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28 April 2022

Commodities' de-globalisation dividend

Global commodities: A central principle of our view that commodities have embarked on a supercycle is the increased demand for them driven by de-globalisation. At its core is the need for domestic economies to create resiliency in their supply chains, whether in response to pandemics, climate change or geopolitical risks. The current shock from the one-two punch war in Ukraine and Russian sanctions is splintering global integration's idyllic reverie. The costs of these policies is inflation no matter how the crisis evolves, as the pursuit of economic autarky favours maintaining higher costs but more secure supply chains over the lower cost comparative advantage model that globalisation pursues. A world dictated by the security of supply through a departure from globalisation strengthens the commodities case of higher for longer.

Energy: Russian demand for rouble gas payments has caused its first shutdowns in Poland and Bulgaria (see here) – whilst not a systemic threat (for now), this is a clear escalation of risks in gas markets. Meanwhile, demand-side concerns – extended COVID measures in China, as well as prospects of slower global economic growth amid US rate hikes and tightening financial conditions – are weighing on oil markets.

Base metals: Fear that China's COVID approach to lockdowns are about to unleash another wave of global supply chain disruptions has seen base metals sell off heavily.

Precious metals: Gold and silver dipped as bond yields have rebounded and the USD rallied. Meanwhile both platinum and palladium have also witnessed pressure.

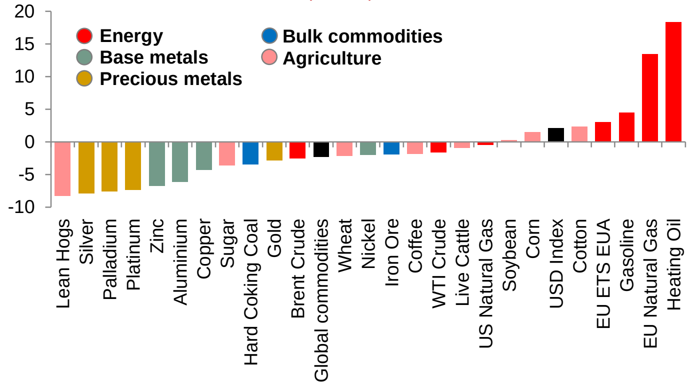
Bulk commodities: Coal and iron ore have nose-dived owing to China's stern measures to beat back its COVID challenge – coal's unresolved scarcity is a concern.

Agriculture: In clear signs of hoarding (see here), farmers across the world are endeavouring to secure tomorrow's supply themselves by precautionary inventory building today. From palm-oil in Indonesia to cutbacks on canola acres in Canada to halts in Ukrainian sunflower-oil, hoarding is becoming increasingly prevalent.

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

WEEKLY COMMODITIES PERFORMANCE: GAS PRICES PRIMED TO SURGE

BLOOMBERG COMMODITY INDEX (BCOM) RETURNS, WEEK-ON-WEEK TO 27 APRIL 2022 (%)



Natural gas prices in Europe and Asia are poised to again test record highs as Russia makes good on its threat by cutting supplies to Poland and Bulgaria … A lack of Russian supply means that Europe will be forced to procure more LNG – putting it in direct competition with Asia for a scarce amount of shipments, with Asia bracing for a jump in LNG spot rates

Source: Bloomberg, MUFG Research

GLOBAL COMMODITIES (-2.3% W/W; 27.9% YTD)

De-globalisation drives economic resiliency in supply chains, which leads to inflationary pressures against the security of supply trade off

A central principle of our view that commodities have embarked on a supercycle (see here) is the increased demand for them driven by de-globalisation. At its core is the need for domestic economies to create resiliency in their supply chains, whether in response to pandemics, climate change or geopolitical risks. Global trade patterns may look different the rest of this decade as localisation displaces globalisation. Complex supply chains have fostered years of low-cost, high efficiency production, yet supply-chain shocks from the one-two punch war in Ukraine and Russian sanctions is splintering global integration's idyllic reverie. These pressures all lead to the same trade off, namely, inflationary pressures against the security of supply. These inflationary pressures of moving to domestically made goods and services – in other words, economic autarky – are the costs of de-globalisation.

Commodity prices may begin to decouple from trade growth as de-globalisation gains traction

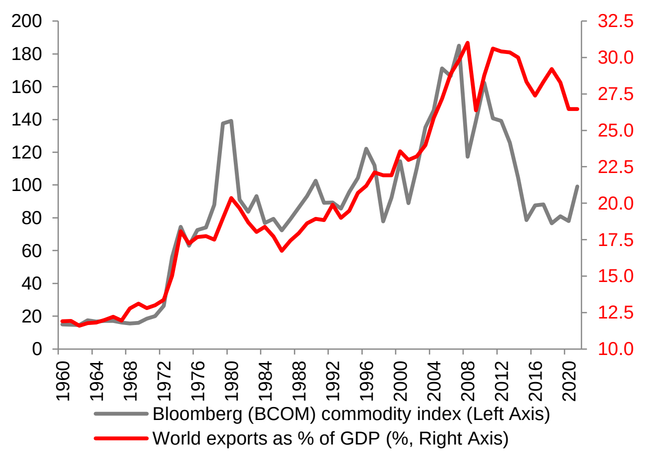
Since the 1850s, the global economy has witnessed two peaks in globalisations – in 1914-20 and between 2008-11. Both peaks were followed by a leap in economic sanctions that were caused by globalisation – it takes the interconnectivity of global markets to make economic sanctions viable. The current decline in globalisation is n different and coincides with a rise in economic sanctions. This may propel corporates to shift their sourcing priorities from cheap and easy to dependable and reliable. The change is evident in the proportion of world exports as a percentage of GDP growth, which fell by 26% in 2020 from a peak of 31% reached in 2008. What is clear is that no matter where the current crisis goes from here, the damage to globalisation through the decoupling of Russia – the world's second largest commodity producer – from major developed markets is garnering traction.

In a world dictated by the security of supply through a departure from globalisation strengthens the commodities case for higher for longer

The costs of these policies is inflation no matter how the crisis evolves, as the pursuit of economic autarky favours maintaining higher costs but more secure supply chains over the lower cost comparative advantage model that globalisation pursues. Hoarding is one such example of countries securing tomorrow's supply themselves by precautionary inventory building today (see here). A less-connected world propelling may also place greater attention on domestic natural resources as countries wean themselves off imports and price volatility. Yet, a production learning curve lurks in the form of higher operating costs, with rising investment requirements and surging marginal cost of production may justify higher prices. Countries deficient in natural resources will suffer most from costlier feedstocks. A world dictated by the security of supply through a departure from globalisation strengthens the commodities case of higher for longer.

COMMODITIES HAVE TRACKED GLOBAL TRADE CLOSELY BUT MAY DECOUPLE ON DE-GLOBALISATION

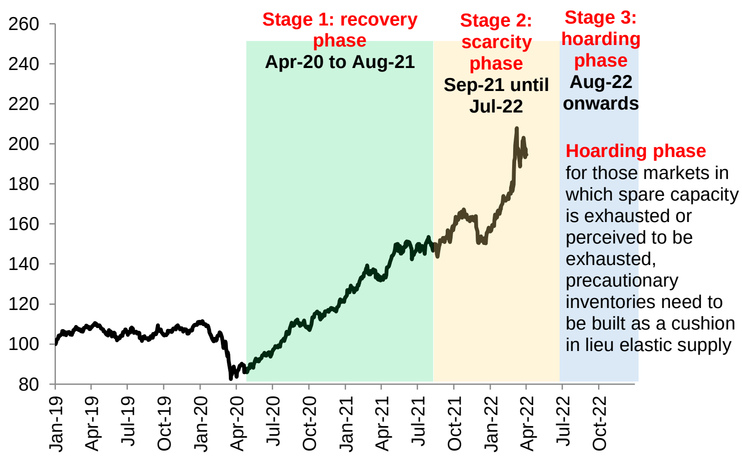
WORLD EXPORTS (% OF GDP) VS BLOOMBERG COMMODITY INDEX



Source: Bloomberg, MUFG Research

COMMODITY MARKETS MAY PIVOT FROM DEMAND RECOVERY TO SUPPLY SCARCITY AND NOW HOARDING

BLOOMBERG COMMODITY INDEX, REBASED JANUARY 2019 = 100



Source: Bloomberg, MUFG Research

ENERGY (-1.4% W/W; 55.8% YTD)

Crude oil

Demand-side apprehensions remain top of mind with our expectations that oil demand will recover more slowly that we previously expected (but this is more than offset by a weaker supply outlook)

Oil prices have moved their attention away from the threat to supply caused by Russia's war in Ukraine to considerable downside demand risks. Extended COVID measures in China, the impact of the war in Ukraine as well as prospects of slower global economic growth amid US rate hikes and tightening financial conditions, are weighing on oil markets. As a result, we lower our demand growth forecast for 2022 from 3.6m b/d to 2.9m b/d. Whilst that may appear to be a high number (historical trend growth in oil demand is ~1.2-1.4m b/d), our estimate is due to the year-on-year effect of the demand growth realised last year. That brings our total demand forecast to 100.1m b/d in 2022 from 97.2m b/d in 2021. Moreover, we are now seeing a clear response of demand to higher prices. This is most notable in the US, with gasoline demand counter-seasonally flat-to-down as pump prices hit record levels, and distillate demand back below 2019 levels, having been above them for much of 2022.

