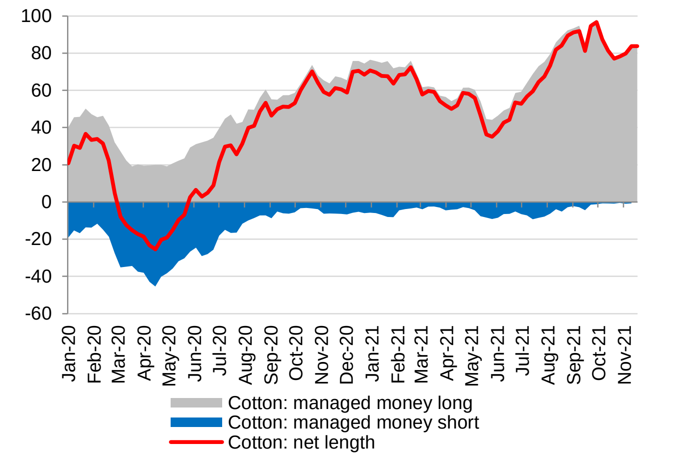
SUGAR MANAGED MONEY

CONTRACTS (THOUSANDS)



COTTON MANAGED MONEY

CONTRACTS (THOUSANDS)

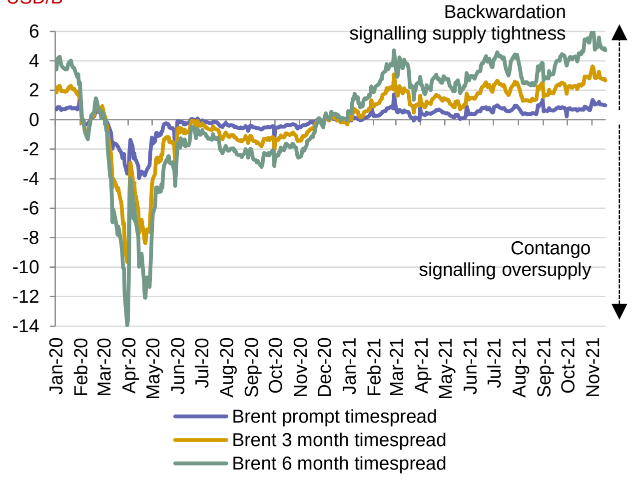


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – timespreads and futures

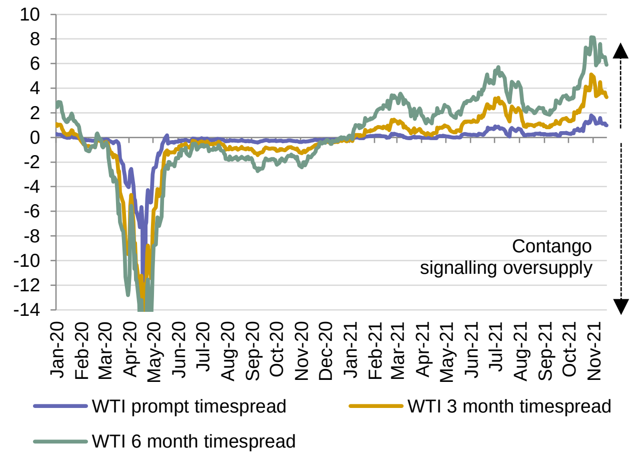
BRENT TIMESPREADS – FRONT, 3 A ND 6 MONTHS

USD/B



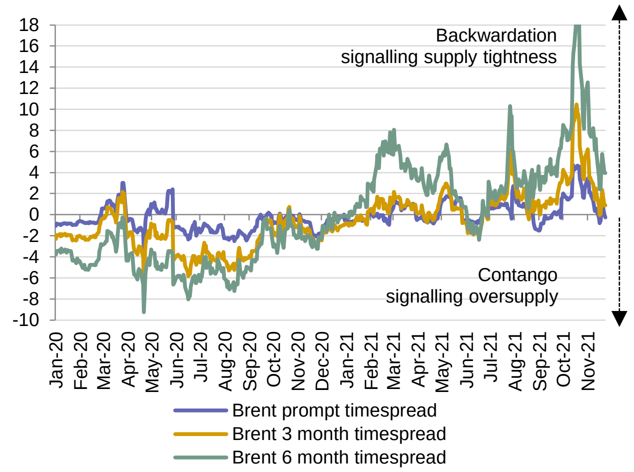
WTI TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



