

EHSAN KHOMAN

Head of Emerging Markets Research
– EMEA

DIFC Branch – Dubai
T: +971 (0)4 387 5033

E: ehsan.khoman@ae.mufg.jp

MUFG Bank, Ltd.

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Long on conviction, short on financial positioning

Global commodities: Financial constraints in capital markets and bank lending is causing financial markets to decouple from physical commodity markets. We recently catalogued this phenomenon of a vicious feedback loop, where a pullback in credit to only a few commodity trading entities leaves remaining ones unable to meet demand for financial intermediation. This is lowering market participation, driving down liquidity and exacerbating realised as well as anticipated inflation, ultimately causing commodity prices to rise further (see [here](#)). Succinctly, the physical market remains resolutely long on its commodities conviction (see [here](#)), but ongoing volatility in financial markets makes it short on positioning.

Energy: Oil has pared back its recent gains as our IMF global growth forecasts alongside resolutely hawkish Fed comments, is weighing on sentiment. Meanwhile, US natural gas prices remain at 14 year highs, supercharged by a surge in demand with our expectations that elevated volatility will remain entrenched (see [here](#)).

Base metals: A spike in US yields, USD appreciation and ongoing Chinese COVID-induced lockdowns continue to weigh on aluminium, copper, nickel and zinc prices.

Precious metals: Gold and silver continue to trade, surging yields, USD appreciation and the geopolitical thermometer higher, and the hawkish Fed stance, lower. For PGMs, palladium is up on supply angst but overextended, platinum could rally further.

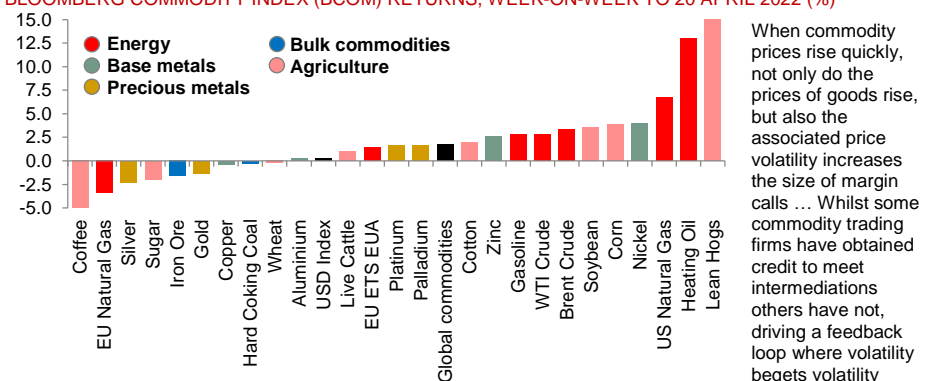
Bulk commodities: The coal market is in a state of flux with an unprecedented challenge to remap trade flows as Europe seeks to replace ~50/MT of Russian thermal coal. Meanwhile, iron ore prices have continued their grind lower as Tangshan city (China's key steel making hub) entering another round of lockdowns.

Agriculture: In signs of demand destruction, surging fertiliser costs is having Asian rice farmers scaling back their use – we are in the midst of the sharpest grains shock since the 1973 “great grain robbery” (see [here](#)) – food inflation will rise further.

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

WEEKLY COMMODITIES PERFORMANCE: FINANCIAL LIMITS DRIVES VOLATILITY

BLOOMBERG COMMODITY INDEX (BCOM) RETURNS, WEEK-ON-WEEK TO 20 APRIL 2022 (%)



Source: Bloomberg, MUFG Research

GLOBAL COMMODITIES (1.8% W/W; 30.9% YTD)

With nearly all commodities up year-to-date on supply scarcity – this is heightening volatility

Financial constraints in capital markets and bank lending is causing financial markets to decouple from physical commodity markets

When commodity prices rise quickly, not only do the prices of goods rise, but also the associated price volatility increases the size of margin calls

Whilst some commodity trading firms have obtained credit to meet intermediations others have not

The physical market remains resolutely long on its commodities conviction, but volatility in financial markets makes it short on positioning

What began as a severely dislocated commodities market at the start of 2022 anchored on structural supply scarcity, is being turbo-charged by the Russia-Ukraine war. This is now an extreme molecule crisis with 22 out of 23 energy, metals and agricultural commodities in the Bloomberg commodity (BCOM) index up year-to-date.

Financial constraints in capital markets (driven by ESG policies that stymies commodity companies' access to equity and bond markets) and bank lending (driven by regulations that have pushed banks to channel their balance sheets towards capital-light activities) is causing financial markets to decouple from physical markets. We catalogued this phenomenon of a vicious volatile feedback loop, where a pullback in credit to only a few commodity trading entities leaves remaining ones unable to meet demand for financial intermediation (see [here](#)). This lowers market participation, driving down liquidity and exacerbating realised as well as anticipated inflation, ultimately causing prices to rise further alongside even higher volatility.

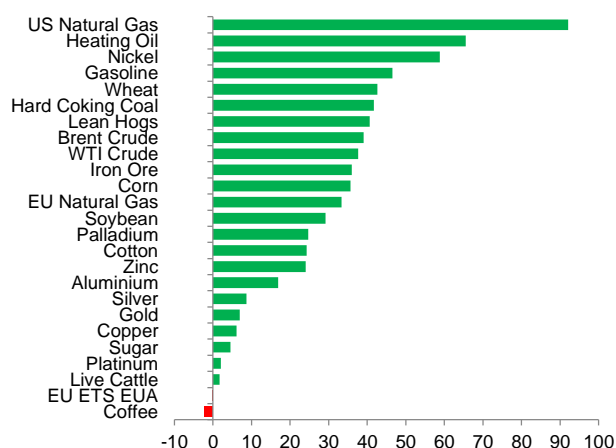
To put this into context, the financing needs for commodities increase markedly as prices surge. When commodity prices rise quickly, not only do the prices of goods rise, but also the associated price volatility increases the size of margin calls. The rapid price increases across the commodities complex signals that trading firms need additional credit to finance not only the goods they purchase but also the margin they must post. The liquidity strains associated with margin calls for hedges can incentivise firms to trade further in derivatives. To protect against further commodity price surges, firms may purchase options with higher strike prices to generate cash inflows that offset margin calls on their short commodity futures positions.

In this environment of growing commodity financing needs, banks are the key source of credit to commodity trading firms. While so far, commodity trading firms appear to have obtained the credit necessary to continue their intermediation activities, the recent situation of some banks paring back lending highlights vulnerabilities.

Looking ahead, closer scrutiny in the intermediation of commodity markets is critical. Commodity price shocks can trigger a feedback loop that causes prices to rise further. Also, price rises exacerbated by financial stress could hasten demand destruction, elevate realised and expected inflation and tighten financial conditions. Succinctly, the physical market remains resolutely long on its commodities conviction (see [here](#)), but volatility in financial markets makes it short on positioning.

WITH NEARLY ALL COMMODITIES UP YTD, THE ACUTE ASSOCIATED VOLATILITY HAS RAISED MARGIN CALLS

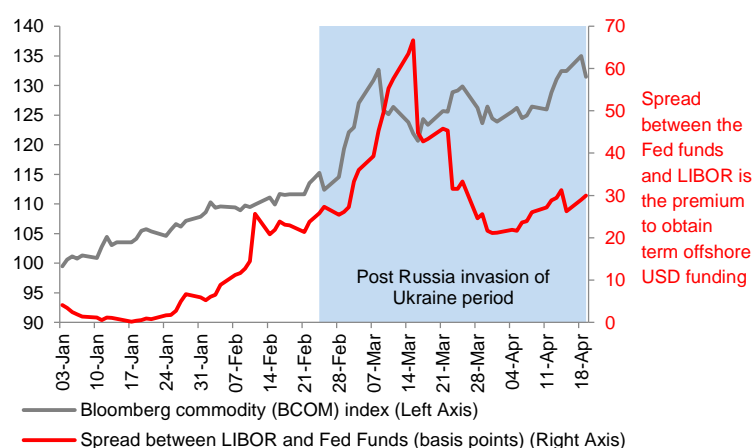
COMMODITY (BCOM) INDEX SUBGROUPS, PERFORMANCE YTD (%)



Source: Bloomberg, MUFG Research

OFFSHORE US DOLLAR FUNDING COSTS ARE RISING ALONG WITH COMMODITY FUNDING COSTS

COMMODITY (BCOM) INDEX VS LIBOR AND FED FUNDS SPREAD (BPS)



Source: Bloomberg, Dallas Fed, MUFG Research

ENERGY (4.1% W/W; 58.0% YTD)

Crude oil

Oil falls as markets weigh the demand outlook

Oil has pared back its recent gains after the IMF downgraded its global growth forecast to 3.6% this year, down 0.8ppts from January's projections and 1.3ppts lower compared with its October 2021 estimates. The IMF stated that prospects had "worsened significantly" with countries closest to the Ukraine war likely to be hardest hit (see [here](#)), whilst risks of broader contagion more globally has intensified, raising the likelihood of even lower growth and more rapid inflationary pressures. In a simulation exercise, the IMF warned an immediate European oil and gas embargo against Russia would raise inflation further and requiring even higher interest rates. Meanwhile, hawkish comments from the Fed's St. Louis President, James Bullard, that the central bank needs to move quickly to raise rates, and shouldn't rule out raising the Fed funds rate by 75bps, intensified market concerns of a slowdown.

Russian physical decoupling signs continue to mount

In further signs that physical decoupling of Russian seaborne crude oil exports are taking hold, shipments have declined by 25% week-on-week to 15 April. A total of 30 tankers loaded an average seaborne crude flow of 3.12m b/d, down from 3.90m b/d in the week ending 8 April, according to Bloomberg. As we have documented, with mounting signs that tender offers for Russian crude remain bid-less, freight rates exorbitant, financial capacity in the conflict and shipping market limited as well as persistent concerns surrounding reputational repercussions as well as rising moral obligations to steer clear of Russian commodities, we believe the country's physical exports are set to decline between 2-3m b/d in the coming months ahead (see [here](#)).

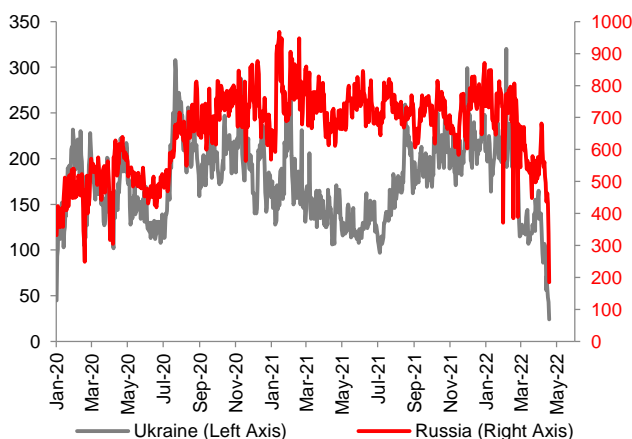
The specific and most immediate risk when it comes to Russian oil supply is the potential for the EU to include an oil ban in the next round of sanctions

Pressure is mounting within the EU for an embargo on Russian oil which would deliver an unprecedented supply shock of up to 4.0m b/d in displaced barrels. Our probability weighted scenario analysis signals that a full and immediate ban could see Brent crude trading ~USD165/b this quarter (see [here](#)). However, a more gradual phase-out over many months – akin to the approach taken with the ban on Russian coal supplies – could be pulled off with considerably less volatility to prices.