Supply-side apprehensions – which are more acute than demand-side angst – are set to stretch the global system

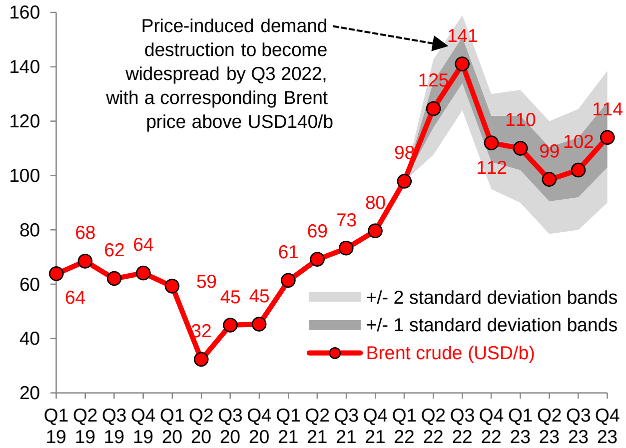
Markets appear to be more sanguine about supply-side pressures at the current juncture, but we expect the sheer velocity of the expected loss in Russian barrels to gain traction this quarter. The latest data signals that the collapse in Russian seaborne oil exports is taking hold with shipments declining 25% week-on-week to 15 April. 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 and moral obligations to steer clear of Russian oil, we believe the country's physical exports are set to decline between 2-3m b/d (see here and here).

We recently revised our oil price call upwards with maximum pain through demand destruction now in Q3 2022 with Brent above USD140/b

Looking ahead, with oil markets in super backwardation (bullish pattern signalling severe market tightness), the physical deliveries of Russian seaborne crude set to collapse in Q2 2022 combined with the simultaneous deficits of depleting inventories and thinning spare capacity amid a dearth of structural underinvestments still miring the complex (see here), our estimates point to a higher oil profile over the near-term. Barring a breakthrough in peace negotiations, we believe that the price-induced demand destruction – the only practical mechanism available in a world devoid of inventory buffers and supply elasticity – necessary to reduce consumption becomes widespread by Q3 2022, with a corresponding Brent price above USD140/b (see here). We believe this is the maximum pain level that could jolt corporate activity, squeeze private consumption and begin to ease the market's severe tightness.

RUSSIAN OIL COLLAPSE AND SUPPLY SCARCITY NEEDS DEMAND DESTRUCTION TO REBALANCE MARKETS

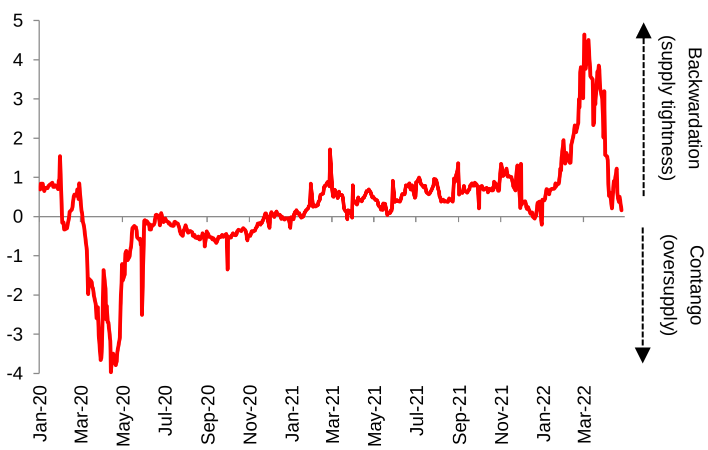
BRENT CRUDE (USD/B) FORECASTS WITH STANDARD DEVIATION BANDS



Source: Bloomberg, MUFG Research

LOWER DEMAND IS BEGINNING TO SHOW THROUGH IN PROMPT TIMEPREADS CLOSE TO CONTANGO

BRENT CRUDE PROMPT TIMESPREAD (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

Russia has made good on its threat of cutting off flows to "unfriendly countries" that refuse to pay for the fuel in roubles. On 26 April, Russia's Gazprom informed Poland and Bulgaria's state gas companies, PGNiG and Bulgargaz, that it will halt gas supplies commencing today (27 April) following their refusal to comply with its demands. This has caused European (TTF) gas prices to rise ~15% since the announcement to ~EUR110/MWh.

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

Both countries have high dependence on Russian gas. Poland has a contract (Yamal contract) with Gazprom for 10.2bcm of annual supply. This contract was set to expire on 31 December 2022 and it has been made evident that Poland would not renew it. Poland has been keen to diversify its gas supplies, and this is evident with the growth in LNG imports into the country over the years. Over 2021 Russian gas flows to Poland made up more than 61% (9.9bcm) of total imports, whilst in the first quarter of this year, this fell to 53% (2.15bcm) of total imports, according to PGNiG. Poland has more than comfortable storage (~76% full), well above the five year average of around 40% for this time of the year. Stronger flows from Germany and record LNG imports have helped to ensure adequate supply. Meanwhile, Bulgaria appears to be more vulnerable, while it is a small gas consumer (around 3bcm per year), more than 90% of its gas requirements are met by Russia. In addition, gas storage is low, with it just 17% full, compared to a five year average of ~25% at this time of the year.

Russia's decision to cut of gas to Poland and Bulgaria is not a systemic threat but a clear escalation of risks in gas markets

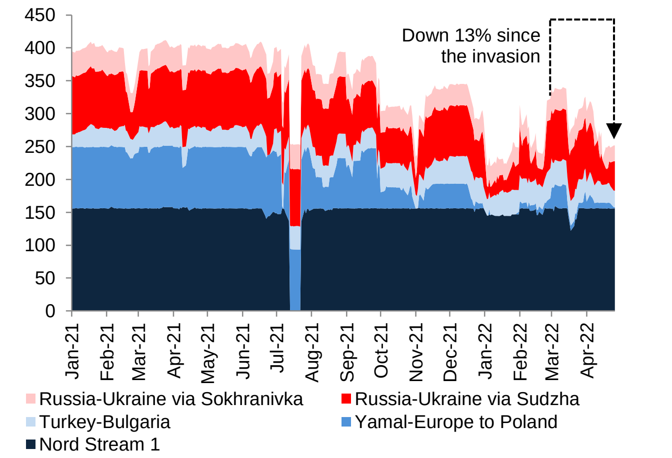
Poland accounts for ~4% of the gas consumed in the EU. As such, this latest development does not imply a systemic risk for the European gas market. Yet, we see three key reasons why we should not ignore this either. First, this is the first time since the start of the conflict that Gazprom has unilaterally decided to curb gas supplies to a member of the Eurozone. Second, one of the largest pipelines that delivers Russian gas into Europe flows through Poland; any disruption to this corridor would have major implications on the EU gas market. Third, markets await the EU response (if any). What is clear is that any reduction in Russian gas supplies would exacerbate the European energy crunch that has already been responsible for the ~150% increase in gas and power bills since summer 2020. We view that will further emphasise the EU's focus on energy security and renewables.

Risk of further escalation beyond Poland and Bulgaria is severe

Thus, a concern for the EU market, as well as global gas markets is whether Russia will escalate further by cutting supplies to other European countries. Almost all buyers have said they will refuse to change payment terms, with the exception of at

RUSSIAN GAS SHIPMENTS TO EUROPE THROUGH KEY ROUTES ARE DOWN 13% SINCE INVASION AND AT RISK

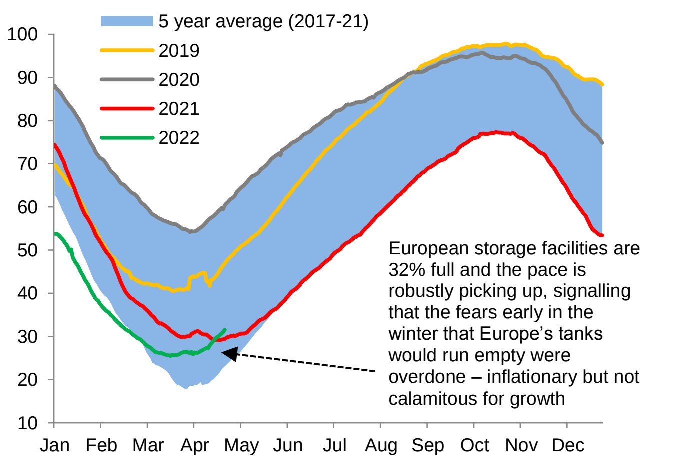
RUSSIAN PIPED NATURAL GAS SUPPLY TO EUROPE (MMBTU/D)



Source: Bloomberg, MUFG Research

EU GAS INVENTORIES ARE BEING REBUILT AND NOW WITHIN THE LAST 5 YEAR AVERAGE INVENTORY BAND

NATURAL GAS INVENTORIES IN EUROPE (% OF TOTAL)



Source: Bloomberg, MUFG Research

least Hungary. Although last week the European Commission suggested that if European buyers pay euros or dollars into a Gazprombank account, it would not necessarily breach sanctions, as long as the obligation ends at this point, and that buyers are not involved in the conversion of euros/dollars into roubles at a later stage.

Reinstating the importance of Russian gas to Europe

This escalation accentuates Russia's gas importance to Europe. Natural gas accounts for ~25% of Europe's primary energy. Russian imports represent ~35% of the EU's annual gas consumption. We recently catalogued that the strategy of lowering Russian imports by two-thirds by December 2022 is highly challenging (see here). We anticipate that any abrupt halt in Russian gas to northwest Europe might trigger three main implications. First, front-loaded demand destruction, notably curtailment in industrial demand, to balance the system – especially for Germany or Italy – which would have profound implications for GDP. Second, a further tightening in, with clear inflationary impact on gas and power prices, which would push up energy bills further up and exacerbate energy cost inflation. Third, it may bring large liabilities for gas resellers that directly purchase gas from Russia, as these entities might be forced to procure gas in the market at much more expensive levels.

With Nordstream 2 halted, our anticipation is pressure rebuilding in the winter given the likely acute tightness in the market

Looking ahead, we expect European storage to reach healthy levels through the injection season, with our estimated October 2022 storage ~85-90% full, helping bring TTF lower in Q3 2022. However, with Nordstream 2 now halted, our anticipation is pressure rebuilding in the winter given the likely acute tightness in the market, and thus likely elevating TTF prices once again (see here and here). From a political perspective, Russia's decision to halt its gas supplies to Poland and Bulgaria will bring additional focus on the European Commission's decision on whether the newly imposed Russian payment system violates EU sanctions. We believe it is in the interest of both the EU and Russia to work out a solution that brings gas payments in compliance with the EU's legal requirements. From a pricing perspective, we had priced in such a development in our TTF gas price profile with a spike this quarter to EUR136/MWh (see here) and see Russia's decision as a major turning point for European gas markets. Whilst not our base case scenario, a full immediate interruption of Russian flows to northwest Europe (that includes Germany) may raise TTF prices north of EUR200MWh for an extended duration.