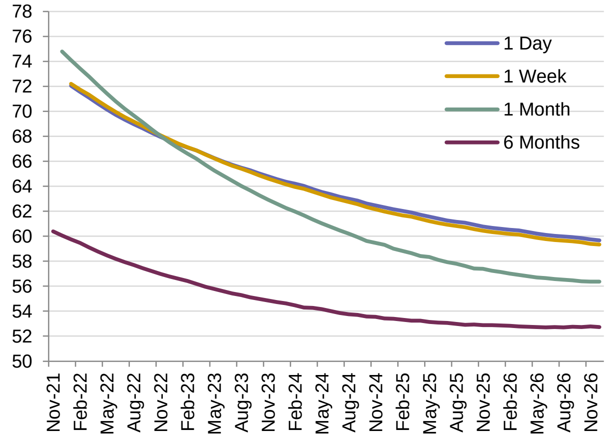
COPPER TIMESPREADS – FRONT, 3 A ND 6 MONTHS

USD/B



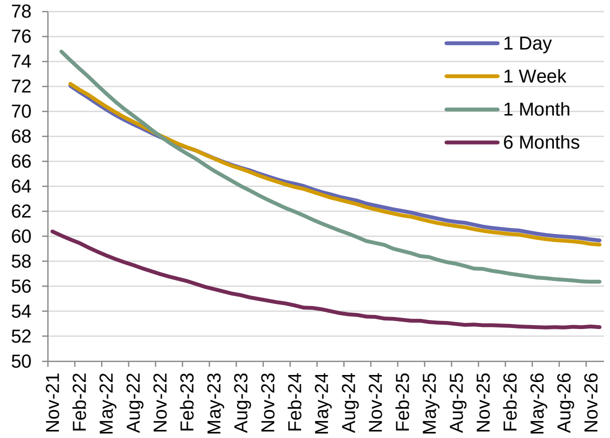
BRENT FUTURES CURVE

USD/B



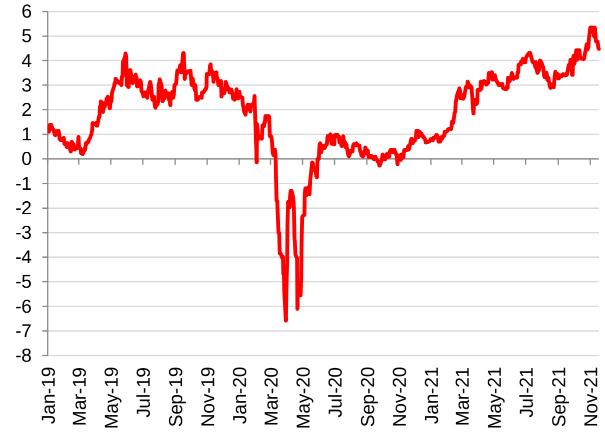
WTI FUTURES CURVE

USD/B



BRENT-DUBAI SPREAD

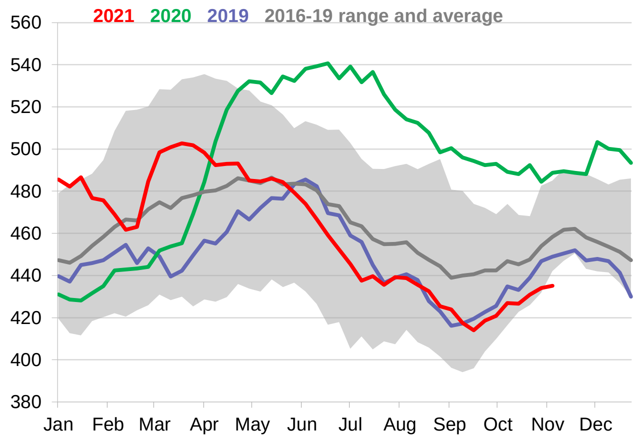
USD/B



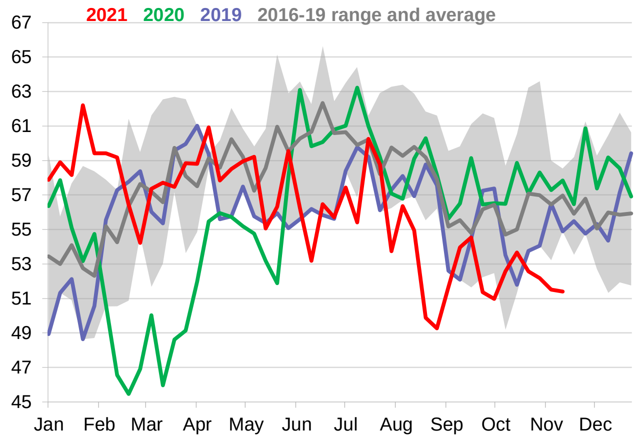
Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – inventories, storage and products