Sizable Libyan supply disruptions

Beyond the support to oil prices from Russian lost barrels, Libya's crude production has fallen by nearly half to 0.8m b/d from – lowest since October 2020 – as a wave of demonstrations against prime minister Abdul Hamid Dbeibah is engulfing the country. The shutdown are the latest in a series of disruptions to hit Libya amid the worsening political crisis and we envisage the outages likely lasting weeks rather than days.

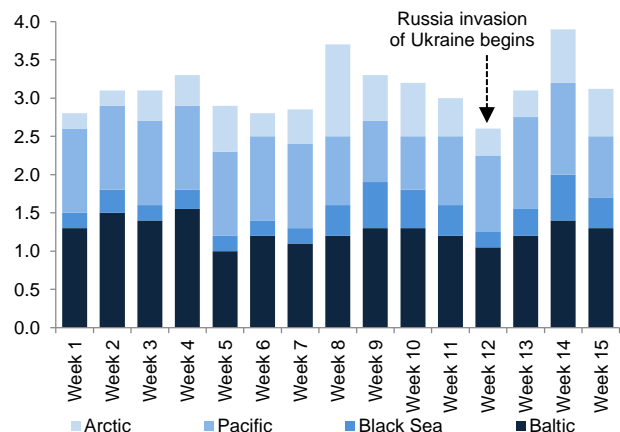
PORT ACTIVITY IN RUSSIA AND UKRAINE HAS COLLAPSED WITH SEABORNE CRUDE AT SEVERE RISK
BRENT CRUDE (USD/B) PROMPT TIMESPREAD



Source: Bloomberg, MUFG Research

RUSSIAN SEABORNE OIL FLOWS COLLAPSE BY 25% IN THE WEEK ENDING 15 APRIL

RUSSIA SEABORNE CRUDE EXPORTS FROM KEY PORTS, 2022 (USD/B)



Source: Bloomberg, MUFG Research

Natural gas

US natural gas spikes to the highest level since 2008 with elevated volatility set to become entrenched

US natural gas (Henry Hub) prices are on a tear. US Henry Hub prices have climbed to the highest level since 2008 (see [here](#)). The rally has been supercharged by a surge in demand – from an unusually cold spring that has stoked heating needs and a spike in LNG exports as Europe tries to wean itself off Russian gas. That’s cut US inventories to ~20% below normal levels. Also, traders are staring down forecasts for a warmer-than-expected summer that will boost demand for gas to generate electricity as demand for cooling systems rise. Historically, when gas becomes too expensive, power plant owners dial down some of their gas-fired generators and turn up those burning coal, putting a ceiling on demand and preventing prices from rising. However, utilities’ pivot away from coal is shrinking inventories and reducing their ability to move away from gas, leaving the market more susceptible to volatility.

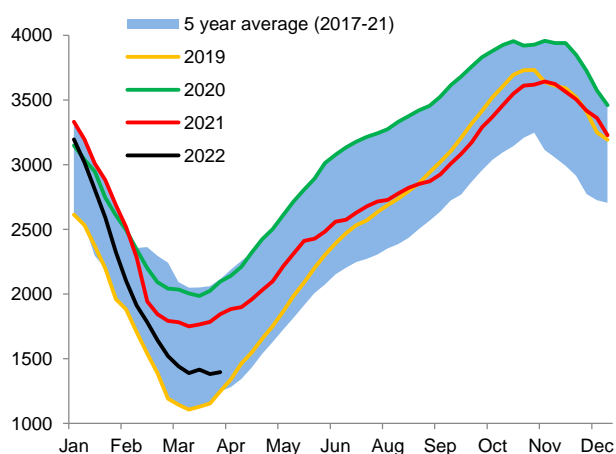
US LNG exports to Europe have surged to 60% of the total given its more a more profitable trade than with Asia alongside the pledge to redistribute more LNG towards the continent

Although the rally in European gas prices has cooled since the Russian invasion of Ukraine, prices are still higher than before the war. As such, it is now USD10/MMBtu more profitable to export liquefied natural gas to Europe than to its largest rival – Asia. This differential has witnessed 60% of US LNG cargoes delivered to Europe currently, according to Bloomberg data. While ~90% of US LNG offtake is locked into long-term contracts, the majority is not destination restricted. As such, purchasers in the rest of the world can send cargoes to Europe to capitalise on the region’s high prices and backfill their own energy requirements with alternatives such as coal.

Our forecast for Henry Hub averaging USD5.3/MMBtu in 2022 and end the year at USD5.1/MMBtu reflect our expectation of seasonal balances, and a more bullish backdrop for domestic demand going into next winter, bolstered by the long-term viability of exports and consumption growth in industrial and power generation markets

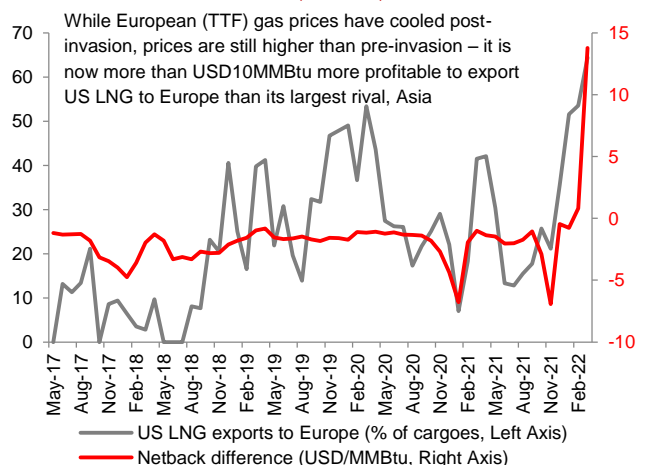
With the market likely overshooting, US gas futures are having to look for fair value. We anticipate eventual milder weather in the spring with a boost in inventories putting a brake on the rally. Henry Hub winter prices averaged USD4.5/MMBtu and we expect the parabolic strength ~USD8/MMBtu as unsustainable during the historical demand lull of the shoulder season. With low market liquidity exacerbating the impact of unstable weather, we expect buyers to re-appear on steep corrections as the near-term fundamental backdrop for US gas remains tight given export capacity is fairly static for 2022, with terminals producing close to peak. Our forecast for Henry Hub averaging USD5.3/MMBtu in 2022 and ending the year at USD5.1/MMBtu reflect our expectation of seasonal balances, and a more bullish backdrop for domestic demand going into next winter, bolstered by the long-term viability of exports and consumption growth in industrial and power generation markets (see [here](#)). We also anticipate higher volatility to become a more common attribute of US gas markets, accentuating the importance of strategic hedging from both consumers and producers.

US GAS INVENTORIES ARE WORRYINGLY THIN WITH AN URGENT NEED FOR SUPPLIES TO REBUILD STOCKS
US NATURAL GAS TOTAL UNDERGROUND STORAGE (BCF)



Source: Bloomberg, US DOE, MUFG Research

US IS SENDING 60% OF ITS LNG TO EUROPE GIVEN ITS A MORE PROFITABLE TRADE THAN WITH ASIA
US LNG CARGOES TO EUROPE (%TOTAL) AND NETBACK DIFFERENCE*



Source: Ahoy Journeys, MUFG Research; * Netback difference = relative profitability of shipping an LNG cargo to Europe versus Asia

Carbon markets

EU lawmakers are set to back key elements of the carbon market overhaul for the continent, whilst China's new carbon market is at an impasse awaiting policy guidance

The EU parliament's industry committee is likely to endorse the core elements of the EU's carbon market reform plan, backing the bloc's efforts to accelerate the rate at which the emissions cap shrinks each year to 4.2% from 2.2% currently, according to draft compromise amendments agreed among the largest political groups. This overhaul of the cap-and-trade carbon programme – the EU's flagship climate policy tool – is a part of a large-scale package of laws to meet the bloc's Green Deal target of zeroing-out greenhouse gases by 2050. More broadly, volatility for EU carbon is rising alongside prices as a result of the war in Ukraine, energy commodity gyrations as well as policy uncertainty. We maintain our forecast for average EU ETS rising from an average of EUR77/MT this quarter to end 2022 at EUR88/MT. Switching gears, trading activity in China's nascent carbon market has all but flatlined as power firms await policy clarity amid soaring commodity prices and government apprehensions about energy security. The price for emission allowances has settled ~CNY60/MT for more than seven consecutive trading sessions, according to data from China's National Carbon Trading Agency.

BASE METALS (1.6% W/W; 23.3% YTD)

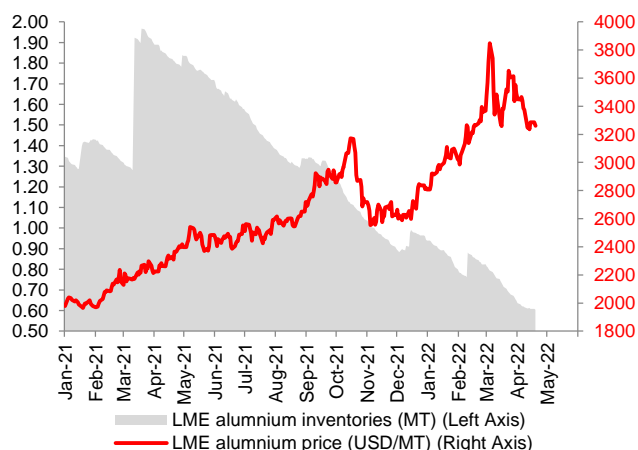
Aluminium

Underlying backdrop of supply cuts and soaring energy costs offers ample support for upside aluminium prices

Notwithstanding aluminium prices remaining broadly flat this month, supply cuts and soaring energy costs, given to offer support. LME aluminium prices rallied to a historical high of ~USD3,900/MT in early March driven by the war in Ukraine, but have quickly fallen to ~USD3,400/MT now, due predominantly to the surge in new COVID cases in China. European smelters have been cutting output due to persistently higher energy prices. In addition, the Russian-Ukraine war could be disruptive to the sector as Russia is a major aluminium supplier, particularly to Europe. Near-term, we expect tight supply conditions to remain in Europe. While Chinese supply has shown signs of improvement in the first quarter, better power supply conditions along with high Shanghai Futures Exchange (SHFE) prices are incentivising Chinese smelters to restart previously curtailed capacity. These developments put more Russian aluminium supply at risk if a solution is not found in the coming weeks, driving further upside price risk for aluminium, in our view (MUFG average Q2 2022 forecast USD3,700/MT).