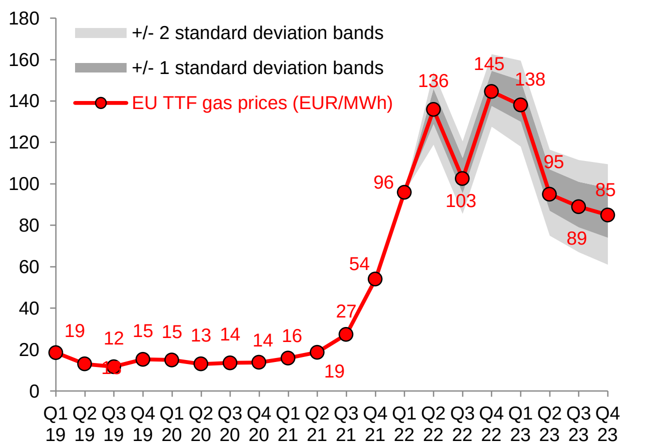
Carbon markets

Compliance deadline

European carbon allowances have experienced a recovery from the recent lows seen

RUSSIA'S DEMAND FOR ROUBLE PAYMENTS IS A GAME CHANGER FOR PRICES IN THIS QUARTER

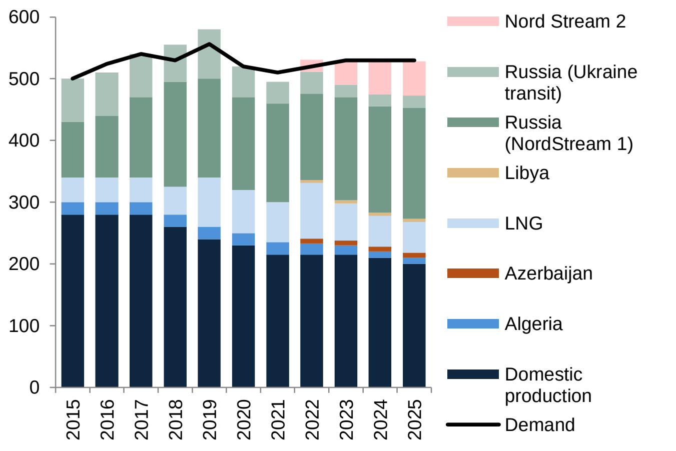
EUROPEAN GAS (TTF) PRICES (EUR/MWH)



Source: Bloomberg, MUFG Research

EUROPEAN GAS MASRKETS ARE SET TO REMAIN TIGHT FOR LONGER AS NORDSTREAM2 HAS BEEN HALTED

EUROPE NATURAL GAS SUPPLY MIX BY SOURCE (BCM)



Source: Bloomberg, Rystad Energy, MUFG Research in early March, with prices trading back at levels last witnessed in February (north of EUR80/MT). The upcoming compliance deadline to surrender allowances appears to have provided some support to prices, as has gas-to-coal switching (the strength we have seen in the European gas market has offered a boost to coal demand from the power generation sector). Under the EU Emission Trading System (ETS), installations (power plants and industrial plants) and airlines have until 30 April to surrender the number of allowances equivalent to their emissions in the preceding year. As a result, the prospect for increased buying in order to meet obligations could be providing some support to the market.

BASE METALS (-5.2% W/W; 16.9% YTD)

Aluminium

Chinese lockdowns more than offset stimulus measures, weighing on aluminium prices

Fear that China's zero-tolerance COVID approach to lockdowns are about to unleash another wave of global supply chain disruptions has seen all base metals sell off heavily. Aluminium prices have found some support later this week as investors are assessing a major Chinese infrastructure push and dwindling stockpiles. China's President Xi Jinping called for all-out efforts to spur infrastructure spending. The announcement follows a vow by the People's Bank of China (PBoC) to increase monetary support to the real economy. Meanwhile, aluminium inventories in warehouse tracked by the London Metals Exchange (LME) – which are at the lowest since 2005 – extended their slump, with shortfalls increasing after record fuel costs leading to smelter closures in Europe and the war in Ukraine throttling the flow of metals. 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).

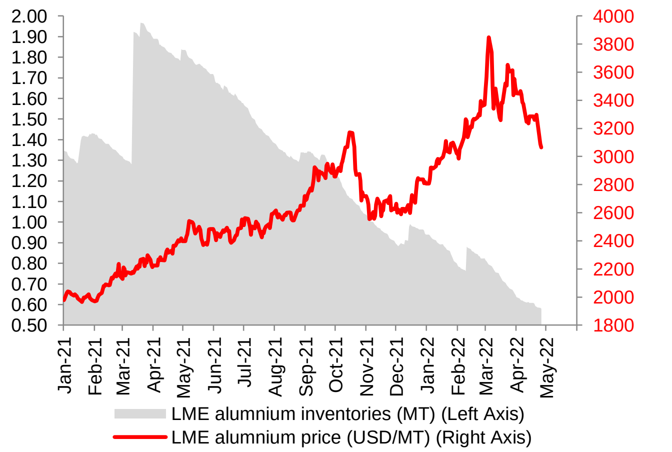
Nickel

Supply scarcity continues to mire the nickel complex

As with aluminium, nickel has slumped on China's COVID lockdowns. Norilsk nickel reported its first-quarter production data showing that nickel production jumped by 10% y/y to 52/KT despite challenges since the war started. Although this increase is partly due to the lower base from last year, when there were flooding issues at the Oktyabrsk mine. We expect the nickel market to be in deficit in 2022 as strong

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

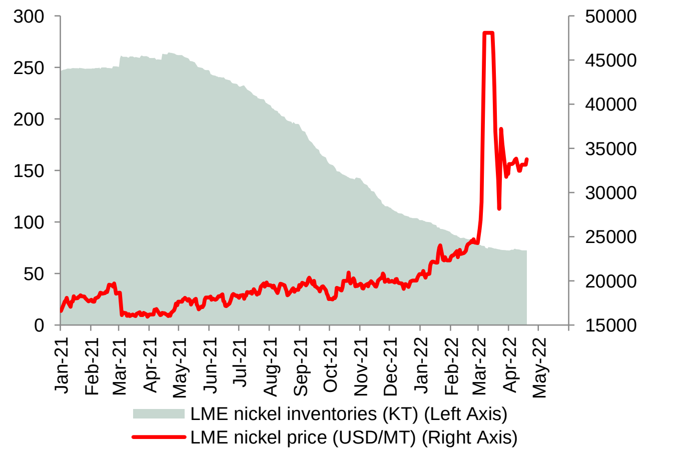
ALUMINIUM PRICE (USD/MT) AND INVENTORIES (MT, THOUSANDS)



Source: Bloomberg, LME, MUFG Research

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

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



Source: Bloomberg, LME, MUFG Research

demand from stainless less production and batteries more than offsets the increase in refined production. The low level of inventories will help support prices at a higher level. 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

Supply side disruptions are amplifying

While copper demand concerns remain overly tied to global growth worries, copper supply concerns have waned with reports of the continued flow of Russian metal alongside a broader expectation for stronger global mine output over the next two years. Investors' comfort with this supply narrative is misconceived, in our view. On Russia, we view such a short-term continuation of flows masks a deeper contraction in potential Russian mine supply. With equipment and key personnel barred from the region, alongside more restrained capital, we believe the risks of disruptions are to Russia's mine supply are significant 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). While mine supply is the key bottleneck to refined copper output this year, it is also worth highlighting some challenges further downstream. China's 400/KT pa Xiangguang smelter has reportedly ceased operations after facing credit issues, which could be tightening refined supply in the region, while loosening concentrate markets. What's more, Chile's copper production dropped to just 395/KT in February, the lowest level in the available data owing to declining grades, COVID issues and water challenges. Such supply disruptions is the premise of our bullish conviction (MUFG average Q2 2022 forecast USD10,780/MT).

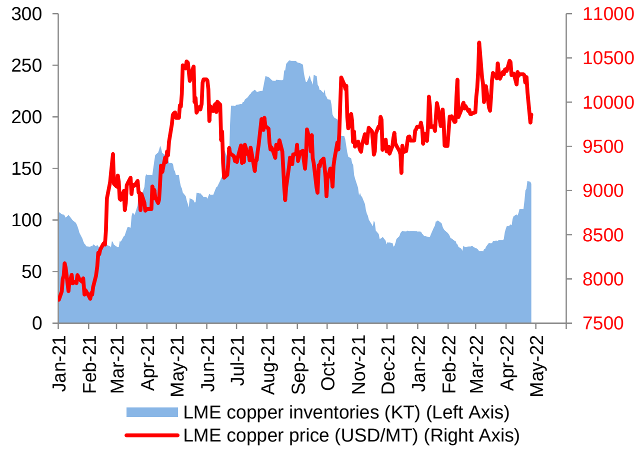
Zinc

Zinc holdings are low with clear upside potential

Zinc fundamentals remain exceedingly tight. 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

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

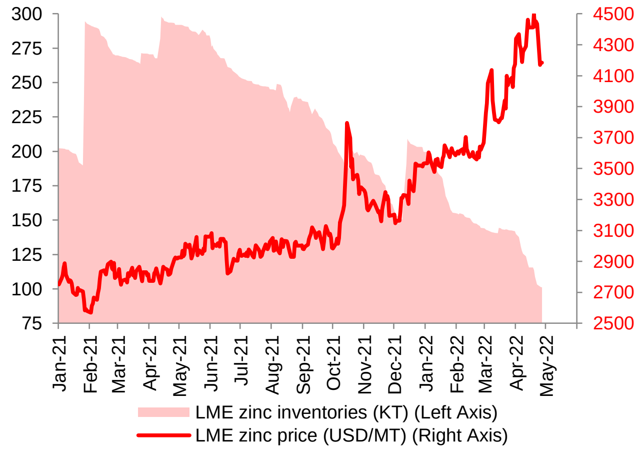
COPPER PRICE (USD/MT) AND INVENTORIES (MT, MILLIONS)



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

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 (-4.0% W/W; 3.5% YTD)

Gold

Gold has fallen to a two month low as US bond yields have rebounded and the USD extending its rally

Gold has fallen to a two month low as US bond yields have rebounded and the USD extended its rally on Fed Chair's Powell signal that a 50bp rise at the next FOMC meeting was "on the table" and that it was "appropriate to be moving a little more quickly". More broadly, the rise in global risks is generating considerable safe-haven demand in the form of ETF as well as coin and bar purchases. With this, we believe that the lack of gold performance in recent weeks is due to low liquidity in futures markets despite bullish physical demand. 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 that gold prices will now accelerate from current levels (MUFG average Q4 2022 forecast USD2,250/oz).

