

# GLOBAL COMMODITY MARKETS OUTLOOK

July 2022

MAREX  
SOLUTIONS

# Global Commodity Markets

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**Dr. G.S. Slavov,**  
**Global Head of Fundamental Research**  
[gslavov@marex.com](mailto:gslavov@marex.com)

**Dr. G. Ritter,**  
**Senior Data Scientist**  
[gritter@marex.com](mailto:gritter@marex.com)

**Dr. A. Fierro,**  
**Senior Research Analyst & Meteorologist**  
[afierro@marex.com](mailto:afierro@marex.com)

**E. Cookson,**  
**Research Analyst & Meteorologist**  
[ecookson@marex.com](mailto:ecookson@marex.com)

**E. Sanig,**  
**Research Analyst & Meteorologist**  
[esanig@marex.com](mailto:esanig@marex.com)

**Y. Du,**  
**Research Analyst**  
[ydu@marex.com](mailto:ydu@marex.com)

**P. Krontiras,**  
**Research Analyst**  
[pkrontiras@marex.com](mailto:pkrontiras@marex.com)

Our projections for global economic activity in the 2H-22 remain firmly negative as trade friction, confusing Chinese policy on growth, supply chain pressure, and rising cost of borrowing are already taking their toll. Marex CMS index confirmed that there was diminishing conviction in our models behind the price rally in Q2-22. Therefore, the ongoing price correction is not a surprise. The interest rate differentials between the USA and other economies are likely to narrow as the tightening cycle accelerates, but further weakness in the Eurozone may delay the convergence.

We remain of the opinion that so called “normalization” of monetary policy is a major threat to stability of the economy. In essence, costs of doing business are rising but the macroeconomic backdrop is different from the textbook case in favor of the borrowing costs to rise. This is because the causes for high inflation are not high productivity and strong economic performance. Most Central banks are tightening, but they are doing so to control inflation which is exogenous to individual economic performance factor. We argue that tackling the supply squeeze for energy and agricultural commodities is likely to deliver better results.

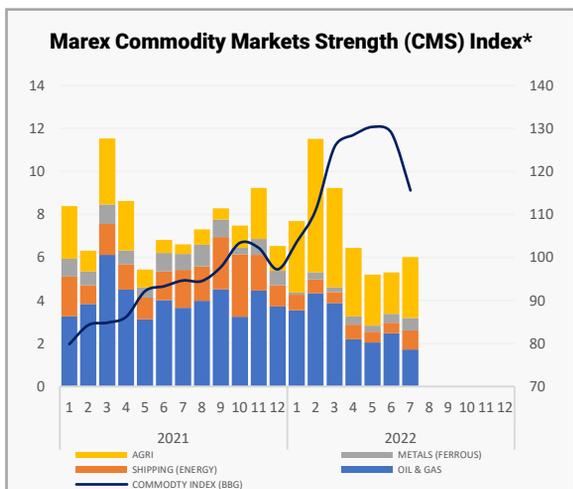


Figure 1. Source: Marex Research

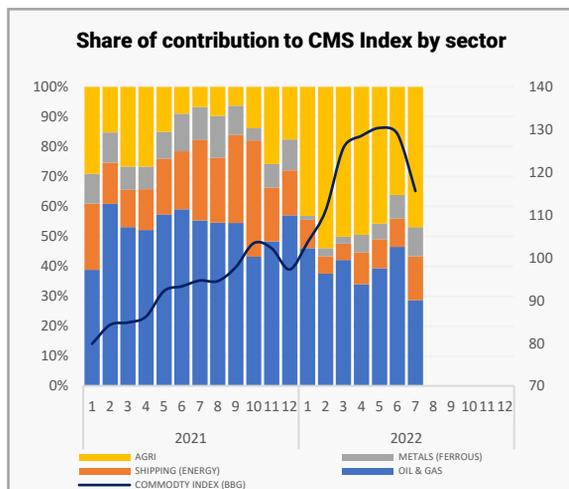


Figure 2. Source: Marex Research

Past performance is not indicative of future returns.

The momentum of Global GDP growth continues to decline (Fig. 1) which is in stark contrast with the recent performance of most commodity markets. It is clear to us that the price rally failed to acknowledge the on-going economic downturn during Q2-22 and early Q3-22. This is because certain commodity markets, namely energy and agriculture, have been very focused on the potential supply disruptions to Russian exports, thus not paying enough attention to the deteriorating demand.

Disruptions to trade from on-going pandemic-related restrictions in Asia, trade friction due to sanctions on Russia, as well as pressure on global supply chains continue to disrupt the trade of raw materials, semi-finished and manufactured goods. This slowdown is also visible in the Economy Capacity Utilization data – see Fig. 2. Capacity at which the economy operates indicates the so called “output gap” e.g., the underutilized capacity of the economy. The bigger this gap is, the weaker the economic prospects are, and the lower the demand for commodities consumed in the early stages of manufacturing processes will be.

In theory, Asia and the USA had stronger potential for

rebound due to a wider output gap compared to Europe. This remained a positive theme for prices of key commodity markets YtD because of the trade-weighted importance of these two regions. However, these built-in expectations failed to materialize as the output gap remained open and industrial activity declined across the board. Our projections for global economic activity in 2H-22, especially Q3-22, remain negative as trade friction, supply chain pressure, and rising cost of borrowing are now taking their toll. The stress on the global supply chain is starting to display signs of abatement (see Fig. 3) as labor shortages and erosion of the end-user demand is causing a contraction of manufacturing activity (Fig. 4) and consumption.

The negative impact of the war’s 1st stage in Ukraine has been largely priced into the markets, but this will be a prolonged conflict, and further friction is very likely. Relaxation of the self-imposed economic constraint of China could provide support for demand of physical seaborne goods, but the expectations are that little will change with the policy before the key 20<sup>th</sup> National Congress of the Chinese Communist Party.

