Special report
Commodity market

Rocky road for commodities continues

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Highlights – Commodity market

Commodity prices experienced exceptional volatility in 2022, mostly triggered by the breakout of Russia-Ukraine conflict, post-pandemic demand instability and heavy droughts in many economies. High inflation rates in recent periods shed the light on commodity market due to its prompt and undeniable pass-through to price levels causing domino effect on inflation rates. **In this report we are examining the key drivers per commodity categories, focusing on the latest developments and also the outlook for 2023.**

Starting with **energy prices**, high volatility describes the 2022 as a whole. Despite the recent drops, we think that consumer prices will not act promptly on any energy price reduction in the near term, especially if we consider the complexity of the energy price spillover. Energy is used in everyday production and consumption, so change in energy prices affects consumer prices from many different intertwined channels, accounting for (at least some) lag in the transmission.

Our focus switches to **crude oil**, with the initial Russia-Ukraine conflict pushing Brent crude oil price up by 65% ytd until March-2022 and then prices finishing the 2022 with a around 10% yoy increase. While global demand weakening stands largely behind the drop in global oil prices in the recent months, the fact is that the global supply chains for crude oil are still somewhat disrupted and thus prices are supported with a large part of developed economies refusing to buy crude oil from Russia. Furthermore, some exporters are pushing their capacities to get bigger piece of the market. UAE is planning to start providing 5mln bpd (currently providing cca 3mln bpd) up to 2027 (previously to 2030). US production is on a rise, recording 12.4mln bpd in October-2022 or 95% of its max production recorded in November-2019. US supply has evolved in the last decade due to fracking technology expansion, which allowed US to cover its oil needs and turn surplus into export. Fracking brings generally low yields and high costs, so it needs higher oil prices to brake even, which stimulated this kind of oil production in 2022. In October-2022 shale oil production comprised 65% of total crude oil production (8.1mln bpd).

More on crude oil, China reopening has indicated a sparking demand, with China issuing import quotas equivalent to 132mln tones for 2023, for now (indicating increase compared to the quota of 109mln tones being issued up to this period year before). Even though the global slowdown has been pulling down the price in expectation of falling demand, developments in China have caused counterreaction giving the upswing impulse. Day to day information regarding Covid cases comeback has been challenging the strength of perceived demand rise build in the oil prices. Chinese comeback is certainly significant on global economy level, given it size and the fact that it is the world's biggest production unit. When we consider the increase in oil demand coming from China, it is not realistic to think that the demand for oil will run to its pre-pandemic paces. The economy is still impaired from zero-Covid policies and weakening global demand will also be reflected on exports coming from China sliding down compared to pre pandemic levels, conditioning the speed of its bounce back.

According to latest OPEC assessment (January-2023), OPEC crude production in 2022 was slightly above its demand in 2022 (28.5mb/d vs. 28.9mb/d or 101.4 demand coverage index). Global oil demand in 2022 averaged at 99.6mb/d. driven by US (20.5mb/d), China (14.8mb/d) and Europe (13.6mb/d). On the other hand, non-OPEC producers supplied 1.9% yoy more (total of 65.6mb/d), while OPEC produced 5.4mb/d of NGL and non-conventional oils and 28.9mb/d crude oil in 2022. **OPEC basket price gained 4.3% yoy in 2022, dipping and recovering in the first days of 2023.**

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Regarding electricity price (relevant benchmark EXAA), high volatility was constantly present during 2022, with prices going up 10 times ytd in August-2022. The price has been sticking to its fossil fuel sources - mainly gas and less coal. Europe dependency on imported energy sources made it exposed to the effects of the sanctions on Russia, bringing uncertainty on the supply side into the market. In recent weeks, electricity price has been dropping in line with the rest of the energy sector, but still showing high volatility.

Natural gas price soared on many occasions, often pushed by supply cut fears, hitting its roof in August-2022 at nearly 5 times of its end-2021 price. On the other hand, prompt reactions in Europe envisaged through diversification of natural gas sources, weaker demand due to milder winter and high prices pushed the value down. Natural gas closed last year 8% higher yoy. Norway became important player in Europe, after sanctions on Russia slowed down tapping of its natural gas flows. Mild weather in the first half of the winter in Europe kept gas storage facilities stocked and prepared for possible weather shift during 1H2023. Germany (1/4 of EU regarding natural gas consumption) has diversified its energy sources by opening first floating LNG terminal (expected to cover for 6% of its consumption) and increasing capacities in the area of solar and wind power. Germany holds third spot regarding world wind power generation, and fifth regarding solar power (2021 data), which defines its orientation to boost renewables (although in 2022 they had to revisit their coal mines to compensate for energy supply shortage). In the first weeks of 2023, gas price has been falling, meeting its September-2021 levels, and sliding back to its historical trend. Chinese import needs in the following period will for sure put some upward pressure on the price and challenge the supply which is currently stable.