ALUMINIUM PRICES HAVE EASED BACK BUT THE DRAIN ON INVENTORIES IS SEVERE – PATH TO SCARCITY

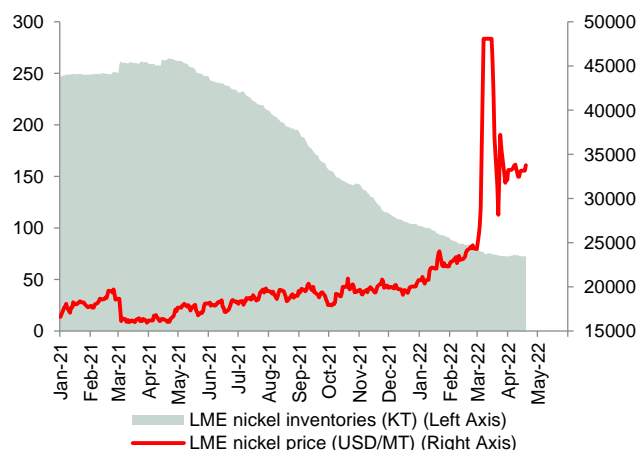
ALUMINIUM PRICE (USD/MT) AND INVENTORIES (MT, THOUSANDS)



Source: Bloomberg, LME, MUFG Research

NICKEL INVENTORIES HAVE SHARPLY FALLEN WITH PRICES FINDING A NEW NORMAL PATH POST-SQUEEZE

NICKEL PRICE (USD/MT) AND INVENTORIES (MT, THOUSANDS)



Source: Bloomberg, LME, MUFG Research

Nickel

IMF calls for stronger governance of the LME market following nickel's short squeeze last month

The IMF has said the LME's governance systems need to be strengthened after last month's short squeeze that left the nickel market suspended for six consecutive days. LME nickel prices rose sharply in the first half of March as a result of short covering by a large Chinese nickel producer, Tsingshan Holding Group. LME had to halt nickel trading for a few days, and resumed trading only after introducing a 15% upper and lower daily price move limit. We continue to expect prices to exhibit increased volatility, given decreased liquidity on the LME and low exchange inventories. As the impact of the short squeeze fades, we anticipate prices reflecting fundamentals during the year. We expect the nickel market to be in deficit in 2022 as strong demand from stainless steel production and batteries more than offset the increase in refined production. The low level of inventories will help support prices at elevated levels. However, in the medium term the market turns to surplus as supply growth outpaces demand. With this, we have recently lifted our price forecast trajectory but we still expect the price easing into year-end (MUFG average Q4 2022 forecast USD26,000/MT).

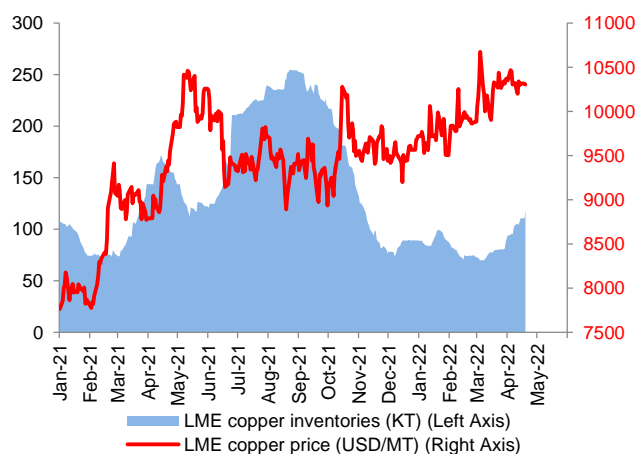
Copper

Copper tightness continues

LME copper hit an intraday high of US\$10,516/MT, the highest level in two-weeks, on signs of improving logistics from China and fresh mine supply risks after MMG shut operations at Las Bambas. The market dislocation between the LME and SHFE has witnessed the metal being registered at nearby warehouses in South Korea and Taiwan, which offset those being cancelled at US based warehouses earlier this month. While copper demand concerns remain overly tied to global growth concerns, copper supply apprehensions have waned with reports of the continued flow of Russian metal alongside a broader expectation for stronger global mine output over the next couple of years. On Russia, we believe such a short-term continuation of flows – unlike those seen in grains or energy – masks a profound contraction in potential Russian mine supply. With equipment and labour banned from the region, in tandem with more restrained capital, we project major disruptions to Russia's mine supply from 2023 onwards. Looking ahead, we retain our bullish target on copper. Russia's physical decoupling risk is underpriced and the already critically tight market leaves no way out of demand destruction through higher prices (see [here](#)). As one of the largest copper producers, constraints on exports (limiting access to shipping and insurance) as well as inadequate rail infrastructure to redirect supply to China puts

COPPER INVENTORIES ARE IN A STATE OF ACUTE DEPLETION WITH UPSIDE PRICE RISKS IMMENSE

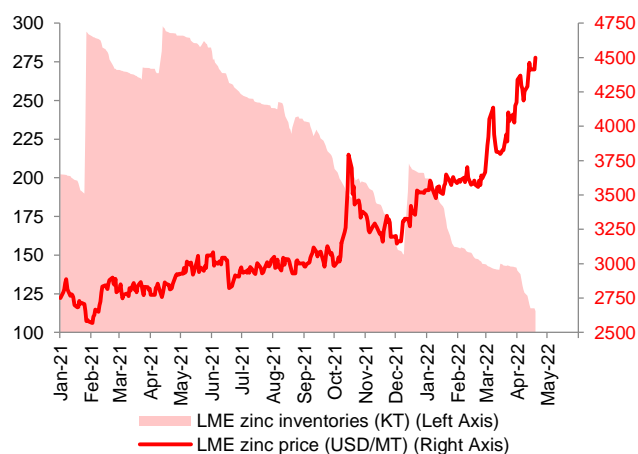
COPPER PRICE (USD/MT) AND INVENTORIES (MT, MILLIONS)



Source: Bloomberg, LME, MUFG Research

ZINC INVENTORIES HAVE BEEN LOW THROUGHOUT THE PANDEMIC WITH PRICES SIGNIFICANTLY RISING

ZINC PRICE (USD/MT) AND INVENTORIES (MT, MILLIONS)



Source: Bloomberg, LME, MUFG Research

600-700kt of refined exports at risk. Such supply disruptions is the premise of our bullish conviction (MUFG average Q2 2022 forecast USD10,780/MT).

Zinc

Power price pressures are building

Higher power prices in Europe have led to smelter closures and/or smelters operating well below their name plate capacity. This has caused tightness in the smelter market, leading to an increase in treatment charges to USD230/MT. The slowdown in the Chinese property market and the automobile industry has thus far impacted the Chinese steel industry, however we expect stimulus measures to improve the outlook for the rest of the year. Overall we expect the refined metal supply to decline 0.3% in 2022. From 2023 onwards we expect the deficit to decrease as smelter capacity is restored, as energy supply and costs normalise. On net, we maintain our bullish forecasts though expect a slight pullback given prices appear to have overshot fundamentals somewhat (MUFG average Q2 2022 forecast USD4,100/MT).

PRECIOUS METALS (-0.9% W/W; 7.7% YTD)

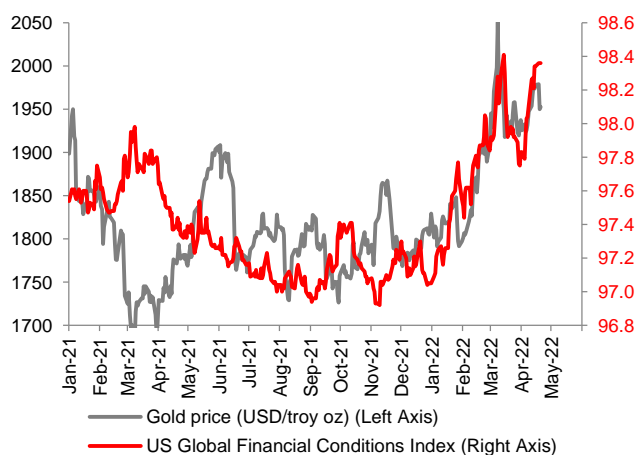
Gold

Gold is being driven by surging yields, USD appreciations and geopolitics on the one hand and hawkish anti-inflation Fed stance on the other

Gold continues to trade, on the one hand, surging yields, USD appreciation and the geopolitical thermometer higher, whilst on the other hand, the hawkish anti-inflation Fed stance, lower. The rise in global risks is generating considerable safe-haven demand in the form of ETF as well as coin and bar purchases. Escalating risk may keep gold at a higher level while a reduction in tensions could trigger a pullback. Looking ahead, we reiterate our call that gold is facing the most bullish backdrop in 10 years, as (i) investment; (ii) central bank and (iii) consumer demand appear set to simultaneously thrive – the last time these three forces came together in 2010-11, gold rallied ~70%. First, we are already seeing strong momentum in gold ETF demand, which should build further as US growth slows. Second, we also expect gold central bank demand to pick up in the second half of the year, after the RUB stabilises, as Russia should have meaningful liquidity to ramp up its gold purchases Third, Asian consumer demand was very strong in H2 2021, and should only get stronger in our view, on greater wealth and a lack of investment option. We believe

GOLD IS FACING THE MOST BULLISH BACKDROP IN 10 YEARS – TIGHTER LIQUIDITY REINFORCES BULLISHNESS

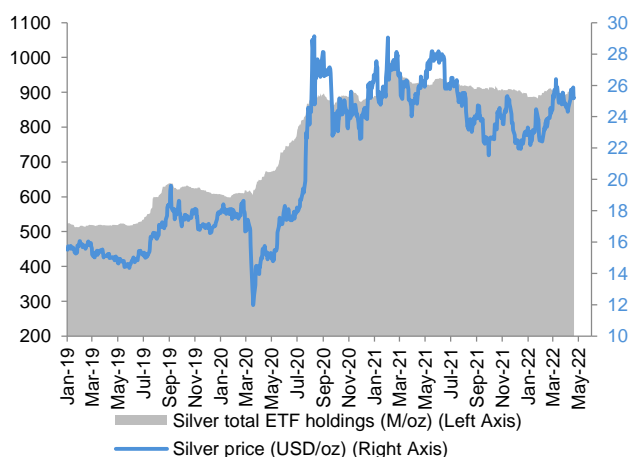
GOLD PRICE (USD/OZ) VS US GLOBAL FINANCIAL CONDITIONS INDEX



Source: Bloomberg, MUFG Research

DESPITE STEADY INDUSTRIAL DEMAND, SILVER REMAINS DRIVEN BROADLY BY GEOPOLITICS

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



Source: Bloomberg, MUFG Research

that gold prices will now accelerate from current levels (MUFG average Q4 2022 forecast USD2,250/oz).

Silver

Silver to slightly outperform gold on stronger industrial demand and will gain more broadly as a defensive asset during a Stagflationary environment

Similar to gold, silver has seen a rise in CFTC positioning, although ETF inflows have been more modest given already very elevated holdings – bar and coin demand was also very strong last year. Silver should benefit on a medium term view from energy transition related demand, particularly for its use in solar. However, given the broader risks to global growth with a backdrop of rising rates, the near term outlook may be more challenged. Going forward, we believe silver is set to slightly outperform gold on stronger industrial demand and will gain more broadly on the rotation towards precious metals as a defensive asset during a stagflationary environment (MUFG average Q4 2022 forecast USD30/oz).

Platinum and palladium

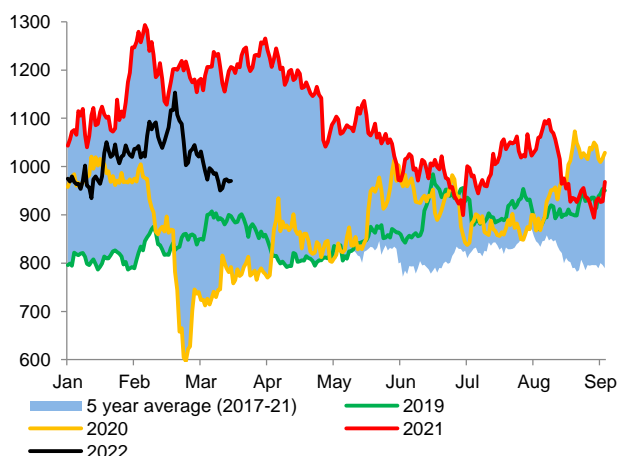
Palladium and platinum continue to find support on geopolitical risks

For platinum group metals (PGM), both platinum and palladium continue to find support on supply angst with a ratcheting up in the Ukraine war. In terms of palladium, whilst prices have eased from reaching a record ~USD3,000/oz in early March in the wake of the Russian invasion of Ukraine, there is still ample risk premium embedded into the market. The crucial role palladium plays in the global auto industry makes a prolonged supply disruption unlikely. Lower than anticipated auto output is paring demand growth from the key auto sector and palladium demand is also eroded by substitution with platinum. Even with a healthy rebound, global auto output is unlikely to surpass 2019 pre-COVID levels until later in the decade. Switching gears, in terms of platinum, prices have dropped below USD1,000/oz but we believe there is space for marked increased in the months ahead. Auto demand is likely to grow and gain on substitution with more expensive palladium. In addition, auto recycling supply should rise slightly, but be capped by the high prices of second-hand vehicles. Our forecasts point for palladium and platinum to average 2022 at USD2,931/oz and USD1,141/oz, respectively.