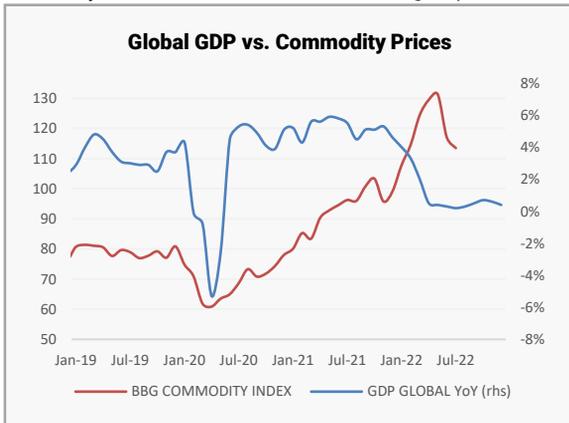


Figure 1. Source: Bloomberg, Marex Research

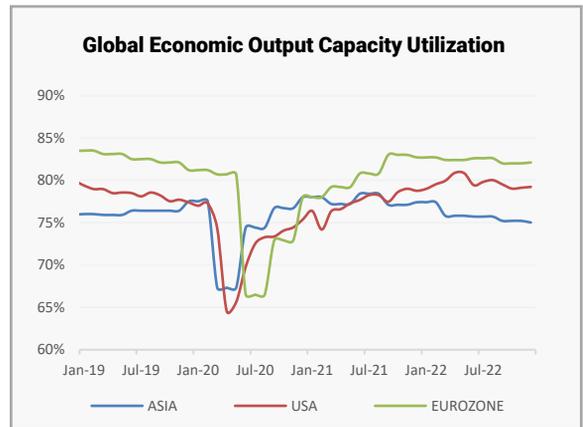


Figure 2. Source: Bloomberg, Marex Research



Figure 3. Source: Bloomberg, Marex Research

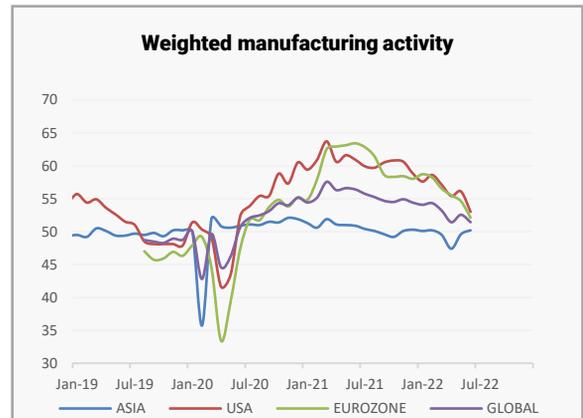


Figure 4. Source: Bloomberg, Marex Research

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High-frequency (HF) fundamental data plays an important role in our commodity market research and analysis. The four most powerful HF proprietary indices (daily and intra-day frequency) of such data are presented below. These are population mobility as well as air-traffic, land, and seaborne movements. We associate population mobility with economic activity and, therefore, with the consumption of commodities. It should not be surprising in this context that the first period of restricted mobility coincided with the collapse of the commodity prices, in particular the energy prices. The subsequent rebound in Q2-21 was strong, and the markets acknowledged it – see Figure 1. We also take into account the different levels of population mobility across the world and the contribution these regions have to the overall commodity sector price formation. Strong recovery of mobility year-to-date warranted the positive demand shock experienced by the markets in Q1-Q2 2022. The latest data in hands suggest that all key regions remain below Q3-21. In our view, this is a sign of continuous erosion of end-user demand. Deteriorating macro environment and high fuel prices all contribute to the lower mobility

coefficients we derive from the data. Asia clearly decoupled with the rest of the world in terms of mobility in the first stage of the pandemic, but it is also evident that their economic activity Q2-Q3 2022 was suppressed by the self-imposed restrictions in China. The mobility data we had on hand for China back in June indicated that activity was rebounding which boded well for consumption. Unfortunately, further restrictions suppressed activity and our Asian indicator (yellow line) is now the weakest of all regions displayed in Figure 1.

Our other HF metrics, which represent important consumption trends, consists of the supply chain elements (sea, air, land traffic). The data for air and marine traffic is stronger when compared to last month and we expect further improvement as China relaxes restrictions and the summer holiday season in the EU and USA kicks in. Our land transportation activity index on the other hand contracted MoM, which is a clear indication of deceleration of on-shore economic activity. We can link this data to the erosion of end-user demand from high fuel prices.



Figure 1. Source: Google, Marex Research

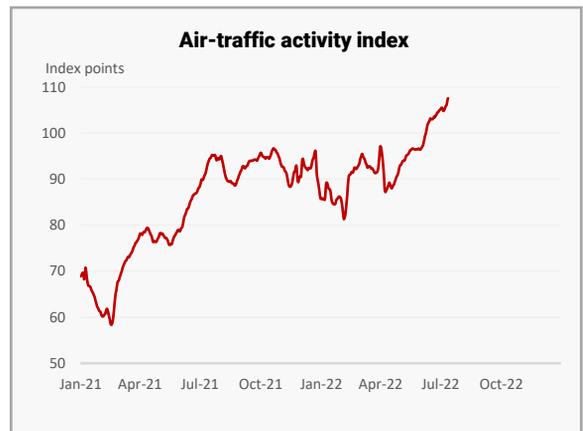


Figure 2. Source: Flightradar, Marex Research

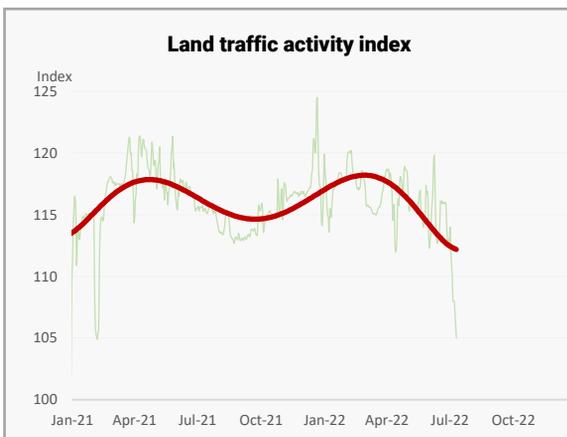


Figure 3. Source: Bloomberg, Marex Research

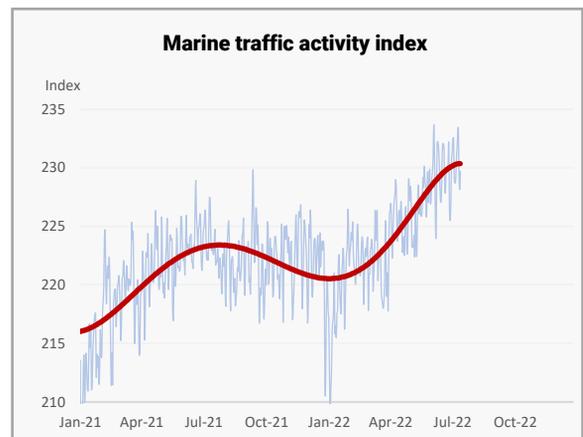


Figure 4. Source: AIS, Marex Research

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Divergence in monetary policies of key economies contribute to the formation of the prevailing currency market trends. The US economy remains ahead in the monetary tightening cycle when compared to other major economies which defines the trend of the USD value in the short-term. Demand for USD cash within investment portfolio remains strong in these turbulent geopolitical times. Such demand is partially driven by the traditional risk aversion, a.k.a. “flight to quality”. Even stronger pull is exercised by the relative performance of the US economy against other major economies which dictates the aggressive monetary tightening stance of the Fed. Inflation pressure in the US economy is so strong, that Fed may even consider 100bp hike. Higher interest rates in the USA also tend to increase demand for USD as investment flows seek Government debt. The result is the remarkable advance of the USD since last year. The FX market appears to expect convergence in policy and rates as the median forecast suggest weaker USD in the 2H 2022 and early 2023 – see Fig. 1.