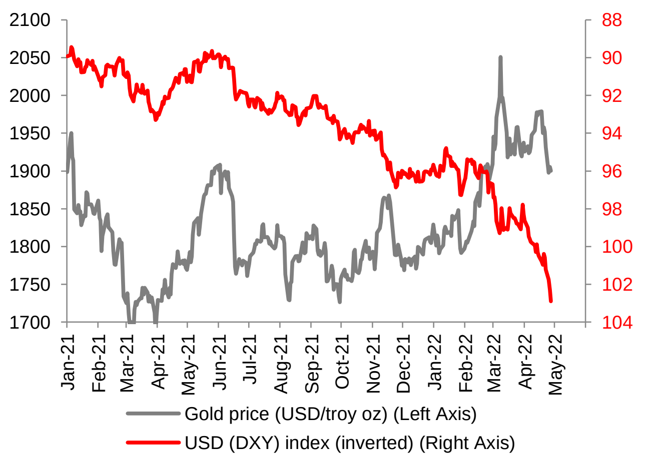
Silver

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

Silver has followed gold lower, impacted by similar trends of rising yields and a stronger USD. 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

GOLD HAS FALLEN TO A TWO MONTH LOW ON A SURGING USD ON THE FED'S HAWKISH STANCE

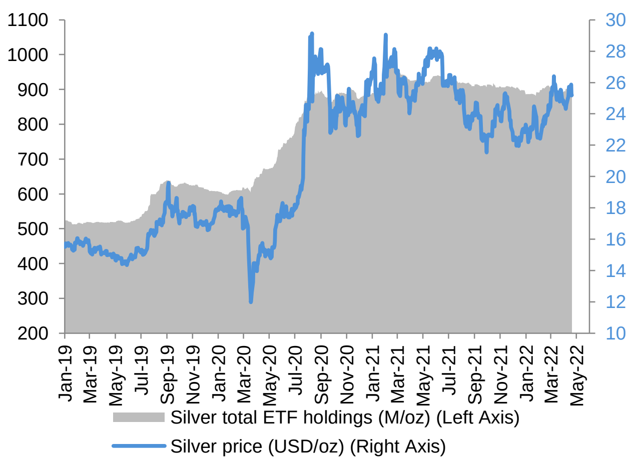
GOLD PRICE (USD/OZ) VS US USD BROAD (DXY) INDEX



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

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 have weakened as the prospect of higher rates has undercut prices

For platinum group metals (PGM), both platinum and palladium have weakened as the prospect of higher rates has undercut prices. 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.

BULK COMMODITIES (-2.7% W/W; 36.2% YTD)

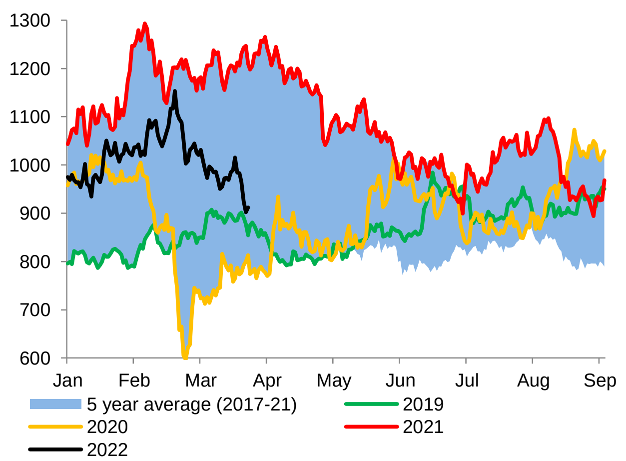
Iron ore

Iron ore prices continue to grind lower from their recent highs towards USD150/MT owing to China's stern measures to beat back its COVID challenge

Iron ore prices continue to grind lower from their recent highs towards USD150/MT owing to China's stern measures to beat back its COVID challenge. For steel mills, procurement costs for iron ore, scrap steel and coal have all edged up in March, China's Iron and Steel Association stated. The consumption outlook has taken a positive turn after some areas of the central steelmaking hub of Tangshan city, lifted a lockdown and permitted the gradual reopening of entities, while President Xi Jinping vowed to spur infrastructure construction. From a pricing perspective, we expect limited room for upside price risks (MUFG average Q4 2022 forecast USD115/MT).

PLATINUM'S OUTLOOK REMAINS CONSTRUCTIVE ON A STEADY BALANCING PATH WITH UPSIDE SUPPLY RISKS

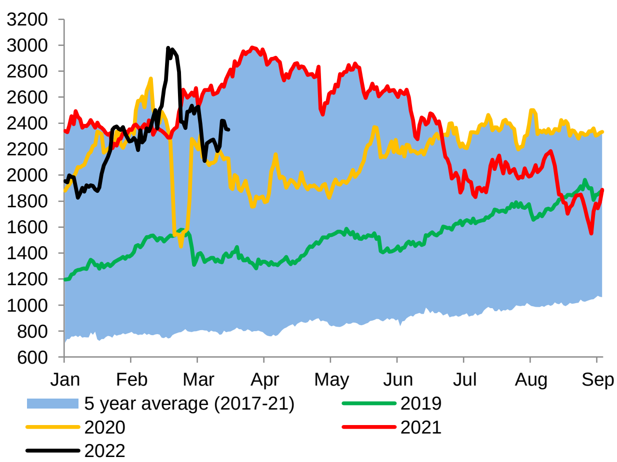
PLATINUM SPOT PRICE (USD/MT)



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

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 continues to remain 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 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 (-0.2% W/W; 26.9% YTD)

Hoarding is becoming widespread

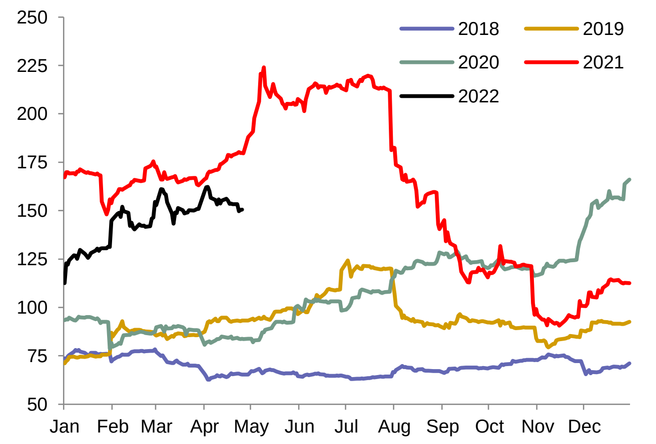
In clear signs of hoarding (see here), farmers across the world are endeavouring to secure tomorrow's supply themselves by precautionary inventory building today. In oilseed markets, top palm-oil exporter Indonesia is set to halt some refined exports. Farmers in Canada are also cutting back on canola acres and most ports in Ukraine have been shut by Russia's invasion, limiting agricultural shipments from the sunflower-oil heavyweight. Meanwhile, adverse weather across the US and Canada is slowing plantings of key spring crops. "Little to no field activity" is likely for two or three more weeks after snow storms and sleet, according to the North Dakota Wheat Commission. Also, major corn-growing states such as Illinois and Indiana were blanketed by cold advisories.

Fertiliser shortages on the horizon 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

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

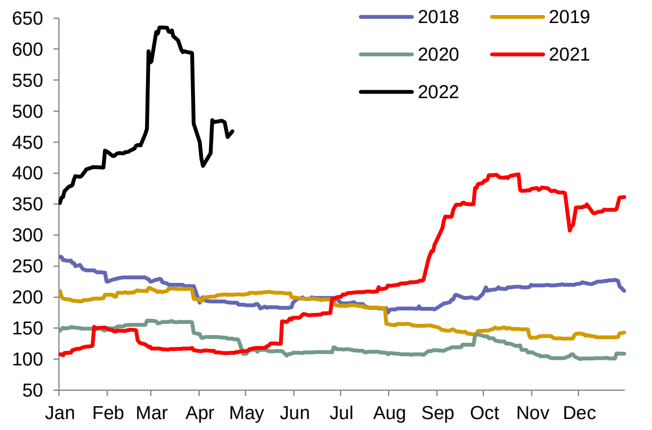
IRON ORE SPOT PRICE (USD/MT)



Source: Bloomberg, MUFG Research

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

HARD COKING COAL SPOT PRICE (USD/MT)

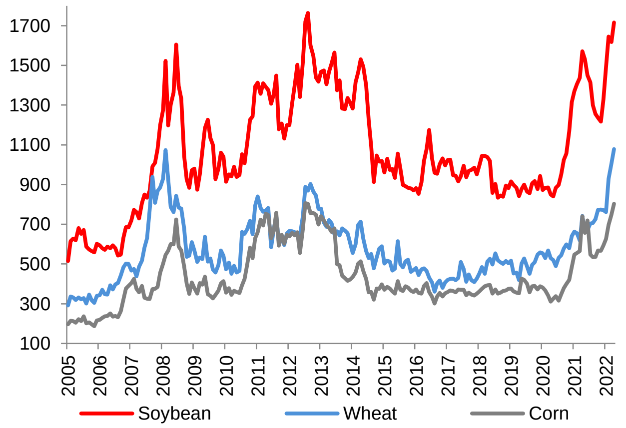


Source: Bloomberg, MUFG Research

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.