The role of PGMs in the energy transition is moving front of mind

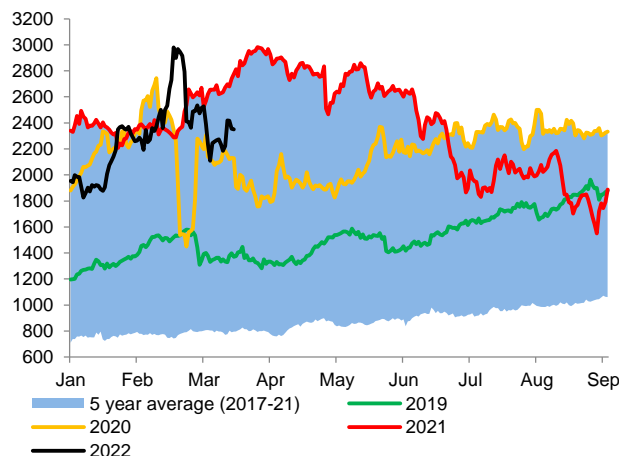
More broadly, the implications of rising PGMs on the energy transition continues to gain traction – given they are a critical conduit for greening the global economy. The energy transition holds an important paradox for PGMs. On one hand expectations of

PLATINUM'S OUTLOOK REMAINS CONSTRUCTIVE ON A STEADY BALANCING PATH WITH UPSIDE SUPPLY RISKS
PLATINUM SPOT PRICE (USD/MT)



Source: Bloomberg, MUFG Research

PALLADIUM HAS LARGE UPSIDE RISKS – ULTIMATE GEOPOLITICAL HEDGE – RUSSIA IS THE TOP PRODUCER
PALLADIUM SPOT PRICE (USD/MT)



Source: Bloomberg, MUFG Research

rising electric vehicle (EV) penetration pose an existential risk to the primary source of PGM demand (autocatalytic emission control in internal combustion engines [ICE]). However, on the other hand tightening auto emission standards are driving up near-term PGM demand, and PGMs are key metals in the hydrogen economy – a key enabler of decarbonisation. Clearly, rapid changes to the price of many commodities has a material impact on economics across the technology spectrum (i.e. rising oil/ gasoline for ICE, rising nickel/lithium for EVs) which may drive long lasting consequences for the pace of the energy transition in our view. However, it is likely too early to say quite what impact this may have as yet.

BULK COMMODITIES (-0.9% W/W; 39.0% YTD)

Iron ore

Iron ore prices have eased owing to renewed lockdowns in China's central steelmaking hub of Tangshan city

Iron ore prices continue to grind lower from their recent highs towards USD150/MT as Tangshan city – China's central steelmaking hub – entered another round of lockdowns. In addition, the latest rhetoric from China's National Development and Reform Commission (NDRC) on the country's steel production has hampered iron ore demand whilst supply is on a steady rise from major miners. From a pricing perspective, we expect limited room for upside price risks (MUFG average Q4 2022 forecast USD115/MT).

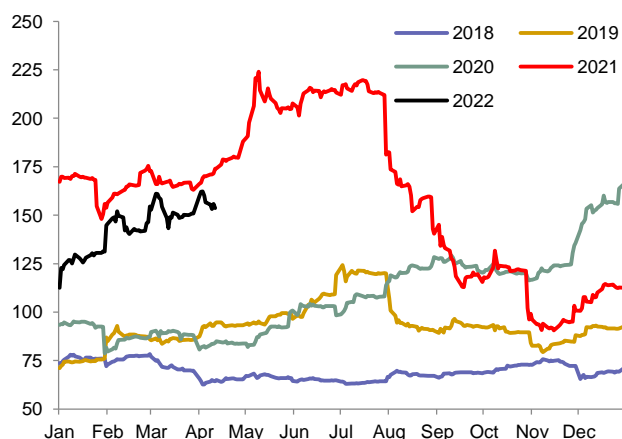
Coal

Coal markets are in a state of flux with Europe's unprecedented challenge to replace ~50/MT of Russian thermal coal

The coal market remains in a state of flux with an unprecedented challenge to remap trade flows as Europe seeks to replace ~50/MT of Russian thermal coal. Time is against Europe with the continent endeavouring to phase out Russian coal by August 2022. Whilst the US, Colombia and South Africa have been earmarked as supply sources that could compensate for lost Russian coal, we do not expect these countries to be about to supply as much as ~50/MT that Europe needs. The US is normally a swing exporter and whilst a price differential north of USD200/MT makes it attractive for more Appalachian coal to find its way to Europe, US exports are held back by labour shortages and logistical challenges. For its part, we believe Russia will find it challenging to shift considerable volumes to the East, predominantly China. All told, this development is set to leave the already severely undersupplied seaborne

IRON ORE PRICES HAVE STARED ROBUSTLY IN 2022 BUT NOW SUFFERING FROM IRRATIONAL EXUBERANCE

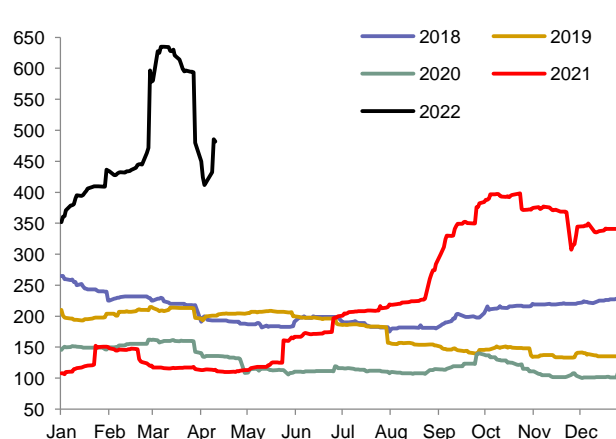
IRON ORE SPOT PRICE (USD/MT)



Source: Bloomberg, MUFG Research

COAL PRICES HAVE BOUNCED BACK AS RUSSIAN IMPORT BANS ARE EXACERBATING MARKET TIGHTNESS

HARD COKING COAL SPOT PRICE (USD/MT)



Source: Bloomberg, MUFG Research

coal market even tighter for a longer duration. Given prices are already at elevated levels, we expect some demand destruction from Asian markets in the months ahead. All told, we continue to expect a supply crunch with an aggravation in global imbalances and anticipate these dynamics to leave a tighter market and further near-term price volatility but our forecasts point to prices trending lower for the remainder of the year as trade flows adjust and some Asian price-sensitive demand destruction takes place to rebalance the market.

AGRICULTURE (1.7% W/W; 27.7% YTD)

Demand destruction is taking hold across Asian rice farmers

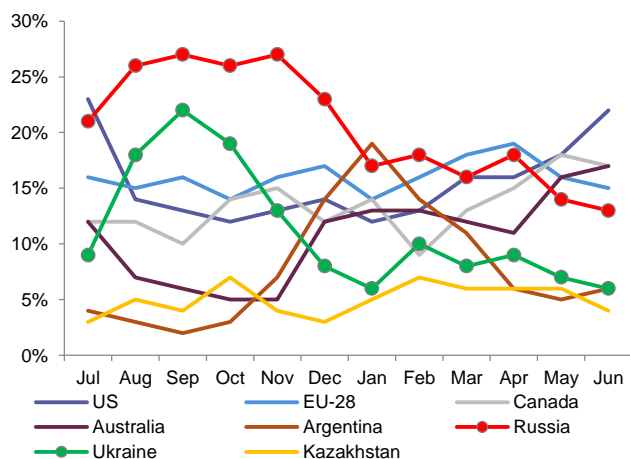
In signs of demand destruction taking hold in the agricultural space, soaring fertiliser costs have rice farmers across Asia (notably in India, Philippines and Vietnam) scaling back their use – a move that threatens harvests of a staple that feeds billions – which could lead to a full-blown food crisis if crisis. The International Rice Research Institute forecasts that yields could drop 10% in the next season, translating to a loss of 36m tons of rice – equivalent to feeding 500m individuals. Rice farmers are particularly vulnerable, as unlike wheat and corn – which have witnessed sharp price rises – rice prices have been subdued due to ample production and existing stockpiles. That means rice farmers are having to manage with inflated costs whilst also not receiving more earnings for their grains.

Fertiliser shortages on the horizon due to the conflict, stoking additional inflation pressures

With Russia a major producer of all three major fertiliser inputs (nitrogen, phosphate and potassium), sanctions and Black Sea shipment restrictions are likely to substantially tighten other elements of the global fertiliser market (notably potash). Fertiliser producers were already reeling from months of high global energy prices prior to the invasion and higher prices will add to fears global shortages, stoking concerns surrounding rising food costs. What is clear is that farmer margin compression is nearly inevitable at this point and winter wheat is already in the ground, worsening economics threatening to undermine the what corn acreage expansion and yield maximisation can occur. All told, once all options on re-routing trade flows and maximising acres are exhausted, the global grains market must start to destroy demand. With gasoline prices now far above ethanol, we see feed demand as the first level of demand destruction, and this can clearly be seen in the underperformance of US livestock versus feed prices, and the relative out performance of wheat over corn. However, should yields disappoint, the potential for disruption to global biofuel inputs is even greater than for wheat.

RUSSIA AND UKRAINE ACCOUNT FOR ~25-30% OF WORLD WHEAT EXPORTS

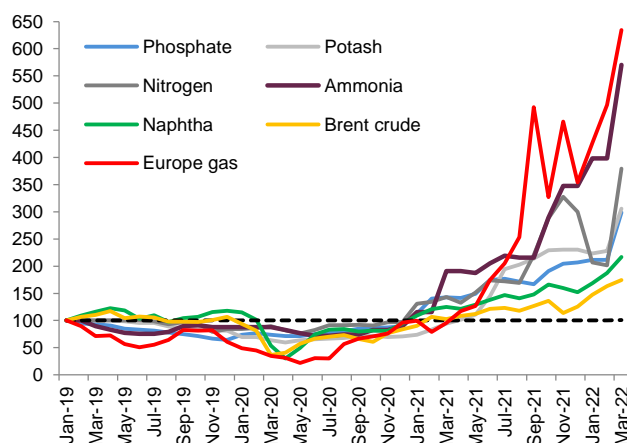
% SHARE OF GLOBAL WHEAT TRADE BT MONTH



Source: Bloomberg, MUFG Research

FERTILISER SHORTAGES ON THE HORIZON DUE TO THE WAR, STOKING FURTHER INFLATIONARY PRESSURES

FERTILISER PRICES, OIL AND EUROPE GAS (REBASED 100 = JAN 2020)