The currency pairs presented in this report are selected on the grounds of their relevance of shaping global and

regional commodities supply & demand. We display historical/past value, current spot rate, median forecast and the prevailing forward market. The consensus of median forecasts has finally converged with the forward market for the CNY which is no longer seen as undervalued - see Fig. 2. The value of the EUR vs. USD is expected to bottom at parity, before gradually increasing in 2H 2022 and early 2023 as the tightening policy of ECB gathers speed. The European monetary policy was the most uncertain variable in our FX model for months due to the heavy dependence on the outcomes from the Ukraine/Russia war. Lower commodity prices are being priced in by the AUD FX forward market with the AUD firmly undervalued as the forward market is close to 7% below the market consensus for Q1-23.

We continue to be suspicious of the actions of most central banks as they appear to fight supply-side effect (inflation) with demand-side tool (higher borrowing costs). Measuring the Upside Potential Gap (UPG), where UPG is the difference between forecasted and market forward values, suggests that AUD should appreciate further +7.1%, Euro at +4.7% and CNY at +0.8% respectively.

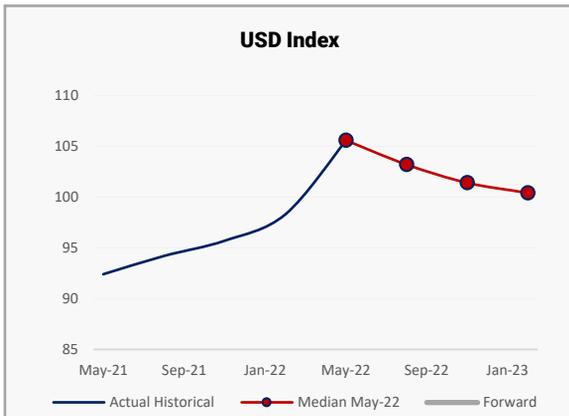


Figure 1. Source: Bloomberg, Marex Research

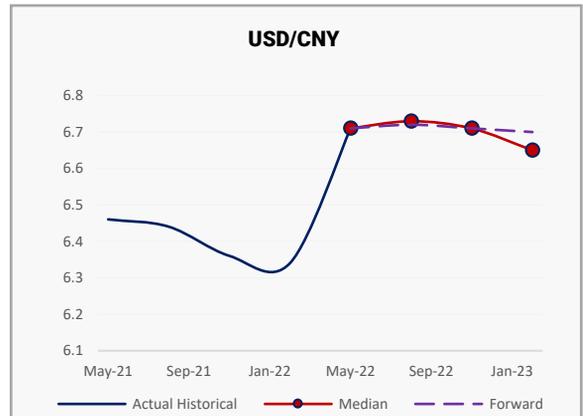


Figure 2. Source: Bloomberg, Marex Research

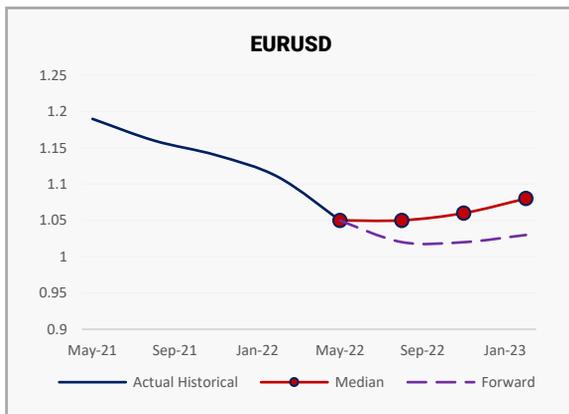


Figure 3. Source: Bloomberg, Marex Research

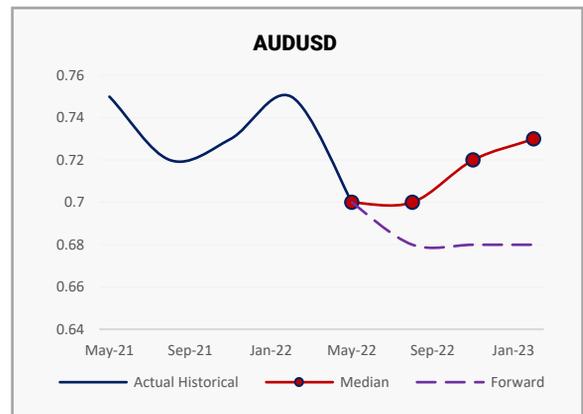


Figure 4. Source: Bloomberg, Marex Research

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# Global Commodity Markets

## Money Flow Analysis

Our Money Flow Analysis (MFA) is based on the Commitment Of Traders (COT) reports as published by the CFTC as well as proprietary trade flow data. We use the COT report categories (Swap Dealers, Managed Money, Commercial Interest and Others) and we calculate the total long, short, and net market positioning. Total long and short exposure is displayed on the left y-axes of the diagrams, while the net exposure is found on the RHS y-axis. One closely followed category is the exposure of the Managed Money group but for the purpose of this analysis we combine all categories into a single long or short group.

Using the above data and methodology, we conclude that the agricultural markets which are part of this MFA continue

to be net long (NL, yellow line). However, the conviction of market participants did not strengthen even if the NL increased. This is because short positions were liquidated, not because new long positions were added. Sugar, on the other hand, saw an outright contraction of NL as both long and short positions contracted.

The energy sector is represented by the Crude oil and Natural gas COT data where we notice that the US gas market has been consistently net long for more than one year, while Crude Oil and European Gas display the opposite trend of structurally short markets. It is worth noticing that the downward NL trend for Henry Hub resumed suggesting diminishing conviction of the market participants.