Metals' prices rallied in the spring, with Iron Ore being the ultimate winner in this segment gaining cca. 25% yoy in 2022. The price has been rising from mid November-2022 mainly driven by optimism on China, as regulators announced plan to support financing of the real estate sector. The Iron Ore price has received additional upward bias recently as China announced strong support to the construction sector (as real estate sector had major issues recently), leaving behind 2020 prudent policies in this sector.

Price of Copper has been floating in the range 7000-10730USD/T around its average of 8815USD/T during 2022. In the first two working weeks of 2023, Copper price yielded 9% ytd. Price spike is mostly event driven, caused by amount of Copper being whipped out due to armed robbery in one of the key Chilean ports. Broad use of Copper in production makes its price elastic to demand, mirroring global economy dynamic. As construction sectors are slowing down in comparison to the boom experienced in recent years, general demand for metals is expected to follow. Price of gold was relatively stable during 2022 finishing the year at approximately the same level as 2021. **From November-2022, Gold price has been on upward trend, climbing to the tip at around 2000USD/t.oz recorded in March-2022.** In contrast with the mentioned metals, Gold is perceived more as investment safe heaven asset, so financial market conditions are especially relevant when it comes to demand for gold and its price. Expected milder FED monetary policy tightening is probably going to push down the price. USD price in other currencies is also a major driver, as investment gold is quoted in USD, so its strengthening tends to push demand down.

In the Agriculture segment, Wheat had the most exciting year, almost doubling in March-2022, right after the conflict between Russia and Ukraine started. The price relatively stabilized from July-2022, as Russia and Ukraine agreed to reactivate Black Sea ports. Wheat price gained only 3% yoy in 2022, even though it followed a bumpy road. As Russia and Ukraine are amongst top Wheat exporters, their impact on supply remains significant. As there are no signs that the conflict will be resolved any time sooner, trade relations with the rest of the world have vague prospects. Hotter than average temperatures recorded all over the world tend to become chronical, acting as one more obstacle in agriculture production efficiency in general. In the first two weeks of 2023, Wheat price lost 6% ytd, amid stronger supply signals. Wheat concluded 2022 with record stocks at 300MT (adding 2% yoy) due to slightly lower utilization during the year. Corn price gained 14% in 2022, amid tight supply, w/o significant changes in the beginning of 2023. Corn price has been also influenced by Russia-Ukraine conflict, but not as much as Wheat, as supply relies on US and South America production.