Source: Bloomberg, MUFG Research

Commodity prices – performance

Commodity	Ticker	Unit	2021	2022				Change %							
			31-Dec	30-Mar	06-Apr	13-Apr	20-Apr	Week	1 MTD	3 MTD	YTD	1 Year	3 Years	5 years	
1	Bloomberg BCOM Total Returns	BCOMTR Index	Index	211.80	264.22	269.77	275.37	280.21	1.76	5.39	24.10	32.32	50.91	63.56	63.83
2	Bloomberg BCOM Spot Index	BCOMSP Index	Index	502.25	621.32	634.29	645.87	657.61	1.82	5.17	22.68	30.93	47.25	87.67	97.42
3	Energy	BCOMENSP Index	Index	368.86	527.60	546.67	559.60	582.67	4.12	10.33	43.23	57.97	90.06	91.95	119.52
4	US Natural Gas	NG1 Comdty	USD/MMBtu	3.73	5.34	6.03	6.68	6.93	3.77	22.86	82.33	85.84	154.20	178.39	119.44
5	EU Natural Gas	TZT1 Comdty	EUR/MMBtu	3.73	108.38	108.56	102.22	94.23	-7.81	-25.16	25.30	33.96	347.31	551.58	487.37
6	WTI Crude	CL1 Comdty	USD/b	75.21	104.24	101.96	100.60	101.86	1.25	1.58	17.22	35.43	63.13	59.16	102.63
7	Brent Crude	CO1 Comdty	USD/b	77.78	110.23	106.64	104.64	106.66	1.93	-1.14	20.71	37.16	60.25	48.23	101.32
8	Gasoline	HO1 Comdty	USD/lb	222.85	320.33	316.49	315.38	325.50	3.21	2.05	32.20	46.06	61.35	57.08	94.85
9	EU ETS EUA	MO1 Comdty	USD/gal	80.22	81.54	77.89	78.84	79.98	1.45	14.78	2.67	9.20	95.45	226.50	1744.21
10	Metals	BCOMIN Index	Index	172.89	208.76	215.09	210.09	211.37	0.61	-0.31	13.95	22.26	43.73	76.35	88.97
11	Industrial Metals Index	BCOMINSP Index	Index	303.57	365.71	376.81	368.29	374.14	1.59	0.73	14.74	23.25	45.08	85.18	104.56
12	Copper	HG1 Comdty	USD/lb	9,721	10,317	10,455	10,343	10,305	-0.37	-0.68	4.70	6.01	9.90	59.12	85.47
13	Aluminium	LA1 Comdty	USD/MT	2,803	3,429	3,449	3,240	3,247	0.23	-6.79	5.94	15.84	39.86	75.49	71.44
14	Zinc	ZNC1 Comdty	USD/MT	3,580	4,030	4,330	4,407	4,523	2.64	7.37	25.64	26.34	59.99	60.62	78.35
15	Nickel	LN1 Comdty	USD/MT	20,874	31,777	33,318	32,453	33,735	3.95	5.04	44.73	61.62	109.91	167.33	262.90
16	Precious Metals Index	BCOMPRSP Index	Index	530.97	558.86	559.81	577.44	572.00	-0.94	0.53	5.39	7.73	7.61	57.57	49.90
17	Gold	GC1 Comdty	USD/t oz	1,829	1,912.20	1,922.90	1,972.10	1,948.90	-1.18	-0.02	5.77	6.58	9.66	53.23	52.03
18	Silver	SI1 Comdty	USD/t oz	23.35	24.72	24.53	25.74	25.28	-1.79	0.55	2.24	8.21	-2.21	68.97	40.25
19	Platinum	PL1 Comdty	USD/t oz	964.40	973.00	969.40	969.00	984.40	1.59	-0.82	-4.26	2.07	-18.24	9.40	1.75
20	Palladium	PA1 Comdty	USD/t oz	1,912	2,109	2,235	2,354	2,457	4.34	8.91	18.46	28.47	-10.91	75.65	205.95
21	Bulk Commodities	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	Hard Coking Coal	XW1 Comdty	USD/MT	341.76	594.67	424.00	485.67	484.33	-0.28	-18.57	19.05	41.42	335.43	136.35	72.62
23	Iron Ore	SCO1 Comdty	USD/MT	112.50	150.31	162.27	155.83	153.57	-1.45	1.81	18.73	36.51	-14.12	65.93	120.61
24	Agriculture	BCOMAG Index	Index	60.79	72.47	74.18	76.34	77.65	1.72	6.61	22.22	27.74	43.54	94.84	51.23
25	Agriculture Index	BCOMAGSP Index	Index	406.67	483.51	494.91	506.94	511.97	0.99	5.36	20.56	25.89	39.01	111.22	98.23
26	Grain Index	BCOMGRSP Index	Index	293.87	366.32	375.72	388.62	395.64	1.81	7.54	29.95	34.63	38.10	118.48	117.39
27	Soybean	S 1 Comdty	USD/bu	1,328.75	1,643	1,631	1,670	1,748	4.63	7.99	22.57	31.51	18.72	98.47	84.58
28	Wheat	W 1 Comdty	USD/bu	770.75	1,014.25	1,045.25	1,103.75	1,086.25	-1.59	7.98	37.46	40.93	64.65	144.51	167.38
29	Corn	C 1 Comdty	USD/bu	593.25	726.25	759.75	776.25	815.00	4.99	8.85	33.39	37.38	34.38	127.34	127.81
30	Soft Index	BCOMOSSP Index	Index	394.34	409.21	424.76	431.24	419.16	-2.80	0.09	0.78	6.29	46.96	90.73	51.47
31	Cotton	CT1 Comdty	USD/lb	112.60	136.81	137.53	138.51	141.39	2.08	4.20	15.07	25.57	68.78	82.89	76.58
32	Coffee	KC1 Comdty	USD/lb	226.10	215.70	231.30	233.60	219.10	-6.21	-3.22	-10.08	-3.10	65.42	142.90	66.43
33	Sugar	SB1 Comdty	USD/lb	18.88	19.11	19.65	20.22	19.62	-2.97	0.67	3.65	3.92	16.99	53.76	20.15
34	Livestock Index	BCOMLISP Index	Index	196.83	229.00	216.11	222.15	224.62	1.11	0.01	7.10	14.12	15.23	15.79	36.84
35	Live Cattle	LC1 Comdty	USD/lb	138.90	140.90	136.80	139.95	141.35	1.00	2.28	3.05	2.63	18.23	10.91	9.97
36	Lean Hogs	LH1 Comdty	USD/lb	81.48	106.05	97.68	99.63	114.70	15.13	10.88	32.85	38.48	4.40	25.08	76.84
37	USD Index	DXY Index	Index	95.67	98.40	99.47	100.29	100.39	0.09	2.11	4.86	4.93	10.02	2.99	0.61

Source: Bloomberg, MUFG Research

Commodity prices – quarterly and annual forecasts

Commodity	Ticker	Unit	20-Apr	Quarter Averages						Annuals					
			Spot	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23	Q3-23	2021	2022	2023	2024	
1	Energy														
2	US Natural Gas	NGA Comdty	USD/MMBtu	6.93	4.58	6.80	4.50	5.10	5.30	4.00	4.10	3.72	5.25	4.62	3.96
3	EU Natural Gas	TZTA Comdty	EUR/MWh	94.23	96.50	96.00	104.00	88.00	117.00	76.00	72.00	29.13	119.74	71.80	60.00
4	EU ETS EUA	MOA Comdty	EUR/MT	79.98	95.93	135.91	102.50	144.60	138.00	95.00	89.00	53.46	80.97	91.00	98.00
5	WTI Crude	CLA Comdty	USD/b	101.86	94.77	119.60	136.00	108.00	106.00	95.00	98.00	68.00	114.59	102.25	95.20
6	Brent Crude	COA Comdty	USD/b	106.66	97.90	124.60	141.00	112.00	110.00	98.50	102.00	70.85	118.88	106.13	98.40
7															
8	Copper	LMCADS03 Comdty	USD/lb	10,305	9,974	10,780	11,360	11,900	12,150	12,250	12,400	9,292	11,003	12,310	11,500
9	Aluminium	LMAHDS03 Comdty	USD/MT	3,247	3,254	3,700	3,780	3,800	3,910	4,000	3,950	2,477	3,633	3,980	3,700
10	Zinc	LMZSDS03 Comdty	USD/MT	4,523	3,727	4,100	3,950	3,650	3,700	3,750	3,780	3,016	3,857	3,760	3,900
11	Nickel	LMNIDS03 Comdty	USD/MT	33,735	28,302	29,500	28,000	26,000	27,500	27,000	29,000	18,457	27,951	27,900	26,500
12	Precious Metals														
13	Gold	XAU Comdty	USD/t oz	1,949	1,879	2,030	2,115	2,250	2,280	2,060	2,030	1,799	2,068	2,090	1,900
14	Silver	XAG Comdty	USD/t oz	25.28	24.11	26.60	27.50	29.00	30.00	28.00	27.60	25.16	26.80	28.20	26.95
15	Platinum	XPT Comdty	USD/t oz	984.40	1,030.00	1,140	1,180	1,215	1,250	1,190	1,120	1,089	1,141	1,175	1,210
16	Palladium	XPD Comdty	USD/t oz	2,457	2,315	2,900	3,150	3,360	3,250	3,200	3,290	2,391	2,931	3,255	3,100
17															
18	Hard Coking Coal	IACA Comdty	USD/MT	510.00	433.98	506.00	470.00	410.00	405.00	380.00	390.00	188.50	455.00	380.00	350.00
19	Iron Ore	SCOA Comdty	USD/MT	153.57	141.15	158.00	140.00	115.00	95.00	90.00	80.00	159.83	138.54	86.50	97.00
20															
21	Soybean	BOA Comdty	USD/bu	1,748	1,559	1,740	1,590	1,550	1,520	1,500	1,475	1,375	1,610	1,505	1,460
22	Wheat	W A Comdty	USD/bu	1,086	913.80	1,240	1,215	1,195	980.00	920.00	850.00	683.47	1,141	910.00	880.00
23	Corn	C A Comdty	USD/bu	815.00	671.65	850.00	820.00	780.00	730.00	680.00	670.00	581.69	780.41	695.00	650.00
24	Cotton	CTA Comdty	USD/lb	141.39	123.43	129.00	124.00	118.00	102.00	98.00	104.00	93.43	123.61	104.00	98.00
25	Coffee	DFA Comdty	USD/lb	221.30	234.84	232.00	215.00	225.00	230.00	220.00	200.00	168.75	226.71	215.00	210.00
26	Sugar	SBA Comdty	USD/lb	19.74	18.61	19.20	18.60	18.50	18.30	19.00	18.40	17.86	18.73	18.50	17.80

Source: Bloomberg, MUFG Research

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

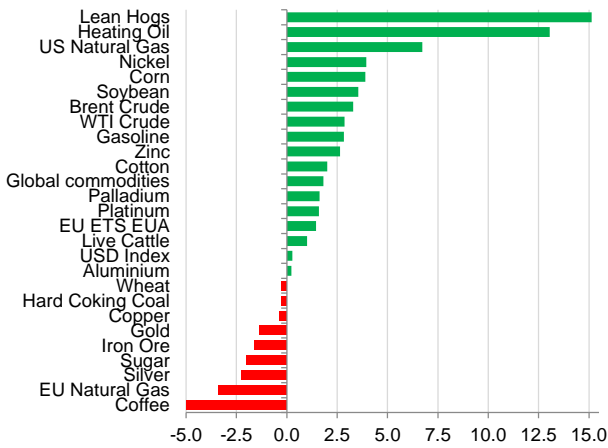
	Bullish	Neutral-to-bullish	Neutral	Neutral-to-bearish	Bearish
1 Energy	EU natural gas, Brent, WTI	US natural gas	---	---	---
2 Base Metals	Aluminium, Copper, Nickel	Zinc	---	---	---
3 Precious Metals	Platinum, Palladium	Gold, Silver	---	---	---
4 Bulk Commodities	Hard Coking Coal	---	Iron ore	---	---
5 Agriculture	Soybean, Wheat, Corn	---	---	Cotton	Coffee, Sugar