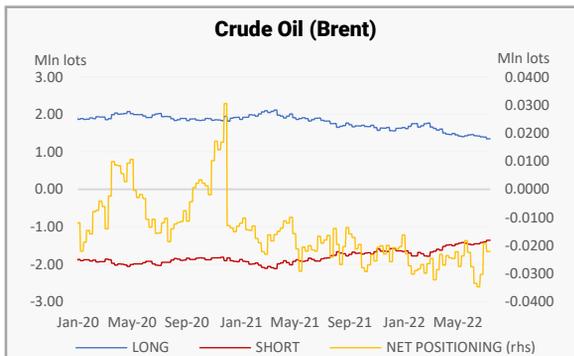


Figure 1. Source: Bloomberg, Marex Research

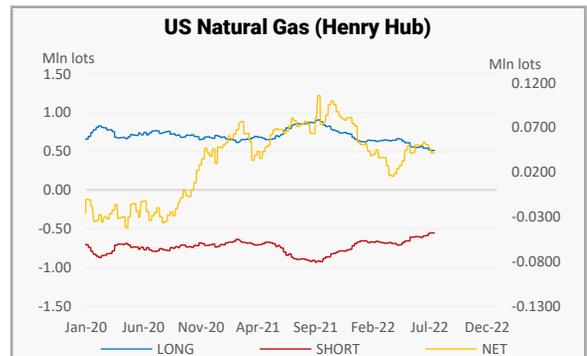


Figure 2. Source: Bloomberg, Marex Research

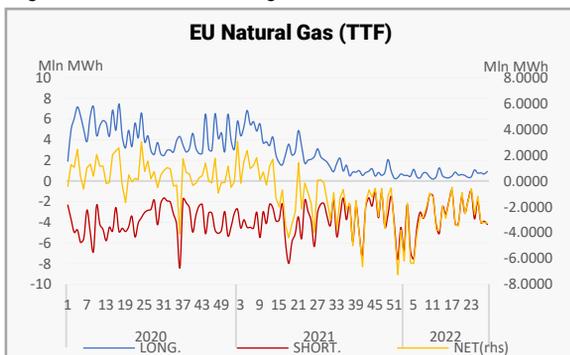


Figure 3. Source: Marex Research

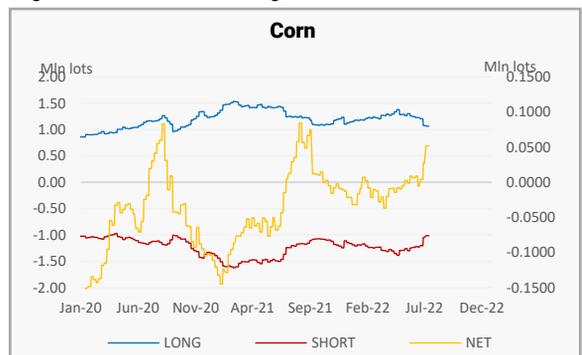


Figure 4. Source: Bloomberg, Marex Research

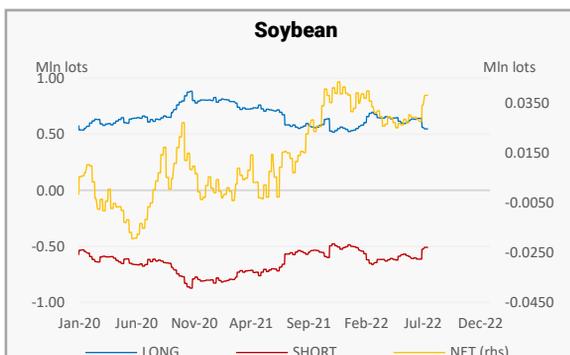


Figure 5. Source: Bloomberg, Marex Research

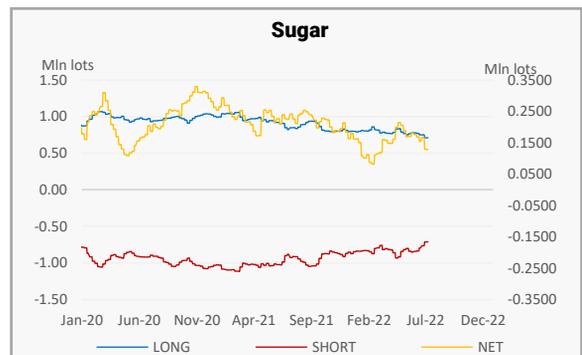


Figure 6. Source: Bloomberg, Marex Research

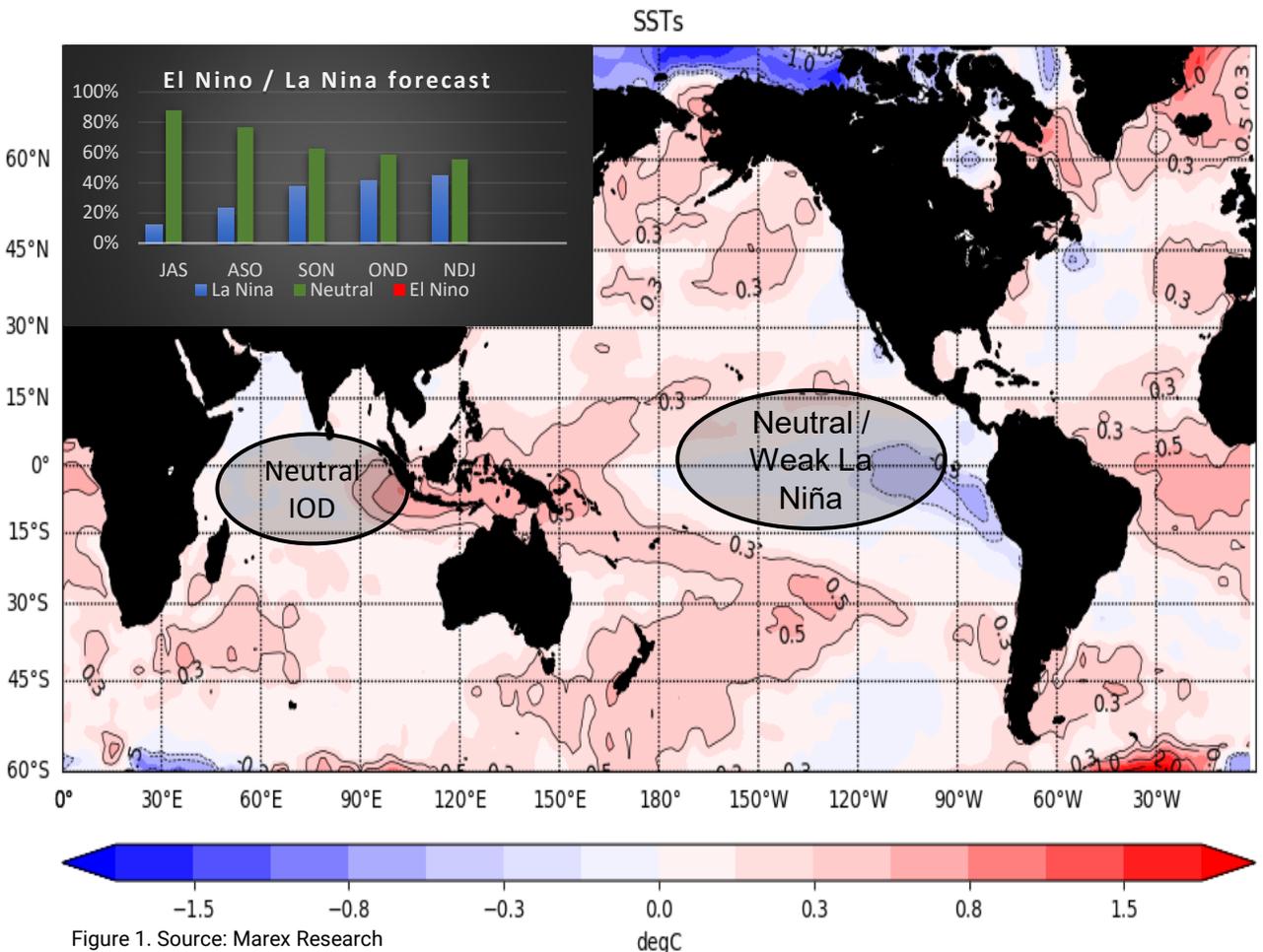
Past performance is not indicative of future returns.