RUSSIAN PHYSCIAL DECOUPLING, MOUNTING INPUT COSTS AND HOARDING IS SEEING GRAIN PRICES SOAR

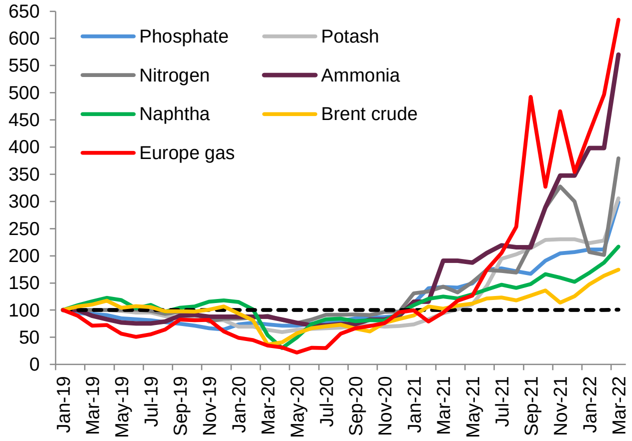
SOYBEAN, WHEAT AND CORN PRICES (USD/BUSHELS)



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

				2021	2022				Change %						
	Commodity	**Ticker**	**Unit**	**31-Dec**	**06-Apr**	**13-Apr**	**20-Apr**	**27-Apr**	**Week**	**1 MTD**	**3 MTD**	**YTD**	**1 Year**	**3 Years**	**5 years**
1	Bloomberg BCOM Total Returns	BCOMTR Index	Index	211.80	269.77	275.37	280.80	276.28	-1.61	3.90	21.81	30.44	43.65	63.04	63.08
2	Bloomberg BCOM Spot Index	BCOMSP Index	Index	502.25	634.29	645.87	657.61	642.44	-2.31	2.75	19.34	27.91	38.90	85.49	94.78
3	Energy	BCOMENSP Index	Index	368.86	546.67	559.60	582.67	574.52	-1.40	8.78	34.01	55.76	84.97	89.63	123.21
4	US Natural Gas	NG1 Comdty	USD/MMBtu	3.73	6.03	6.68	7.18	7.14	-0.45	26.62	14.03	91.53	148.66	178.41	120.56
5	EU Natural Gas	TZT1 Comdty	EUR/MMBtu	3.73	108.56	102.22	93.77	106.35	13.41	-15.54	15.22	51.18	396.87	637.33	562.63
6	WTI Crude	CL1 Comdty	USD/b	75.21	101.96	100.60	102.56	100.87	-1.65	0.50	16.36	34.00	60.12	59.21	105.80
7	Brent Crude	CO1 Comdty	USD/b	77.78	106.64	104.64	107.25	104.48	-2.58	-3.24	16.87	34.24	57.20	44.71	102.97
8	Gasoline	HO1 Comdty	USD/lb	222.85	316.49	315.38	324.74	339.20	4.45	6.35	34.55	52.21	67.89	61.48	118.84
9	EU ETS EUA	MO1 Comdty	USD/gal	80.22	77.89	78.84	79.98	82.35	2.96	5.69	-9.84	0.55	70.85	212.88	1672.75
10	Metals	BCOMIN Index	Index	172.89	215.09	210.09	213.30	203.40	-4.64	-4.07	12.36	17.65	31.68	71.65	82.05
11	Industrial Metals Index	BCOMINSP Index	Index	303.57	376.81	368.29	374.14	354.71	-5.19	-4.51	11.46	16.85	30.95	77.58	94.16
12	Copper	HG1 Comdty	USD/lb	9,721	10,455	10,343	10,305	9,860	-4.31	-4.96	-0.57	1.44	1.12	54.06	72.53
13	Aluminium	LA1 Comdty	USD/MT	2,803	3,449	3,240	3,247	3,047	-6.17	-12.54	-1.98	8.69	27.35	67.58	55.68
14	Zinc	ZNC1 Comdty	USD/MT	3,580	4,330	4,407	4,523	4,218	-6.76	0.12	16.14	17.81	45.23	48.53	61.20
15	Nickel	LN1 Comdty	USD/MT	20,874	33,318	32,453	33,735	33,072	-1.97	2.98	43.69	58.44	98.80	167.30	260.05
16	Precious Metals Index	BCOMPRSP Index	Index	530.97	559.81	577.44	572.00	549.40	-3.95	-3.44	5.58	3.47	2.81	50.08	47.15
17	Gold	GC1 Comdty	USD/t oz	1,829	1,922.90	1,972.10	1,955.70	1,900.60	-2.82	-2.49	6.00	3.94	6.90	47.92	50.14
18	Silver	SI1 Comdty	USD/t oz	23.35	24.53	25.74	25.39	23.40	-7.84	-6.92	3.17	0.18	-11.42	55.91	35.51
19	Platinum	PL1 Comdty	USD/t oz	964.40	969.40	969.00	984.40	911.90	-7.36	-8.12	-12.83	-5.44	-26.61	1.53	-3.59
20	Palladium	PA1 Comdty	USD/t oz	1,912	2,235	2,354	2,380	2,200	-7.58	-2.46	-7.04	15.06	-25.49	52.02	170.60
21	Bulk Commodities	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	Hard Coking Coal	XW1 Comdty	USD/MT	341.76	424.00	485.67	484.33	467.67	-3.44	-20.26	15.59	38.50	329.99	131.46	82.05
23	Iron Ore	SCO1 Comdty	USD/MT	112.50	162.27	155.83	153.49	150.52	-1.93	-0.21	15.34	33.80	-16.46	61.57	114.51
24	Agriculture	BCOMAG Index	Index	60.79	74.18	76.34	77.25	77.12	-0.18	5.88	21.19	26.86	32.10	97.52	50.29
25	Agriculture Index	BCOMAGSP Index	Index	406.67	494.91	506.94	511.97	508.27	-0.72	4.60	19.50	24.98	27.88	114.05	96.91
26	Grain Index	BCOMGRSP Index	Index	293.87	375.72	388.62	395.64	392.92	-0.69	6.80	27.74	33.71	26.29	122.08	113.10
27	Soybean	S 1 Comdty	USD/bu	1,328.75	1,631	1,670	1,717	1,722	0.29	6.38	18.87	29.56	11.08	101.64	82.02
28	Wheat	W 1 Comdty	USD/bu	770.75	1,045.25	1,103.75	1,099.00	1,075.75	-2.12	6.93	38.45	39.57	46.61	147.30	160.16
29	Corn	C 1 Comdty	USD/bu	593.25	759.75	776.25	804.00	815.75	1.46	8.98	30.51	37.55	17.33	132.31	125.41
30	Soft Index	BCOMOSSP Index	Index	394.34	424.76	431.24	419.16	410.44	-2.08	-1.99	1.89	4.08	34.09	88.50	54.60
31	Cotton	CT1 Comdty	USD/lb	112.60	137.53	138.51	139.68	142.97	2.36	5.37	17.55	26.97	58.73	86.28	80.24
32	Coffee	KC1 Comdty	USD/lb	226.10	231.30	233.60	221.30	217.20	-1.85	-4.06	-6.40	-3.94	50.47	134.30	70.89
33	Sugar	SB1 Comdty	USD/lb	18.88	19.65	20.22	19.74	19.02	-3.65	-2.41	3.31	0.74	6.02	55.14	25.30
34	Livestock Index	BCOMLISP Index	Index	196.83	216.11	222.15	224.62	216.44	-3.64	-3.64	3.67	9.96	12.80	20.06	25.64
35	Live Cattle	LC1 Comdty	USD/lb	138.90	136.80	139.95	141.35	140.00	-0.96	-0.05	1.07	0.29	17.68	11.84	2.73
36	Lean Hogs	LH1 Comdty	USD/lb	81.48	97.68	99.63	114.70	105.20	-8.28	2.46	19.79	27.95	-5.05	19.83	55.83
37	USD Index	DXY Index	Index	95.67	99.47	100.29	100.96	103.05	2.07	4.81	5.95	7.71	13.35	5.14	4.01

Source: Bloomberg, MUFG Research

Commodity prices – quarterly and annual forecasts

	Commodity	Ticker	Unit	27-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	6.85	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	103.21	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	83.13	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	101.70	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	104.99	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	9,769	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	3,072	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	4,198	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	32,617	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	1,901	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	23.54	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	902.30	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	2,179	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	444.67	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	150.39	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	1,705	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	1,083	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	803.25	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	142.53	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	220.80	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	18.95	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

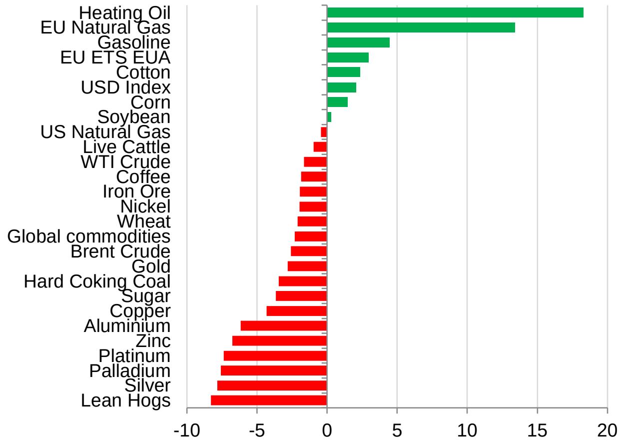
		Bullish	Neutral-to-bullish	Neutral	Neutral-to-bearish	Bearish
1	Energy	EU natural gas, Brent, WTI	US natural gas	---	---	
2	Base Metals	Aluminium, Copper, Nickel	Zinc	---	---	---
3	Precious Metals	Platinum, Palladium	Gold, Silver	---	---	---
4	Bulk Commodities	Hard Coking Coal	---	Iron ore		---
5	Agriculture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