Source: Bloomberg, MUFG Research

Core indicators – commodities flows and returns

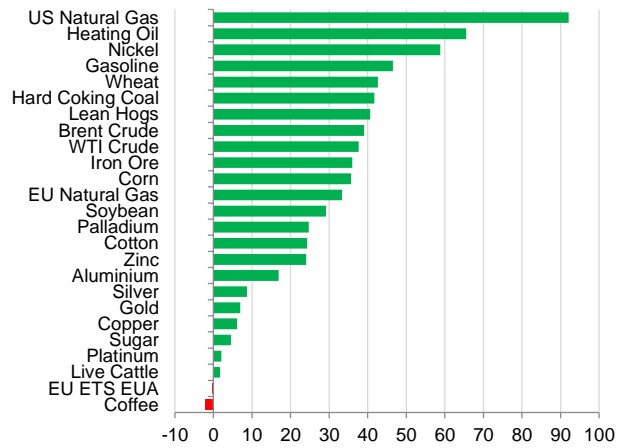
COMMODITIES MARKET PRICE RETURNS

WEEK ENDING 20 APRIL 2022 (% W/W)



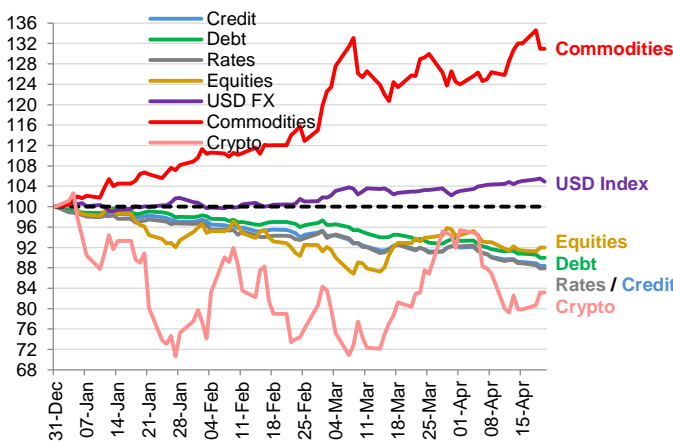
COMMODITIES MARKET PRICE RETURNS

YEAR-TO-DATE 2022 (%)



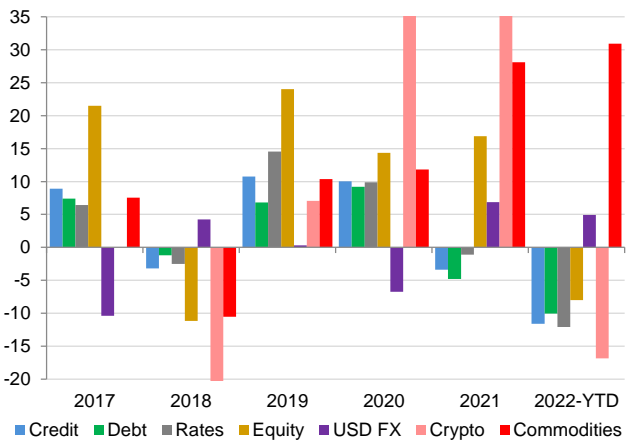
USD-DENOMINATED GLOBAL ASSET MARKET RETURNS

REBASED 1 JANUARY 2022 = 100



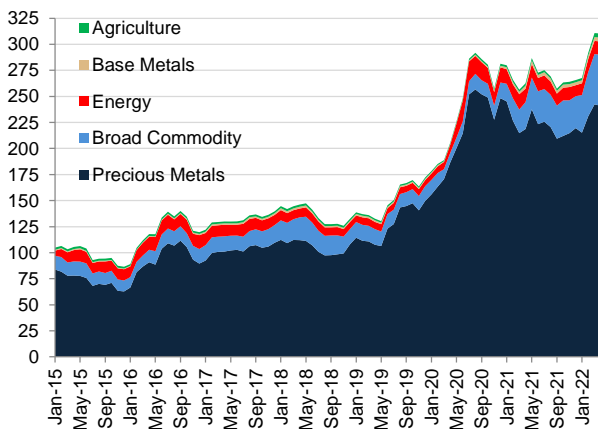
USD-DENOMINATED GLOBAL ASSET MARKET RETURNS

ANNUALISED PERFORMANCE (%)



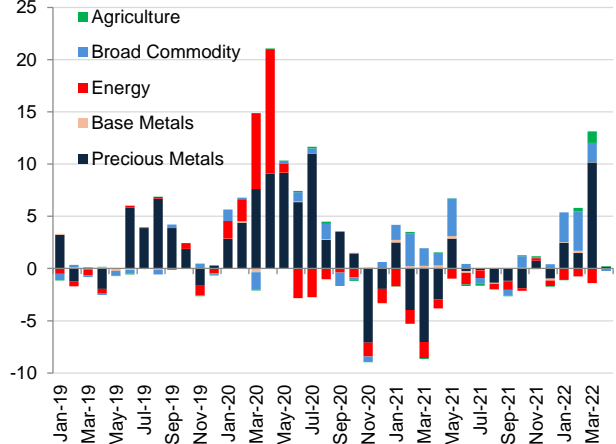
COMMODITIES ETF COMBINED CUMULATIVE AUM

USD (BN)



COMMODITIES ETF COMBINED CUMULATIVE FUND FLOWS

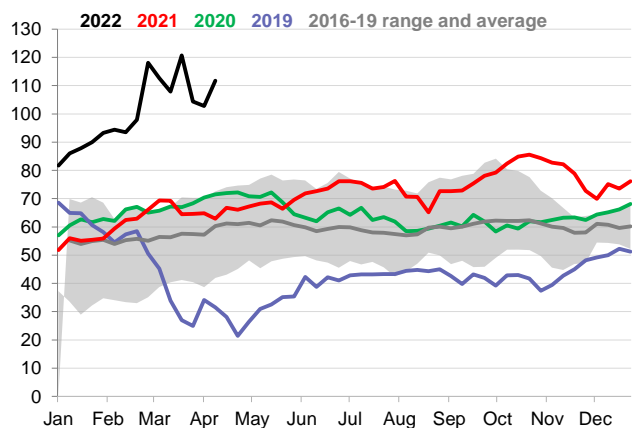
USD (BN)



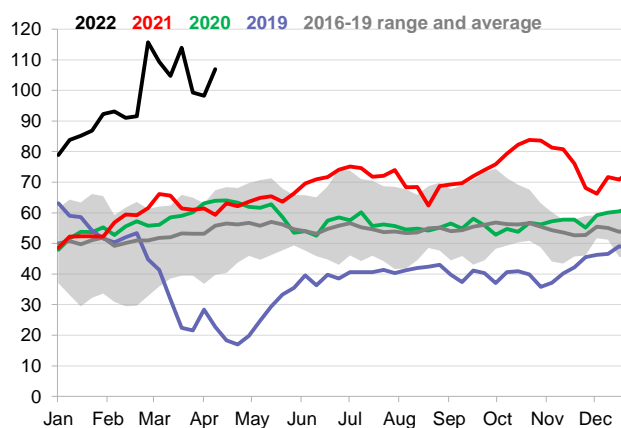
Source: Bloomberg, MUFG Research; * EU natural gas up 18% w/w and coal down 28% w/w

Core indicators – prices

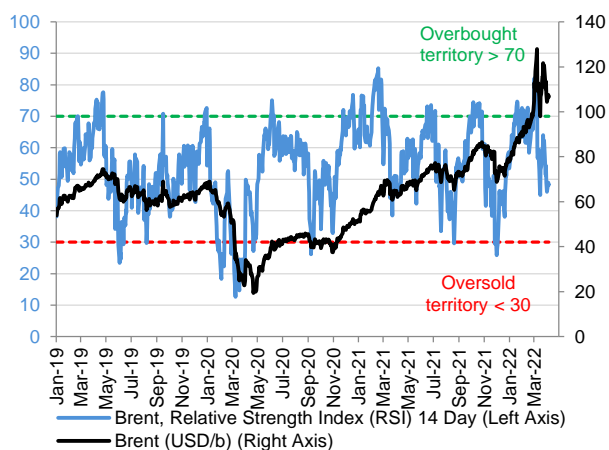
BRENT SPOT
USD/B



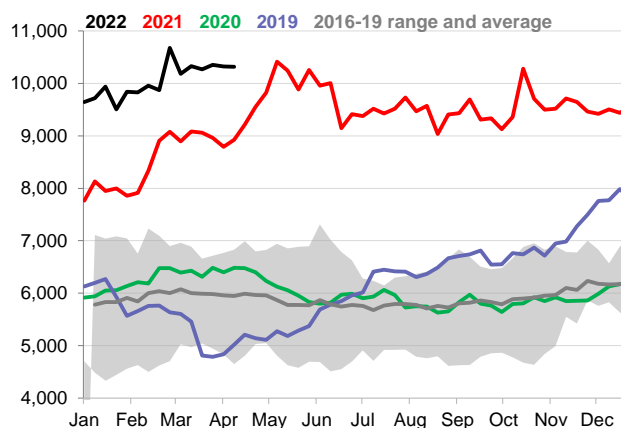
NYMEX WTI SPOT
USD/B



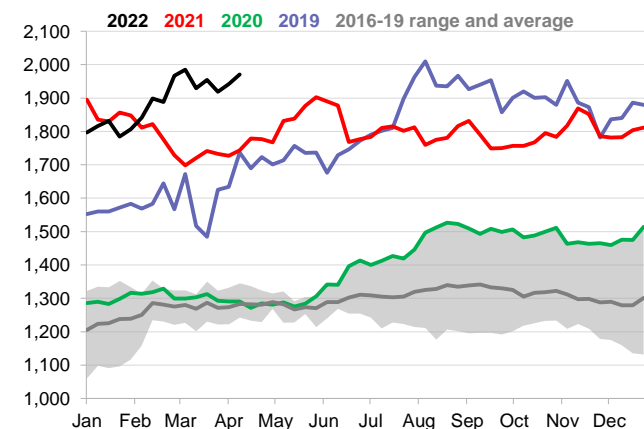
14 DAY RELATIVE STRENGTH INDEX (RSI) AND WTI
USD/B AND 0-100 INDEX (<30 = OVERSOLD; >70 = OVERBOUGHT)