With respect to our last monthly update, the August/September/October forecast composite for SST anomalies in the equatorial/eastern Pacific is pointing toward a weaker La Niña signal. The Indian Ocean dipole (IOD) is still predicted to be neutral. Therefore, SSTs over the Indian Ocean are not expected to play a leading role in the rainfall pattern over this and surrounding continental regions.

The long-term probability forecast of the El Niño Southern Oscillation (ENSO, top left bar chart) is suggesting near neutral conditions to dominate until the end of the calendar year. The probabilities of la Niña, however, are increasing with lead times. If this forecast verifies, this will be the third consecutive year associated with la Niña conditions – a rather rare occurrence.

Operational guidance hints at a notably more aggressive la Niña signal during the earlier months of the forecast period but agrees with negligible probabilities of an El Niño signal to occur throughout 2022.

The chief rationale for this divergence in forecast behavior lies in the state of the initial conditions used for SST. The initial condition SST data used by operational guidance exhibit a notably more pronounced cold tongue extending throughout the equatorial Pacific and, by extension, into the various Niño regions (especially Niño34). This cold tongue in operational guidance is associated with an average SST anomaly nearing  $-1^{\circ}\text{C}$  while the SST data used herein (available on public domain) shows a notably warmer SST anomaly averaging only  $-0.3^{\circ}\text{C}$  (i.e., near neutral). Supporting this, we found that initiating our model with an  $-1^{\circ}\text{C}$  SST anomaly in the key Niño regions generates forecasts that are, overall, on par with operational guidance.



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Since we shared our view in June, we have continued to see above average temperatures across much of the northern Hemisphere.

Reanalysis data shows that temperatures across most of Europe have continued to persist above average. We have continued to see the strongest above average temperatures over Italy, although other centres of strongest positive anomalies have also been shown over Scandinavia. Throughout the central states of the US, from the north to south, above average temperatures have also materialized. Whilst, in eastern China (Shanghai to Beijing), South Korea, and Japan, we have seen the centres for above average temperatures, as forecast previously.

Below, we present two 15-day forecasts, one for the US and the other for East Asia.

Whilst a low pressure tracking over northeastern China induced below average temperatures last week, we also saw temperatures remaining strong for eastern provinces. Focusing on our one to five day forecast, we see a cut-off low over northeastern China, expected to track towards Beijing and South Korea, bringing cooler than normal temperatures. With this system we also expect strengthened wind flow of south-westerly winds across southern Japan. With this airflow, we expect the systems to pick up more moisture as they pass over the East China and Yellow seas which then is delivered to South Korea and Japan, enhancing the rainfall at this time. However, weekly averages of rainfall at this time continues to be below average across much of this area.

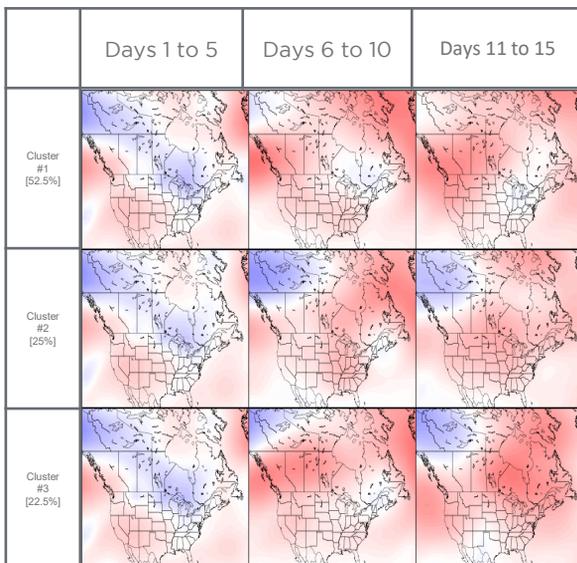
During the same time period, weak high pressure remains across eastern China and we expect temperatures to generally continue to remain above average across much of southern and eastern China.

Slightly later in the forecast (six to ten day period) we see a low pressure system develop in the tropical Pacific and track towards Southern Japan and South Korea, in some model runs. We also see a second, much larger system develop closely behind this with a similar path. Again, this system is not apparent through all model runs so remains uncertain.

However, other than these fast moving cyclonic systems, we generally see high pressure to dominate across China, South Korea, and Japan and for high temperatures to dominate. This aligns with the general outlook for the next three months (JAS) which show high pressure and above average temperatures dominating the Far East Asian region.

Looking now to the US, last week, a trough over the northern Gulf coast (from Louisiana to Florida) has brought unsettled conditions with heavy rain to the area. Generally, in the first 5-days of the forecast we see high pressure across the western and central states of the US, but throughout the remainder of the forecast we see this develop over the entire lower-48. We, therefore, expect above average temperatures and dry conditions across most of the country during the next 15 days, expect for outbreaks of rains associated with storms. For parts of the west and south, these conditions are likely to continue to create a strong risk of wildfires.