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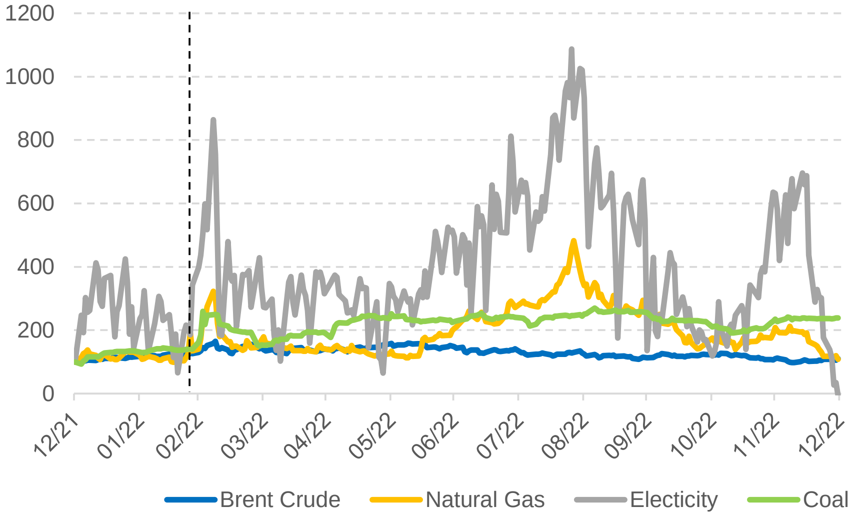
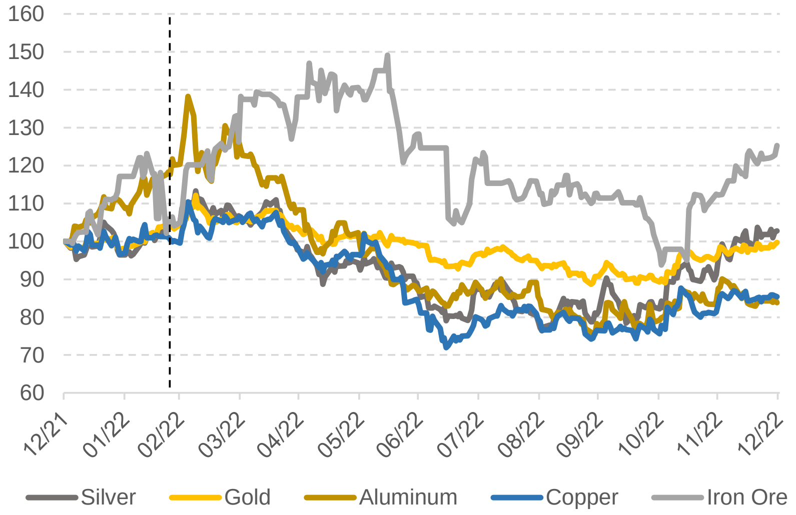
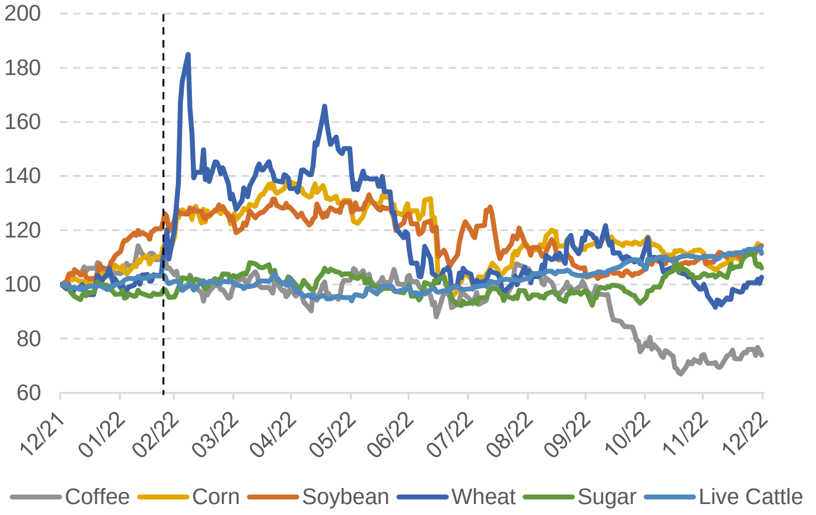
Energy prices
(12/31/2021=100)



Precious and industrial metals' prices
(12/31/2021=100)



Agriculture prices
(12/31/2021=100)



	Energy			Metals						Agriculture					
	Brent Crude	**Natural Gas**	**Electricity**	**Coal**	**Gold**	**Silver**	**Aluminum**	**Copper**	**Iron Ore**	**Live Cattle**	**Coffee**	**Soybean**	**Sugar**	**Corn**	**Wheat**
UM	USD/bbl.	EUR/MWh	EUR/MWh	USD/T	USD/t.oz	USD/t.oz	USD/T	USD/T	CNY/T	USd/lb.	USd/lb.	USd/bu.	USd/lb.	USd/bu.	USd/bu.
Min 2022	76	70	-	158	1622	18	2107	7000	642	131	151	1344	17	564	706
Max 2022	128	339	-	458	2051	26	3876	10730	1020	159	258	1769	21	818	1425
31.12.2021	78	70	101.4*	170	1829	23	2803	9692	684	139	226	1329	19	593	771
30.12.2022	86	76	248.3*	404	1824	24	2350	8387	857	155	167	1519	20	679	792
Current (13.1.2023)	**85**	**65**	**143.3***	**370**	**1920**	**24**	**2567**	**9107**	**897**	**158**	**152**	**1538**	**20**	**675**	**744**
2022 yoy ch.	**10%**	**8%**	**244.8%**	**138%**	**0%**	**3%**	**-16%**	**-13%**	**25%**	**11%**	**-26%**	**14%**	**6%**	**14%**	**3%**

*in case of Electricity price, yearly averages were used (ytd average for current value) due to high volatility.