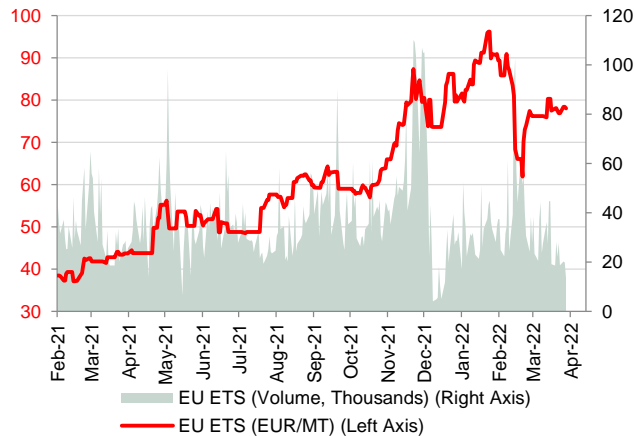
COPPER SPOT
USD/LB



GOLD SPOT
USD/T OZ



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

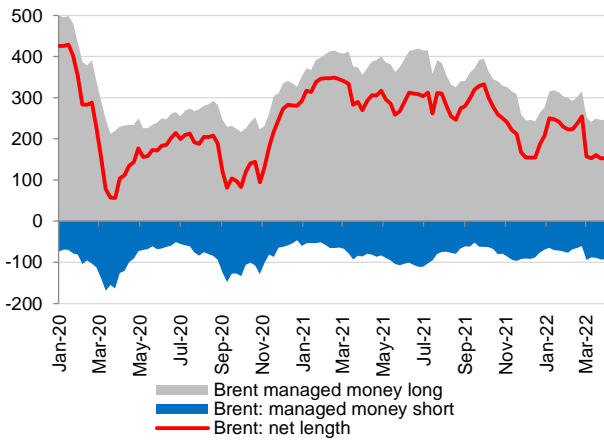


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – market positioning

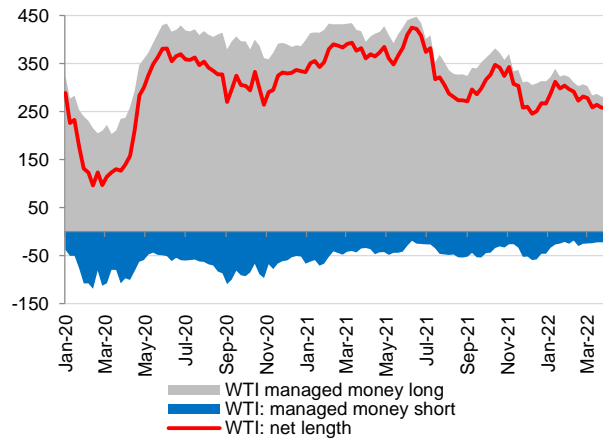
BRENT CRUDE MANAGED MONEY

CONTRACTS (THOUSANDS)



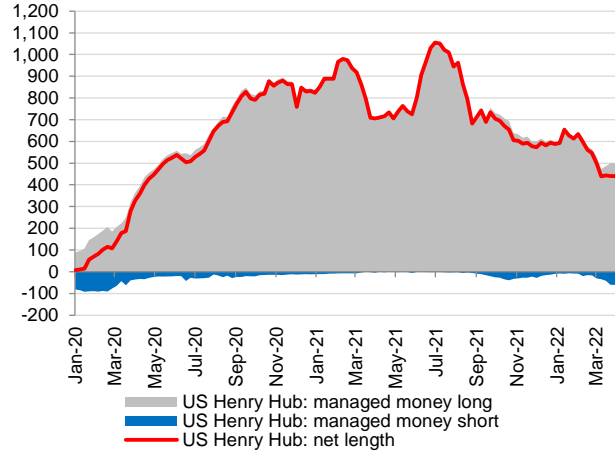
WTI CRUDE MANAGED MONEY

CONTRACTS (THOUSANDS)



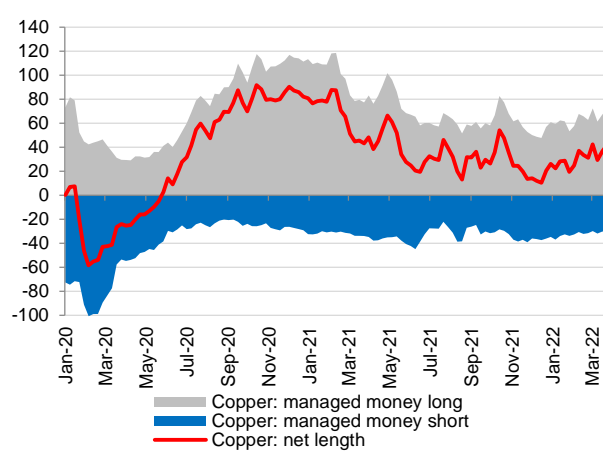
HENRY HUB NATURAL GAS MANAGED MONEY

CONTRACTS (THOUSANDS)



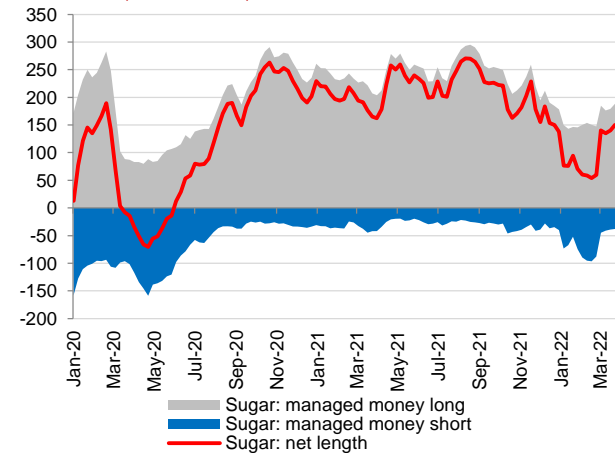
COPPER MANAGED MONEY

CONTRACTS (THOUSANDS)



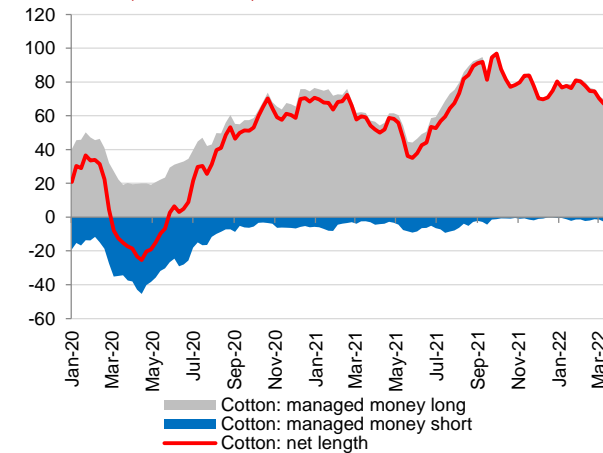
SUGAR MANAGED MONEY

CONTRACTS (THOUSANDS)



COTTON MANAGED MONEY

CONTRACTS (THOUSANDS)

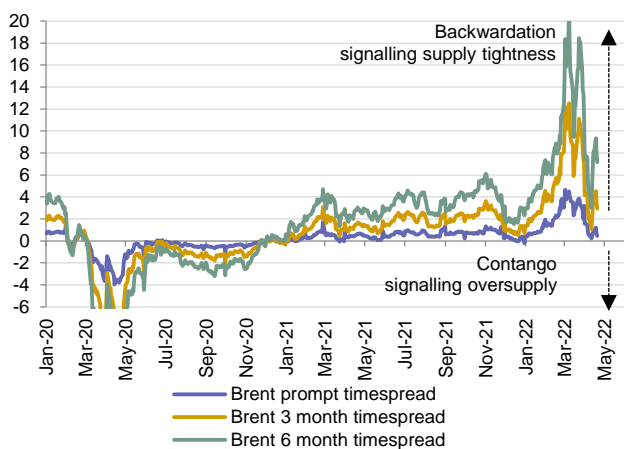


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – timespreads and futures

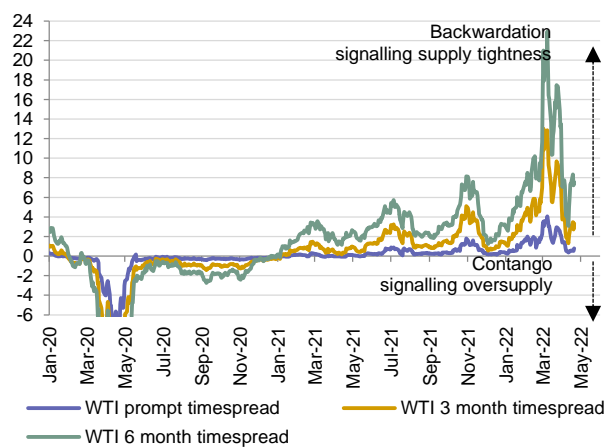
BRENT TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



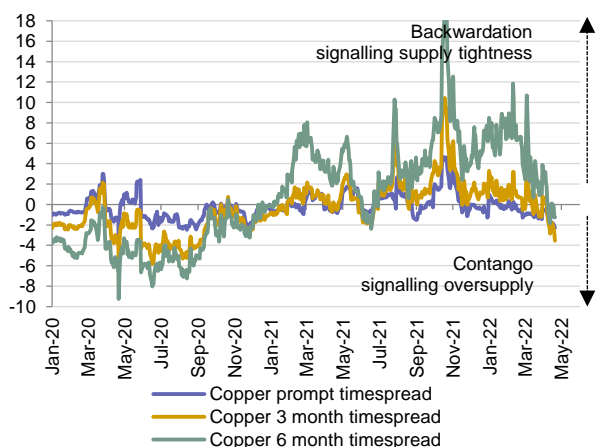
WTI TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



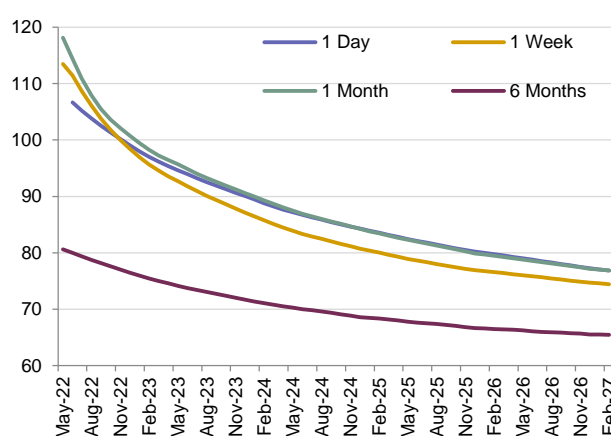
COPPER TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



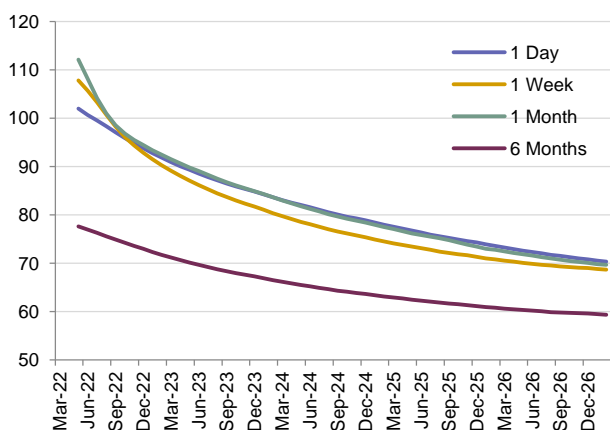
BRENT FUTURES CURVE

USD/B



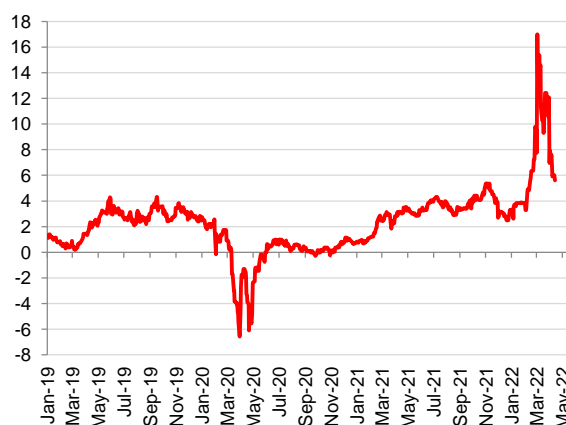
WTI FUTURES CURVE

USD/B



BRENT-DUBAI SPREAD

USD/B

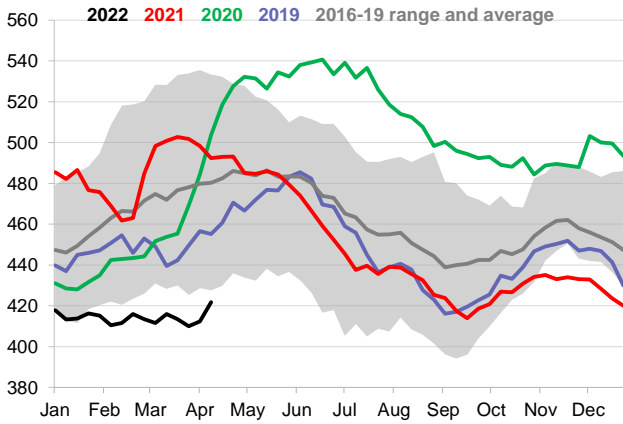


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – inventories, storage and products