**USA: Run 18<sup>th</sup> July 2022**



**EAST ASIA: Run 18<sup>th</sup> July 2022**

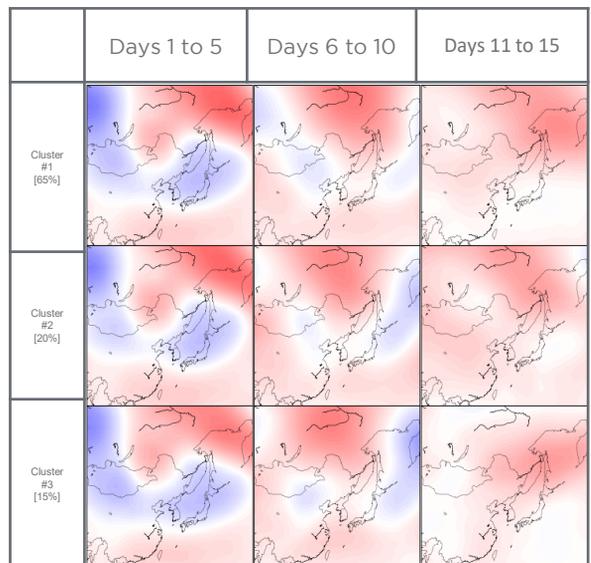


Figure 1. Source: Marex Research

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The extraordinary combination between perceived future and realized supply and demand drove the price discovery of the crude oil market since the Russian invasion began in late February. Contraction of global end user demand observed in Q2 2022 was the logical outcome from the positive price shock that followed the invasion. Initially, downstream demand coped well, in fact better than our expectations, but then the economic slowdown in combination with erosion in purchasing power started to influence the spending patterns of the end-users in Europe and USA. Key industrial areas of China remained restricted which further cooled the rally.

One of the useful metrics merging supply and demand factors in our fundamental analysis is the stocks-to-use ratio (inventory vs. downstream demand) for crude oil. Historical data and some projections for the evolution of the StU ratio are displayed in Figure 1. We notice that the relationship with price is strong and negative suggesting that as crude oil inventories decrease relative to demand, price tends to react positively. The same conclusions are valid for the denominator of the StU ratio, namely the downstream demand for crude oil. As demand increases relative to stocks, the price is expected to react positively. It is the balance between stock and demand that often dictate the pressure on price, and the latest data indicates that downward pressure is building.

Supply helped the market find a ceiling, too. Russian exports were strong in Q1-22 and early Q2-22, but then weakness appeared as it became more difficult to place the seaborne shipments even at the discounts they were offered. Exports from USA and Saudi Arabia more than compensated for the lost Russian volume. USA output breached the 12mbd while the well-documented Saudi Arabian spare production

capacity was put into use and exports increased.

We remain concerned by the negative carry which offers no incentive to accumulate inventory. As discussed earlier, for the StU ratio to move lower, we need to see either higher inventory, or lower demand. For the time being it is only the lower demand that has materialized.

The evidence that Russia's oil production is slowing down is mounting. India has been a prominent taker of Russian crude but their intake is likely to decline in Q3 which leaves China as the only other major buyer. So far OPEC has been reluctant provider of extra barrels, but our base-case assumption (displayed in Figure 2) is that this will gradually change in Q3 and Q4.

Our long-term fundamental Supply & Demand model for the crude oil market is based on different dynamic scenarios of development for the supply, demand and inventory flows. The probabilistic range is the widest on record which, as explained earlier, is related to the abnormally high risk of both supply and demand disruptions. Our base case scenario in June for FY2022 was for demand growth of 1.7% and supply growth of 1.15%. This month we upgraded our supply grow forecast to 1.3% and downgraded the demand forecast to 1.2%

The model also tested other outcomes. For example, we tested for different volumes of SPR releases as share of total global SPR. We also tested for various positive (+3%) and negative (-5%) demand shocks as well as supply shocks. Each development attracts a probabilistic outcome which allows us to calculate and display the Probabilistic Weighted Average (PWA) Forecast (red line).

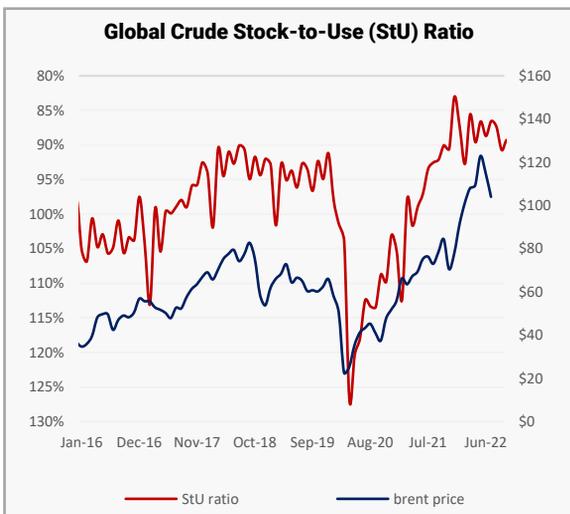


Figure 1. Source: Marex Research

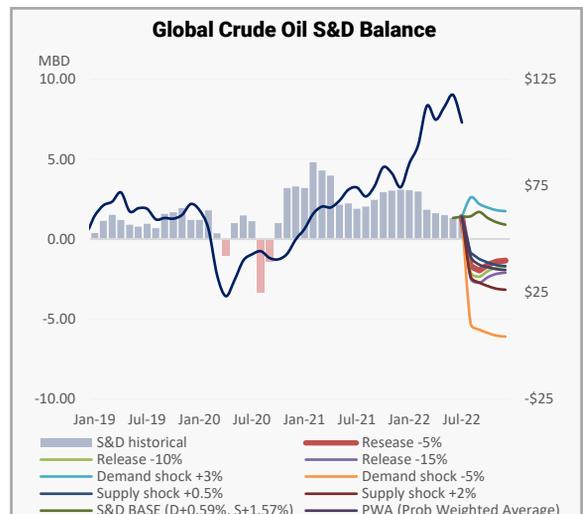


Figure 2. Source: Bloomberg, Marex Research

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At the time of our previous publication, in mid-June, the main concern for the US was changes to export volumes. In early June, an explosion at Freeport LNG reduced daily LNG exports by around 2 bcf. As would be expected, this dragged prices down – a trend that has continued since. The latest update to these LNG developments remains that Freeport is due to reopen in October. LNG export volumes have now stabilized at around 11 bcf/d. We have factored this change into our S&D model by adjusting the projected LNG export volumes between now and October by -2bcf/d. Overall, this has not shifted the monthly direction signal, but has weakened the bullishness/strengthened the bearishness.

We look to other aspects of demand – weather. Our short term (15-day) weather signal turned positive recently and has strengthened since. This is due to high pressure expected to spread from the west to the east over the next couple of days. Our outlook for the next 21 days also indicates this high pressure persisting, although reliability of day-to-day forecast weakens with the expanded timeframe. With these high pressure conditions across much of the lower-48, temperatures are likely to be above average.

The start of July has also made way for two tropical storms to develop in the Atlantic basin (Bonnie and Colin). Bonnie tracked across Central America whilst Colin developed off the east coast. Although Colin did bring heavy rainfall and strong winds to the Carolinas, there was minimal disruption to the US gas market as a result. As discussed previously, 2022 Atlantic Hurricane season activity is expected to be above average.