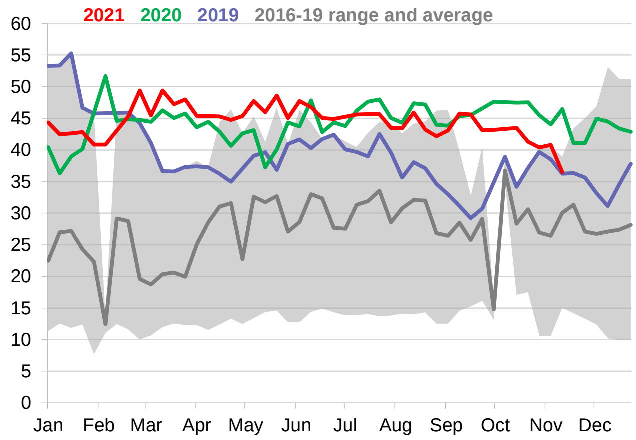
US CRUDE INVENTORIES
MILLION BARRELS



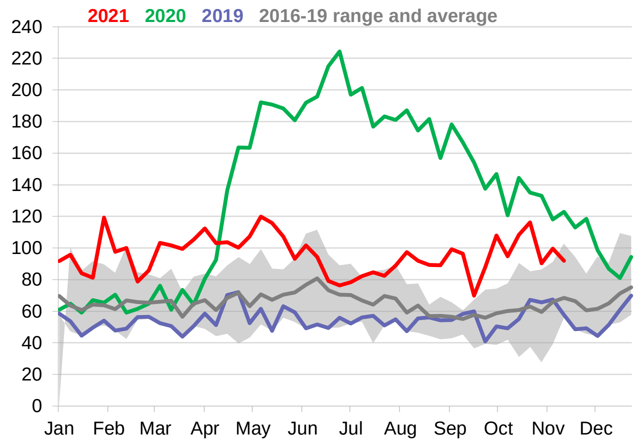
ARA CRUDE INVENTORIES
MILLION BARRELS



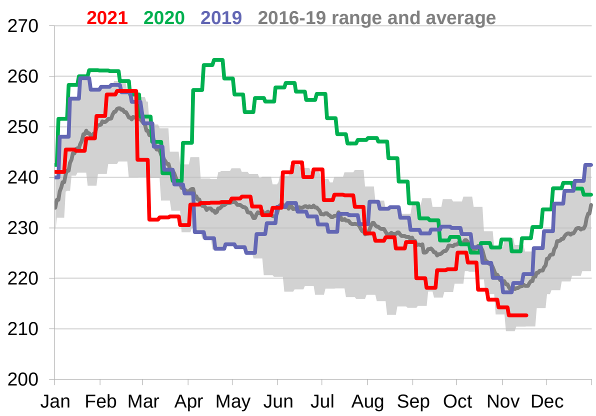
CHINA SHANDONG CRUDE INVENTORIES
MILLION BARRELS



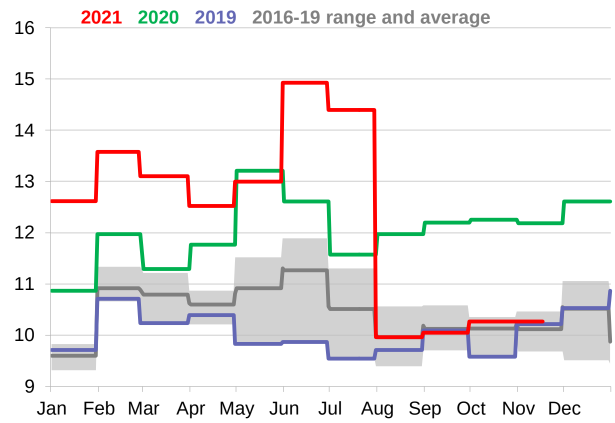
GLOBAL CRUDE FLOATING STORAGE
MILLION BARRELS



US GASOLINE INVENTORIES
MILLION BARRELS



JAPAN GASOLINE INVENTORIES
MILLION BARRELS



Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

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