Source: Bloomberg

Special topic – commodity price volatility

For a specific view on commodity price developments in 2022, we observed the **volatility of daily changes of commodity prices in the global markets** and compared them with multiyear averages. The motivation is to display not only how this is influencing practices of the financial investors, but also decision making at producers whose processes are strongly dependent raw materials. To display the price stability, we are using the usual standard deviation practices.

In a nutshell, most commodity categories displayed **higher daily price volatility than over the last ten years**, hence **stability of prices of global commodities was lower in 2022 than in years before**. As a result, this made the **process for producers to decide when to buy raw materials even more complex and risky**. Changes in price volatility were not wide distributed, with all commodity categories feeling the brunt of the fundamental forces affecting the global markets. The biggest increase in daily price volatility was observed for natural gas prices, producing a standard deviation of more than 8% for 2022, compared to 4% during the last ten years.

The reasons for such price volatility increase in 2022 we see lying mostly in conflicting forces of the main fundamental drivers. Firstly, global demand was rebounding in the post-pandemic era, however global supply chains never really recovered to pre-pandemic levels. Increased geopolitical issues only added more fuel to the already existing supply issues. The final element was a changing environment for price of money, with the key central banks moving away from extra loose policies which dominated for the last ten years or so.

			daily price volatility		annual return
			2022	10Y average	2022
AGRI	Coffee	↑	2.3%	2.1%	-26.0%
	Soya	↑	1.8%	1.4%	14.3%
	Sugar	↓	1.4%	1.7%	6.1%
	Corn	↑	1.9%	1.7%	14.4%
	Wheat	↑	3.2%	1.9%	2.8%
	Live cattle	↓	0.8%	1.2%	11.5%
ENERGY	Brent Crude	↑	2.9%	2.4%	10.5%
	Natural gas	↑	8.2%	4.0%	8.5%
METALS	Coal	↑	3.9%	2.0%	138.3%
	Gold	↑	0.9%	0.9%	-0.3%
	Silver	↑	1.8%	1.7%	2.8%
	Aluminum	↑	2.0%	1.3%	-16.2%
	Iron Ore	↓	2.8%	2.9%	25.3%
	Copper	↑	1.6%	1.2%	-13.5%

*daily price volatility measured as standard deviation of daily price change

Outlook

In general, we expect energy prices broadly around current levels, which is on average lower than in the previous year, bearing in mind unusually elevated levels in 2022 and the expected global slowdown in 2023 reflecting on demand. Energy sector will pull prices in agriculture in the same direction and help bring down inflation rates during 2023. As world supply channels are still reshaping, there is still room for noise, although not at the 2022 level. When it comes to metals, we see mixed signals, conditional on specific metal use in the industry and prevailing markets (as we expect Copper and Gold to follow inverse directions, due to different drivers of their prices).

We see Crude oil price in the range 80-90USD/bbl, biased upon evolving sentiment regarding global outlook. In 2023, two main developments will impact oil price. First, global economy dynamic. We consider global economy in 2023 slowing down, easing the demand for oil. Second, Chinese reopening development pressure on demand. Even though we expect positive shift to be seen in increased manufacturing and construction activity, the risk is always in a possible re-emergance of COVID-19 cases later in the year. We estimate supply as relatively smooth in comparison to 2022, as the market flows adapt to Europe bans on Russian oil imports. In addition, we do not see dramatic changes in OPEC decisions on supply, but further efforts of oil producers to match demand.

We expect Iron Ore price to be positively biased fluctuating from 700 to 900CNY/T, as China reopening and stimulations in the construction sector will provide major push, in part compensating for weaker outlook in the construction sectors worldwide. **We see Copper price hovering within 8000 and 10000 USD/T.** The main drivers for Copper price are as well China and global economic outlook. Political instability in Chile may influence Copper supply in near term as protests on the South make logistics harder. We see Copper price sticking to China economic trend, due to its influence on demand, so we are eager to consider Copper having some upside potential in 2023.

Regarding Wheat price in 2023 we see it in the range 600-800USD/bu driven by tight supply, dependency on Russia and Ukraine, and weather conditions. Wheat is one of the basic food staples and demand is perceived as significantly robust. Wheat price in 2022 has been cca 30% higher on average in comparison with 2021 and there is a push for calming down. In addition, as droughts ease i.e., rainfall is expected in North and South America, we see support in the supply that will remove some upward pressures on the price.

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