Despite the reduced output in LNG exports since the closure

of Freeport, storage has not been boosted. The latest storage update from the EIA (for week ending 1st July) revealed 2369 bcf of stocks, 11.9% below the five-year mean. This was only a net increase of 58 bcf. Comparing this to the injections announced the week prior to the Freeport explosion which were 102 bcf. In Figure 1 below, we present our calculations of storage withdrawals/injections for the year so far, along side the five-year mean (dotted line). Clearly the data shows weak performance of injections into the summer season, after a reasonably strong demand season in the start of the year. As a result, it's little surprise that storage is below average. The market has noticed this but seemingly only on days of EIA storage data release when, typically, price movements as a result of the announcement last as little as 24-hours. However, if the situation does not improve over the coming months, we may see a more bullish environment for the winter season than is currently forecast.

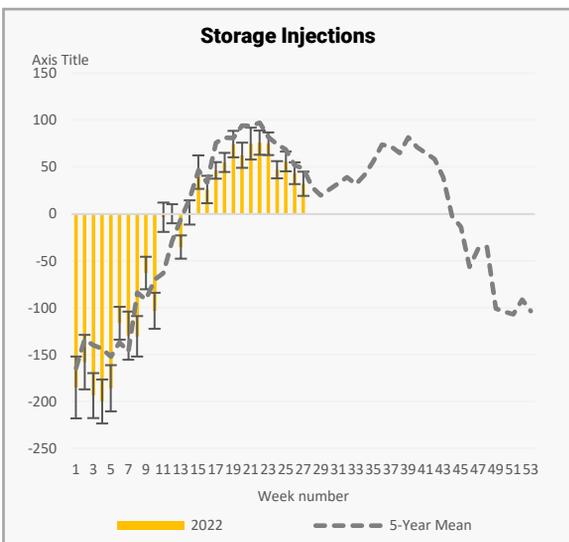


Figure 1. Source: Bloomberg, Marex Research

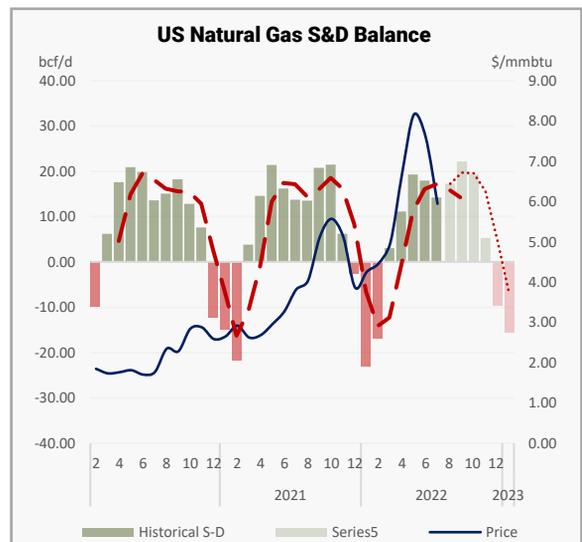


Figure 2. Source: EIA, Marex Research

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As concerns over steady supply of pipe-gas persist, Europe remains the premium market for LNG. Our data suggest that in H1 of 2022, LNG imports in the continent recorded a 52.3% y-o-y increase, accounting for approximately 50 bcm of gas.

By retrieving preliminary shipping data, we are able to pinpoint the source of these flows and observe structural changes of the market. Figure 1a displays how the decomposition of LNG imports in Europe compared in 2021 and 2022, where we have isolated H1 to avoid seasonal bias. As the Figure suggests, in 2021 the supply of the commodity in the European market appeared well-fragmented. Americas, mainly the US, accounted for 32% of import volumes, followed by Africa, mainly Algeria and Nigeria, at 30%. The Middle East and Russia completed the continent's import partners at 20% and 18% respectively. Looking at 2022, we notice a sharp increase in the Americas' share, something not surprising given the continent's efforts to limit its over-reliance on Russian gas. That being said, in 2022 Europe still depended on Russia for 12% of its LNG imports. Finally, It is worth noting that early June 2022 saw Norway's sole LNG plant (Snøhvit) resume operation after a fire in September 2020 brought production to a halt.

To grasp the whole picture, we present in Figure 1b the y-o-y change in imported volumes in Europe by source. There, we notice that volumes have increased across all major traditional suppliers of the commodity, except for Russia, where we have recorded a 2% drop. After US, the highest increase is observed in the case of Africa.

Further focusing on Africa, the region's LNG output is expected to increase with the addition of Mozambique in the LNG-producing countries, as on the 18th of June, ENI announced the introduction of Hydrocarbons to the Coral Sul FLNG. The operator of the 3.4 mtpa liquefaction facility,

further stated that the plant is scheduled to achieve its first LNG cargo in H2 of 2022.

According to our estimations, the 52.3% y-o-y increase in LNG imports recorded to date in Europe, has been accompanied by a 24% decrease in Chinese imports, a 3% decrease in Japanese imports and an aggregate 10% decrease in the imports of other demand centers across Asia Pacific and Central and South America. IEA's latest forecast suggests a continuation of these trends for the rest of year, with Europe achieving a cumulative 50% y-o-y increase in 2022. By the end of the year, the agency expects imported volumes in Asia-Pacific down by 17 bcm y-o-y. Given that our current estimations suggest that this far in the year, volumes have dropped by 13 bcm China alone, a significant strengthening in the imports of the area during H2 seems necessary for this forecast to verify.

We factor all of the above in our medium-term S&D balance and we reach the picture presented in Figure 2. The base scenario presented in the bars considers the volumes lost due to the shut-down of Freeport LNG. The yellow line stands for the transpose of volumes due NS1 working at 40% of full capacity from mid-June. As the graph suggests, our medium-term view places the balance in a strong deficit over the 3-month forecast window. A key-factor that should be considered here are the gas flows through NS1. On the 9th of the month Canadian officials announced the partial lift of sanctions on Russia to allow the release of the turbines necessary to pump gas through NS1. This would, in theory, put an end to the main argument used by Gazprom to justify the reduced flows. If flows return to full capacity following the end of the planned maintenance work on the 21st of July, we could see softer pressure on the price (grey line).