Source: Bloomberg, MUFG Research

Core indicators – commodities flows and returns

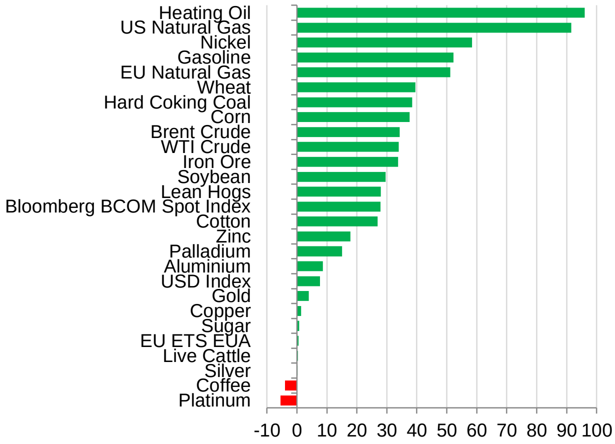
COMMODITIES MARKET PRICE RETURNS

WEEK ENDING 27 APRIL 2022 (% W/W)



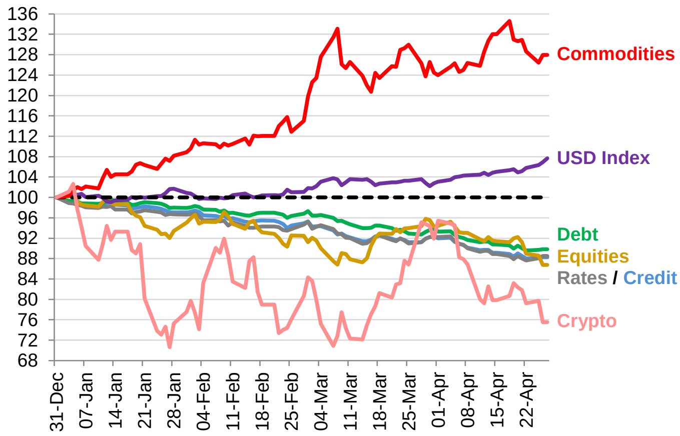
COMMODITIES MARKET PRICE RETURNS

YEAR-TO-DATE 2022 (%)



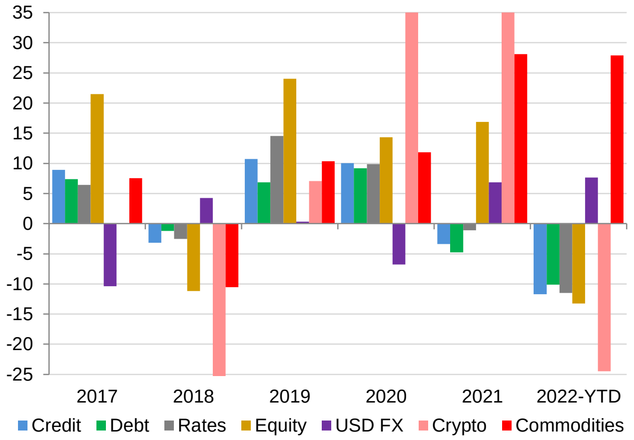
USD-DENOMINATED GLOBAL ASSET MARKET RETURNS

REBASED 1 JANUARY 2022 = 100



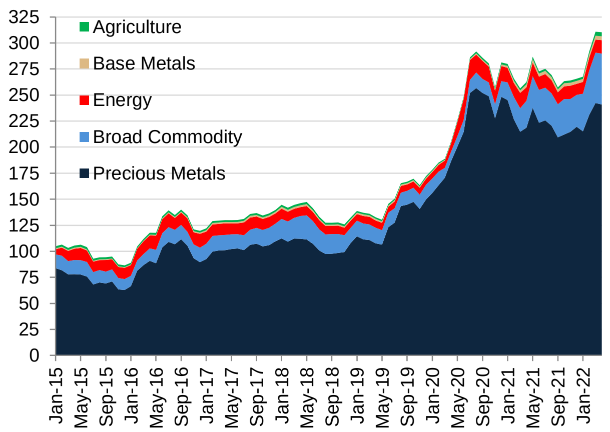
USD-DENOMINATED GLOBALL ASSET MARKET RETURNS

ANNUALISED PERFORMANCE (%)



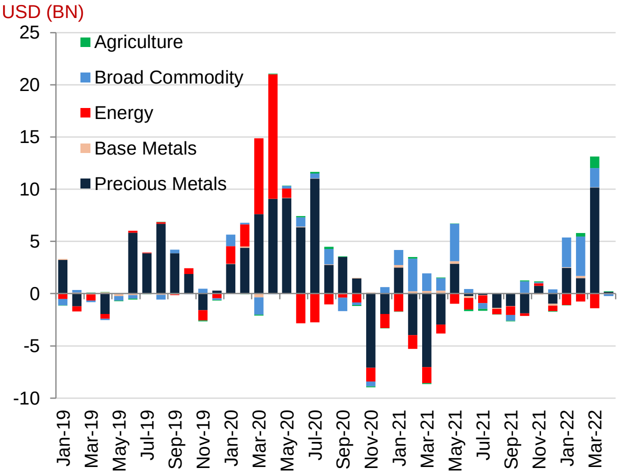
COMMODITIES ETF COMBINED CUMULATIVE AUM

USD (BN)



COMMODITIES ETF COMBINED CUMULATIVE FUND FLOWS

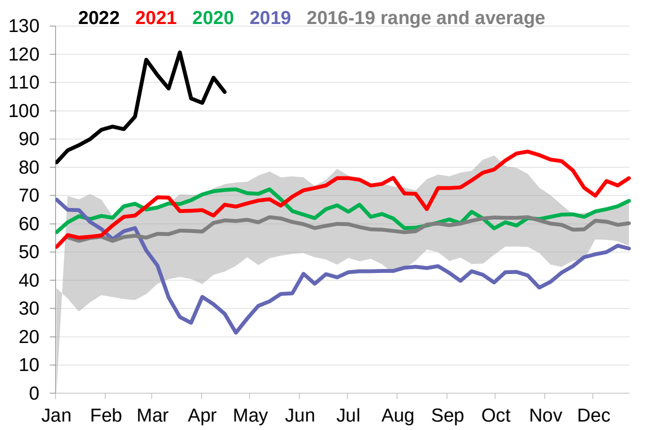
USD (BN)



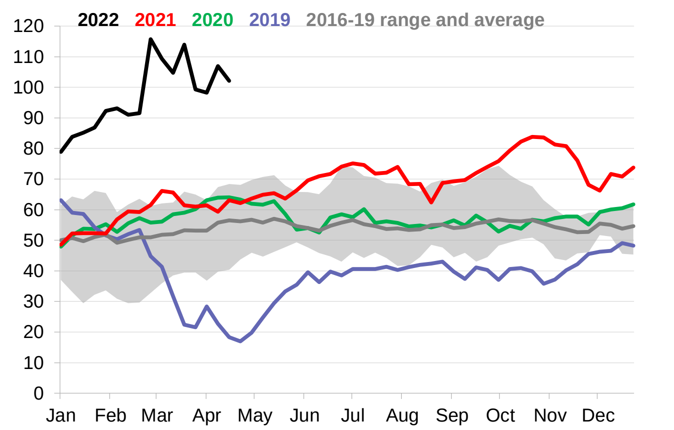
*Source: Bloomberg, MUFG Research; * EU natural gas up 18% w/w and coal down 28% w/w*

Core indicators – prices

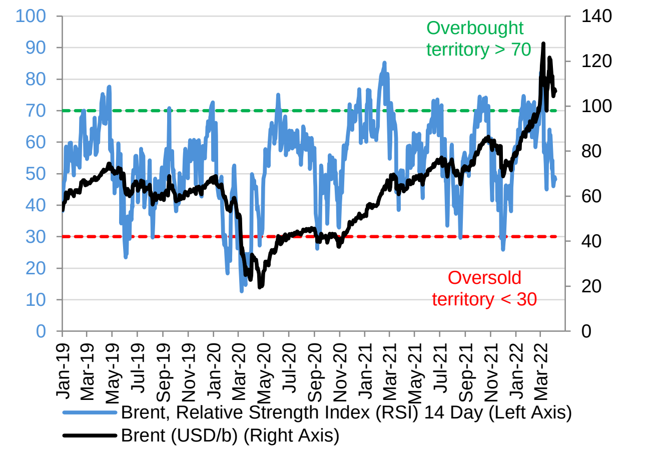
BRENT SPOT
USD/B



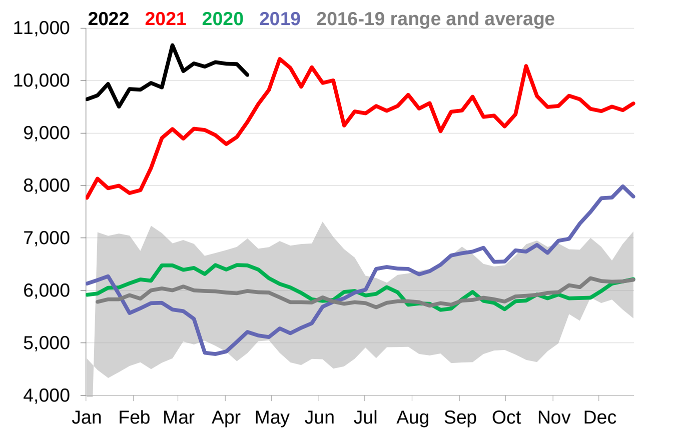
NYMEX WTI SPOT
USD/B



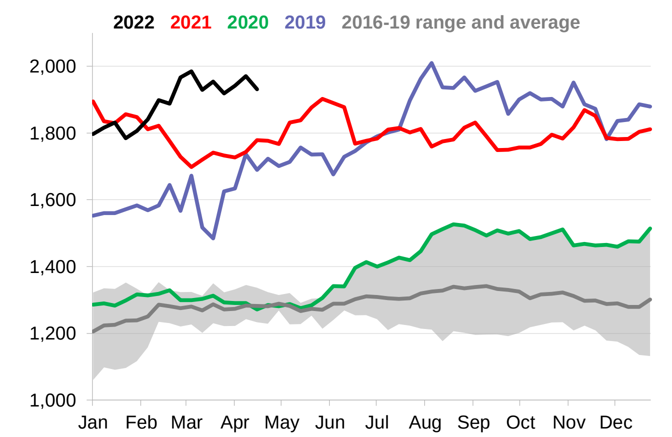
14 DAY RELATIVE STRENGTH INDEX (RSI) AND WTI
USD/B AND 0-100 INDEX (<30 = OVERSOLD; >70 = OVERBOUGHT)