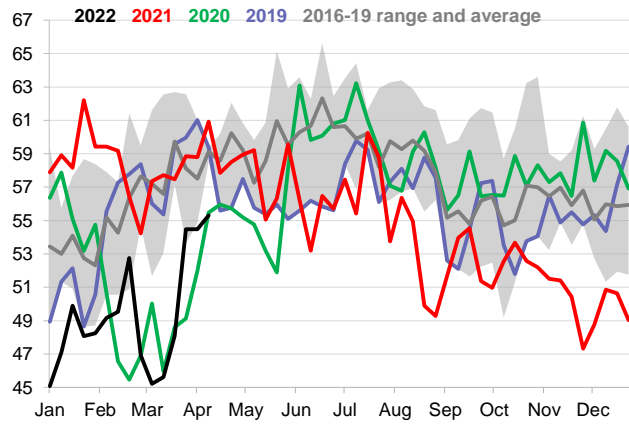
US CRUDE INVENTORIES

MILLION BARRELS



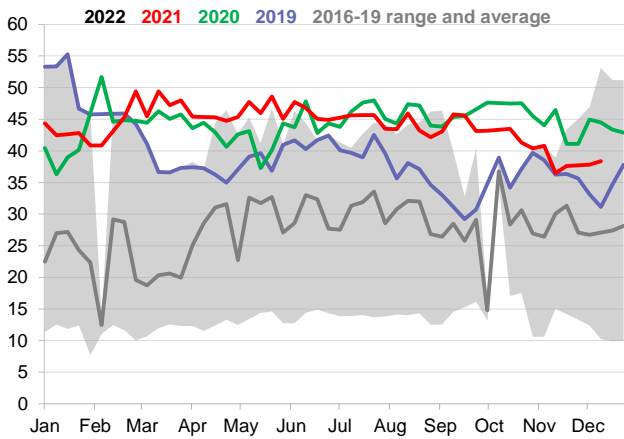
ARA CRUDE INVENTORIES

MILLION BARRELS



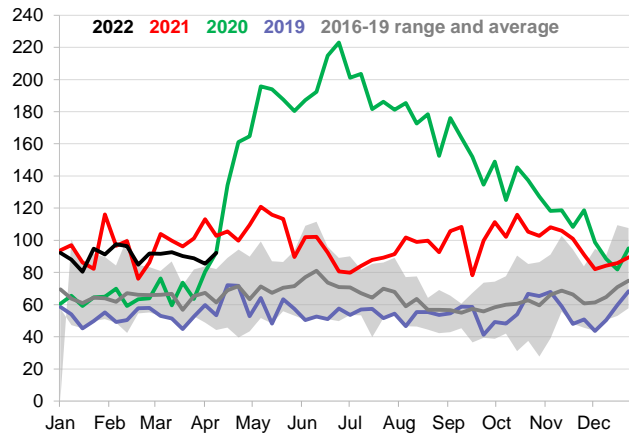
CHINA SHANDONG CRUDE INVENTORIES

MILLION BARRELS



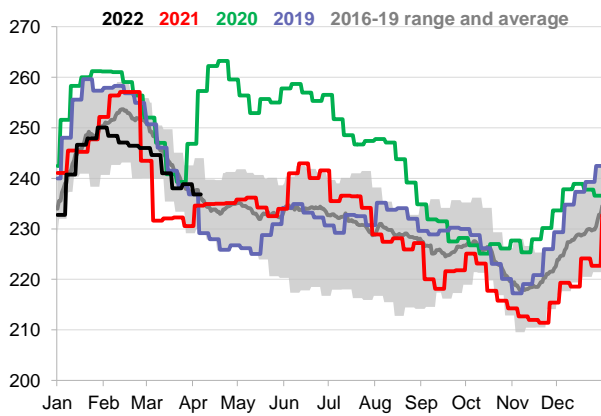
GLOBAL CRUDE FLOATING STORAGE

MILLION BARRELS



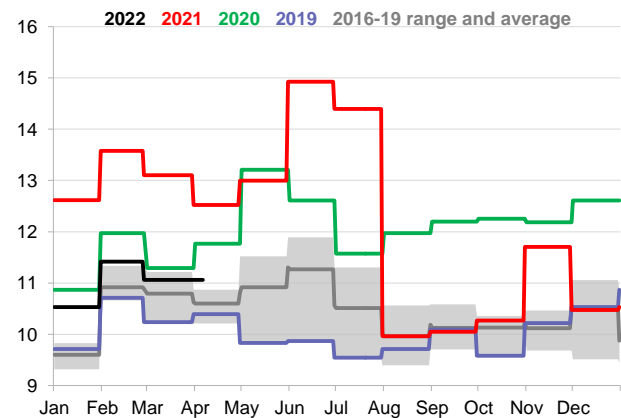
US GASOLINE INVENTORIES

MILLION BARRELS



JAPAN GASOLINE INVENTORIES

MILLION BARRELS



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

Global oil supply/demand balance (thousands b/d and y/y change)

As of April 2022	2019 (tho. b/d)	2020 (tho. b/d)	2021 (tho. b/d)	2022 (tho. b/d)	2023 (tho. b/d)	2020 (%)	2021 (%)	2022 (%)	2023 (%)
Demand									
North America	25,245	22,124	23,777	24,703	24,955	-3,122	1,654	926	252
LatAm	6,654	6,275	6,578	6,732	6,855	-379	304	154	123
Europe	15,093	13,147	13,772	14,591	14,707	-1,945	625	819	116
CIS	4,722	4,417	4,724	4,948	5,007	-305	306	224	59
Asia	27,931	27,382	28,708	29,627	30,751	-549	1,326	919	1,124
Middle East	8,241	7,745	7,922	8,176	8,223	-496	177	254	47
Africa	4,251	4,129	4,324	4,429	4,623	-122	195	105	194
Total OECD Demand	47,854	42,029	44,559	46,415	46,910	-5,825	2,530	1,856	494
Total Non-OECD Demand	52,218	50,332	52,647	54,343	55,900	-1,887	2,315	1,697	1,557
Total Global Demand	100,072	92,361	97,206	100,759	102,810	-7,711	4,845	3,553	2,051
Supply									
North America	25,767	24,752	25,205	26,666	27,744	-1,014	453	1,461	1,078
US shale	9,923	9,194	9,009	9,748	10,550	-729	-187	741	801
Other US	8,306	8,276	8,619	9,153	9,344	-30	343	534	191
Total US	18,229	17,470	17,627	18,902	19,894	-759	157	1,275	992
LatAm	4,794	4,841	4,831	5,116	5,279	47	-10	285	163
Europe	3,477	3,685	3,527	3,632	3,757	208	-158	105	125
CIS	14,643	13,504	13,763	14,481	14,778	-1,139	259	718	296
Asia	7,694	7,510	7,437	7,391	7,234	-184	-74	-45	-157
Middle East	3,012	3,013	3,089	3,187	3,202	1	75	99	15
Africa	1,487	1,390	1,309	1,293	1,257	-97	-81	-16	-37
Total Non-OPEC	65,004	62,530	63,128	66,043	67,655	-2,474	598	2,915	1,612
Total OPEC Crude	30,166	26,340	27,089	29,697	30,452	-3,826	748	2,609	755
Total OPEC NGL	5,234	4,978	5,126	5,353	5,431	-256	148	228	78
Total OPEC Supply	35,400	31,318	32,214	35,050	35,883	-4,081	896	2,836	832
Total OPEC+ Supply	46,105	41,049	42,039	45,415	46,435	-5,056	990	3,376	1,020
Ecuador	531	479	494	459	437	-52	14	-34	-22
Venezuela	875	508	555	803	830	-367	47	248	28
Algeria	1,023	898	908	939	935	-125	10	31	-5
Congo	333	288	265	253	232	-44	-23	-12	-21
Gabon	213	189	184	184	180	-24	-5	0	-3
Angola	1,389	1,262	1,116	1,014	959	-127	-146	-102	-55
Nigeria	1,731	1,577	1,391	1,502	1,552	-154	-185	111	50
Eq. Guinea	110	113	101	100	94	3	-12	-1	-6
Libya	1,086	366	1,151	1,154	1,266	-720	785	4	112
Iran	2,362	2,157	2,683	2,700	2,883	-205	527	17	183
Iraq	4,712	4,044	4,026	4,427	4,514	-668	-17	401	87
Kuwait	2,682	2,437	2,414	,669	2,713	-245	-23	255	44
Saudi Arabia	9,944	9,184	9,083	10,420	10,596	-760	-101	1,336	176
UAE	3,177	2,840	2,717	3,073	3,260	-336	-124	356	187
Total Global Supply	100,404	93,848	95,342	101,093	103,538	-6,555	1,494	5,751	2,445
Imbalance (Supply – Demand)	332	1,488	-1,863	335	729	---	---	---	---
OECD Commercial Stocks	65	377	-1,084	47	389	---	---	---	---
5yr Avg OECD Days of Demand	61.5	62.3	63.0	63.0	63.0	---	---	---	---

Source: Bloomberg, BP, EIA, IEA, GS, JODI, NBS, OPEC, Various Government Sources, MUFG Research

Research

London:

MR DEREK HALPENNY

Head of Research, Global Markets EMEA
& International Securities

T: +44 (0)20 7577 1887

MR LEE HARDMAN

Currency Analyst

T: +44 (0)20 7577 1968

MS MOMOKO MIYACHI

Research Assistant

T: +44 (0)20 7577 1886

Shanghai:

MR MARCO SUN

Chief Financial Markets Analyst

T: +86 21 2063 5485

Hong Kong:

MS LIN LI

Head of Global Markets Research Asia

T: +852 2862 7005

New York:

MR GEORGE GONCALVES

Head of US Macro Strategy

T: +1-212- 405-6687

Dubai:

MR EHSAN KHOMAN

Head of Emerging Markets Research – EMEA

T: +971 (0)4 387 5033

Tokyo

MR TEPPEI INO

Tokyo Head of Global Markets Research

T: +81 (0) 3 6214 4185

MS SUMINO KAMEI

Senior Analyst

T: +81 (0) 3 6214 4179

MR TOMOKI HIRAMATASU

Analyst

T: +81 (0) 3 6214 4152

MR TAKAHIRO SEKIDO

Chief Japan Strategist

T: +81 (0) 3 6214 4150

MR KENTO SAITO

Research Assistant

T: +81 (0) 3 6214 4149

MR TOSHIYUKI SUZUKI

Global Market Economist

T: +81 (0) 3 6214 4148

Singapore:

MR JEFF NG

Senior Currency Analyst

T: +65 6918 5536

MS SOPHIA NG

Currency Analyst

T: +65 6918 5537

Sao Paulo:

MR CARLOS PEDROSO

Chief Economist

T: +55-11-3268-0245

MR MAURICIO NAKAHODO

Senior Economist

T: +55-11-3268-0420

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