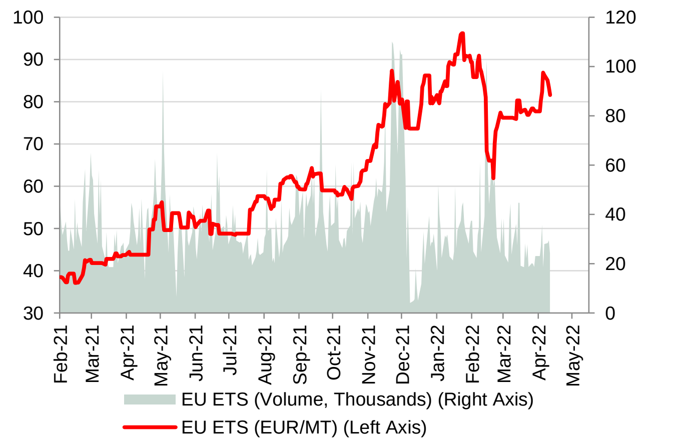
COPPER SPOT
USD/LB



GOLD SPOT
USD/T OZ



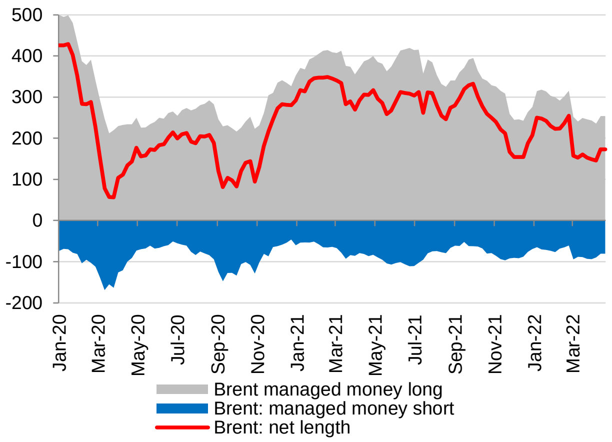
EU CARBON PRICE AND VOLUME
EUR/T AND EUA'S (THOUSAND VOLUME)



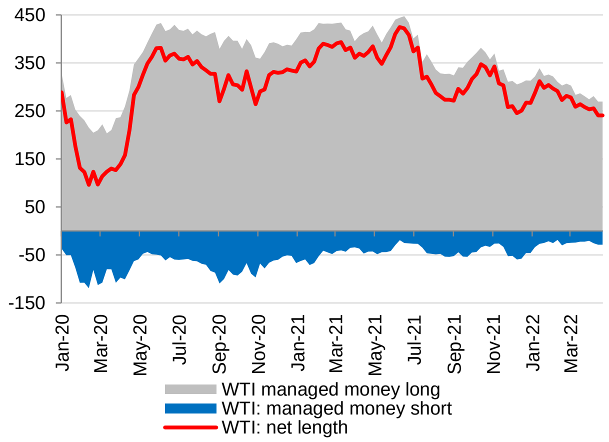
Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – market positioning

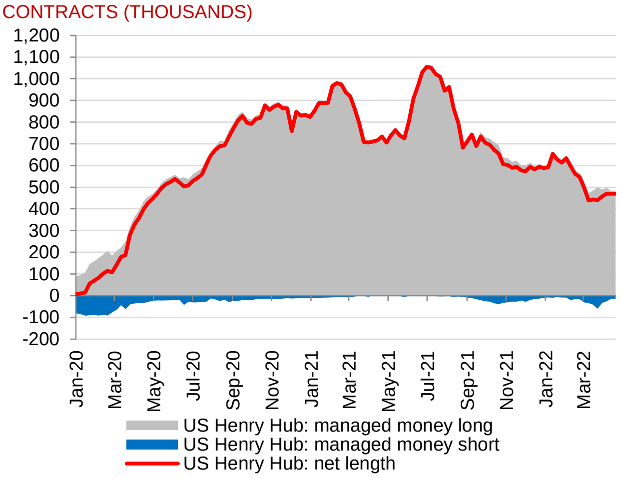
BRENT CRUDE MANAGED MONEY
CONTRACTS (THOUSANDS)



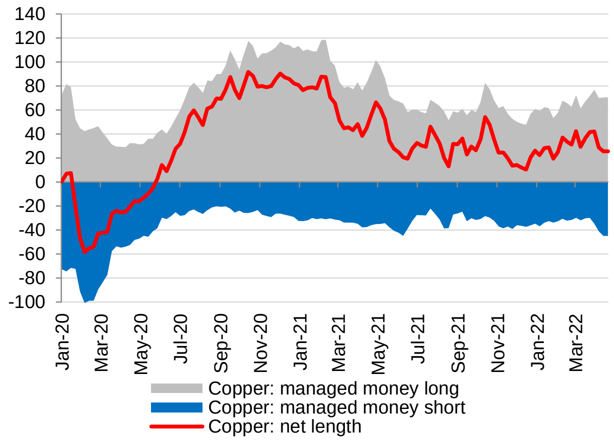
WTI CRUDE MANAGED MONEY
CONTRACTS (THOUSANDS)



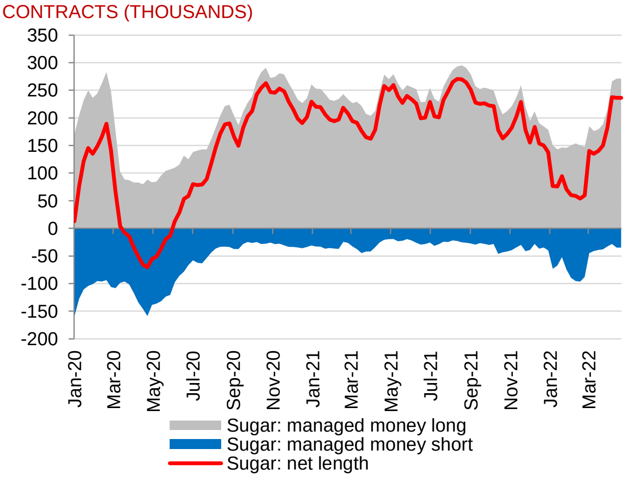
HENRY HUB NATURAL GAS MANAGED MONEY
CONTRACTS (THOUSANDS)



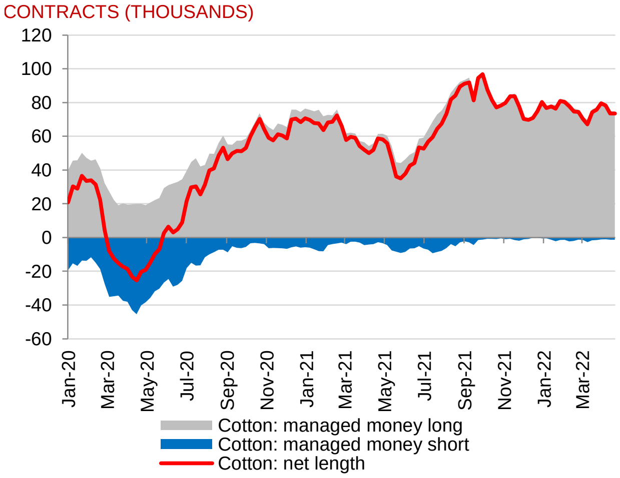
COPPER MANAGED MONEY
CONTRACTS (THOUSANDS)



SUGAR MANAGED MONEY
CONTRACTS (THOUSANDS)



COTTON MANAGED MONEY
CONTRACTS (THOUSANDS)

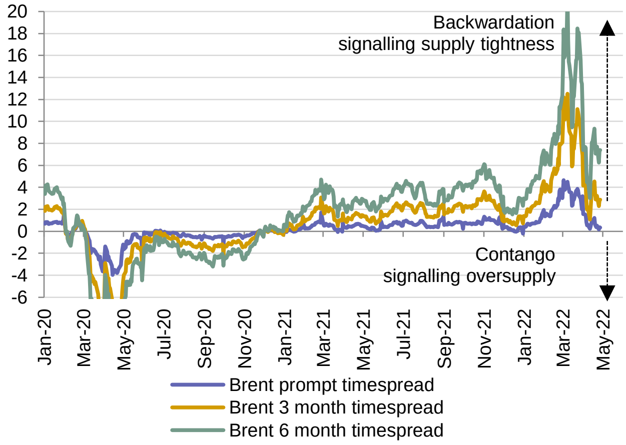


Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – timespreads and futures

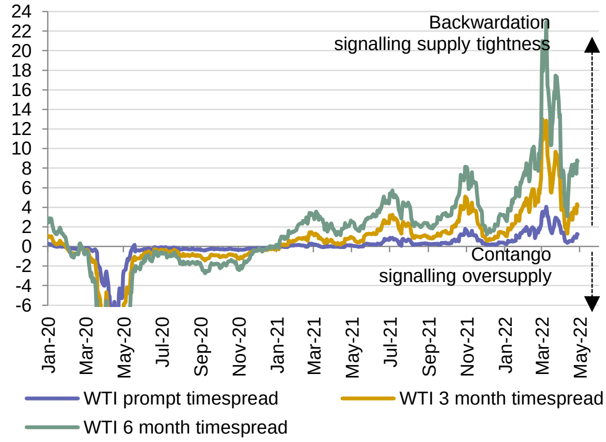
BRENT TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



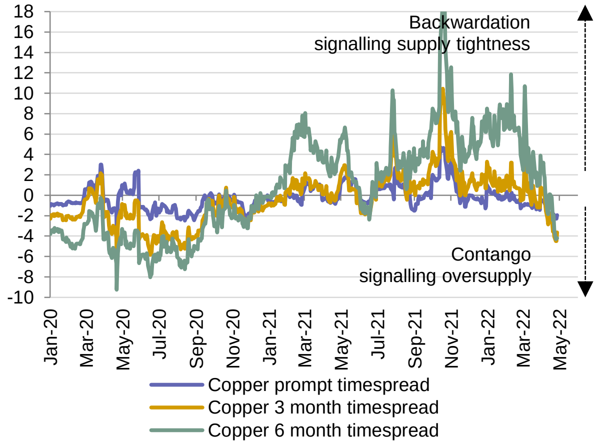
WTI TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



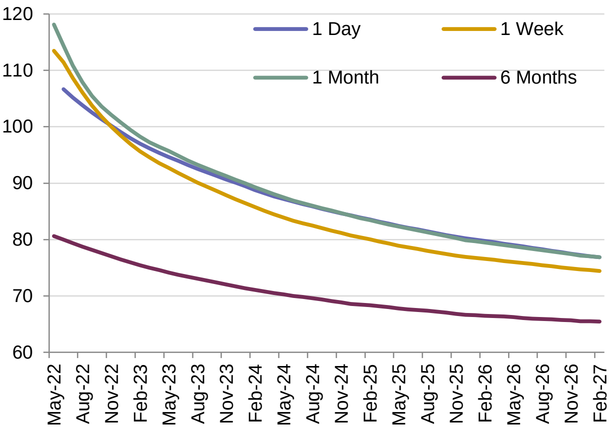
COPPER TIMESPREADS – FRONT, 3 AND 6 MONTHS

USD/B



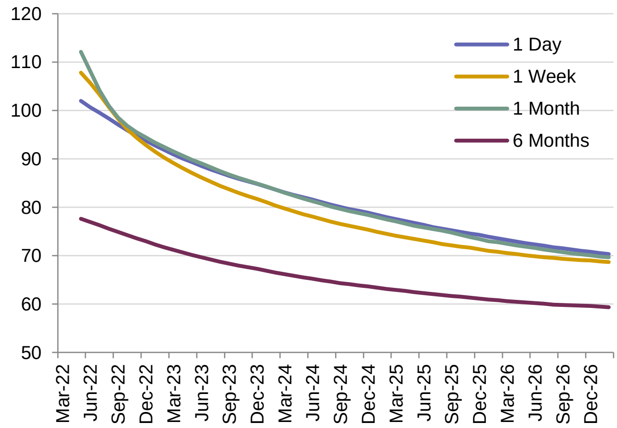
BRENT FUTURES CURVE

USD/B



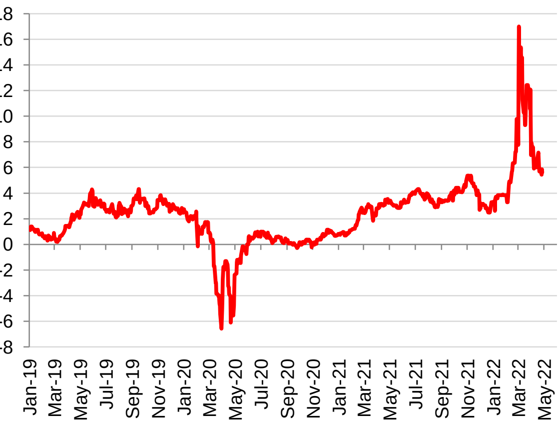
WTI FUTURES CURVE

USD/B



BRENT-DUBAI SPREAD

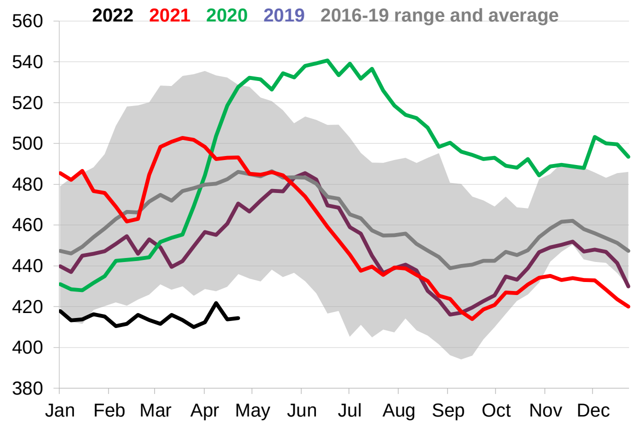
USD/B



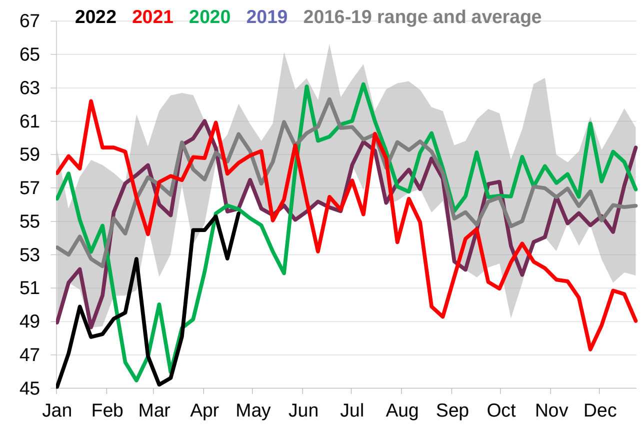
Source: Bloomberg, EIA, IEA, OPEC, MUFG Research

Core indicators – inventories, storage and products

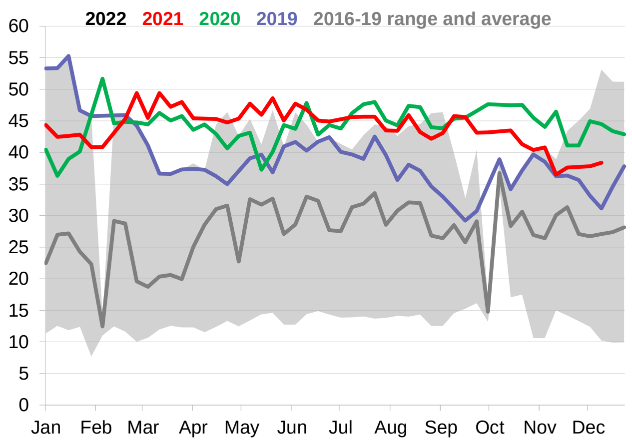
US CRUDE INVENTORIES
MILLION BARRELS



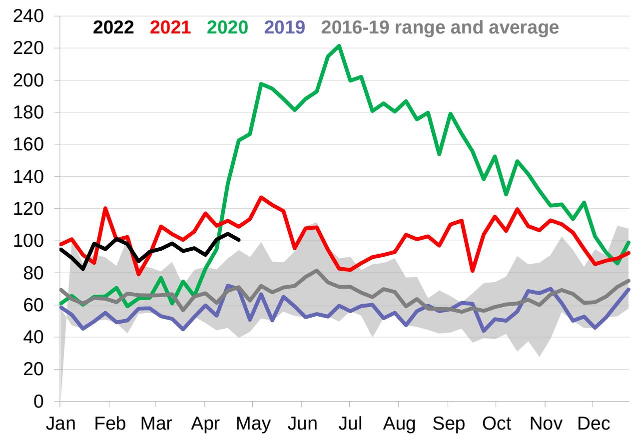
ARA CRUDE INVENTORIES
MILLION BARRELS



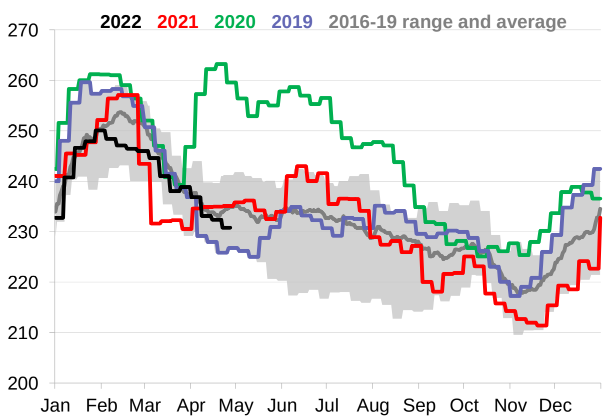
CHINA SHANDONG CRUDE INVENTORIES
MILLION BARRELS



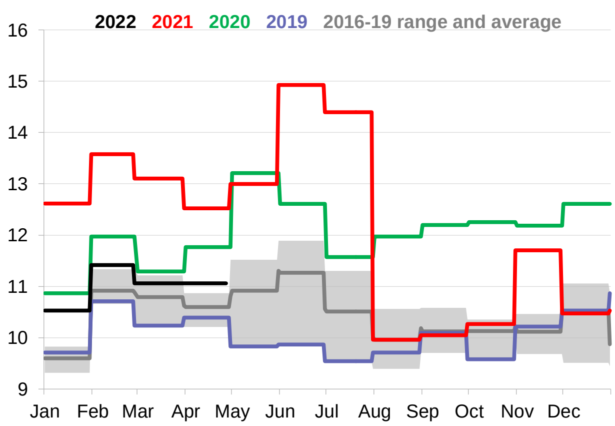
GLOBAL CRUDE FLOATING STORAGE
MILLION BARRELS



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

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