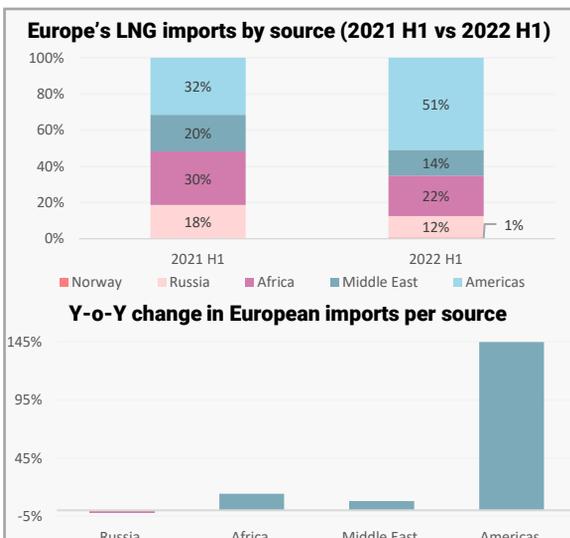


Figure 1. Source: DoE, Marex Research

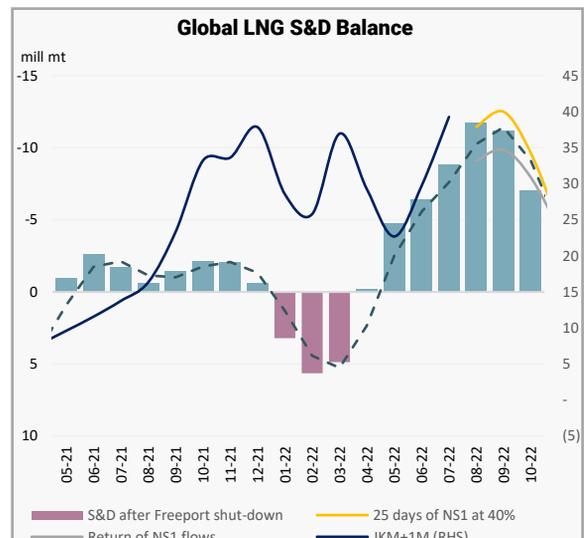


Figure 2. Source: Marex Research, Bloomberg

Past performance is not indicative of future returns.

The European natural gas market is a hostage to Putin's Russia. In that respect, last month we wrote: *"The wild card is Russia, and its conviction to use natural gas as a weapon against Europe. Imports of Russian gas remaining relatively stable was not what the market priced in the early days and weeks of the war, but there is a chance that Russia still resorts to energy blackmail on a large scale"*. This was indeed the case as Russia has finally decided to weaponize their gas export to the EU by drastically reducing the flow from mid-June onwards. The price reacted accordingly, and the price formation process quickly returned to the early days of the war in Ukraine when the market participants scrambled to evaluate future supply cuts. Our S&D model attempts to provide guidance with the help of various scenarios which are discussed on this page, but first we focus on the current and future state of supply and demand.

Restocking cycle continues to develop at rates notably above the average for this time of year which compensating for the multi-year low of inventory levels observed in Q1-22. European storage capacity is currently at 62% and rising – see Figure 1 below where our projections for the storage cycle in 2H 2022 are also displayed. We consider past rates of injections, seasonality as well as future imports. Unfortunately, Freeport terminal is still offline, and NS-1 flows declined earlier than usual, which pushed the restocking cycle off the predicted trajectory. – see divergence between actual and projected inventory. On the positive side we notice the stabilization of LNG in-flows and the increasing amount of Azeri pipeline gas entering via Turkey.

Demand for natural gas remained relatively weak also in June and early July. This is helped by favorable climatic conditions, stable renewables output and decline in

industrial output on the back of the war, trade friction and spiraling inflation which is hurting end-user demand. The negative shock induced by the Russian-Ukraine conflict and subsequent trade friction is clearly visible in the European macro data discussed earlier in this document.

The result from the above developments and assumptions for supply and demand in 2022 is displayed with the help of the European S&D natural gas market balance in Figure 2. Last month we introduced the scenario analysis. Each development attracts a probabilistic outcome which allows us to calculate and display the Probabilistic Weighted Average (PWA) Forecast (red line).

The events which unfolded in the last 2-4 weeks forced us to change some of our assumptions. The *base-case* scenario we now work with is for YoY supply decrease of -5% and demand decrease of -2%. There are multiple scenarios streaming from this base-case assumption as supply has the potential to contract further which can outweigh almost any demand destruction. It is also plausible to assume that demand contracts by more than 2% as alternatives muscle in, and high prices continue to suppress end-user demand. Therefore, the scenarios displayed below include Supply decreasing by -5%, -10% and -20%, while Demand decreasing by -2%, -5% and -10%.

We also assign probability for any of these events to occur, and we calculate the PWA (red line). The outcomes are clearly displayed on the diagram below. Our base-case scenario returns moderately bullish outcome. Same is valid for scenarios in which supply sharply drops. The PWA is close the base-case scenario with almost identical tightness prescribed for Q4-22.

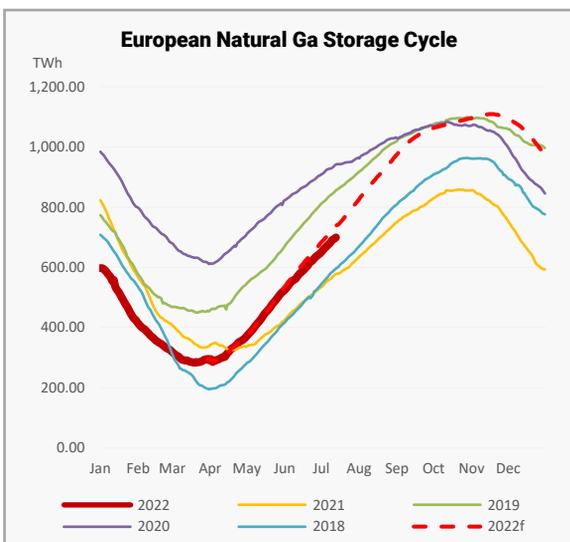


Figure 1. Source: Bloomberg, Marex Research

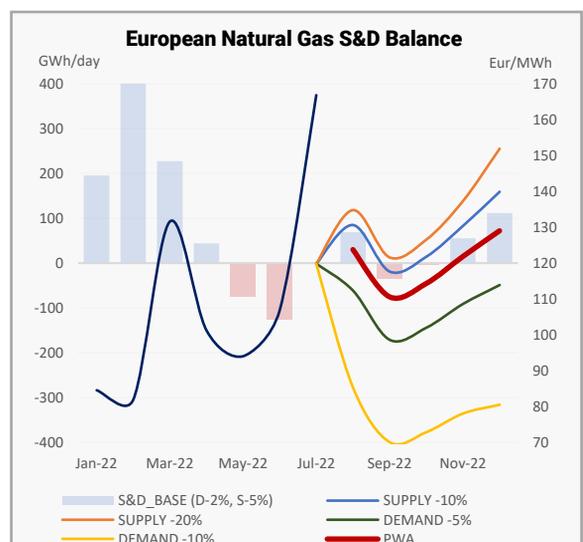


Figure 2. Source: Bloomberg, Marex Research

Past performance is not indicative of future returns.

# Global Commodity Markets

## Weather & Climate Outlook (Agriculture)

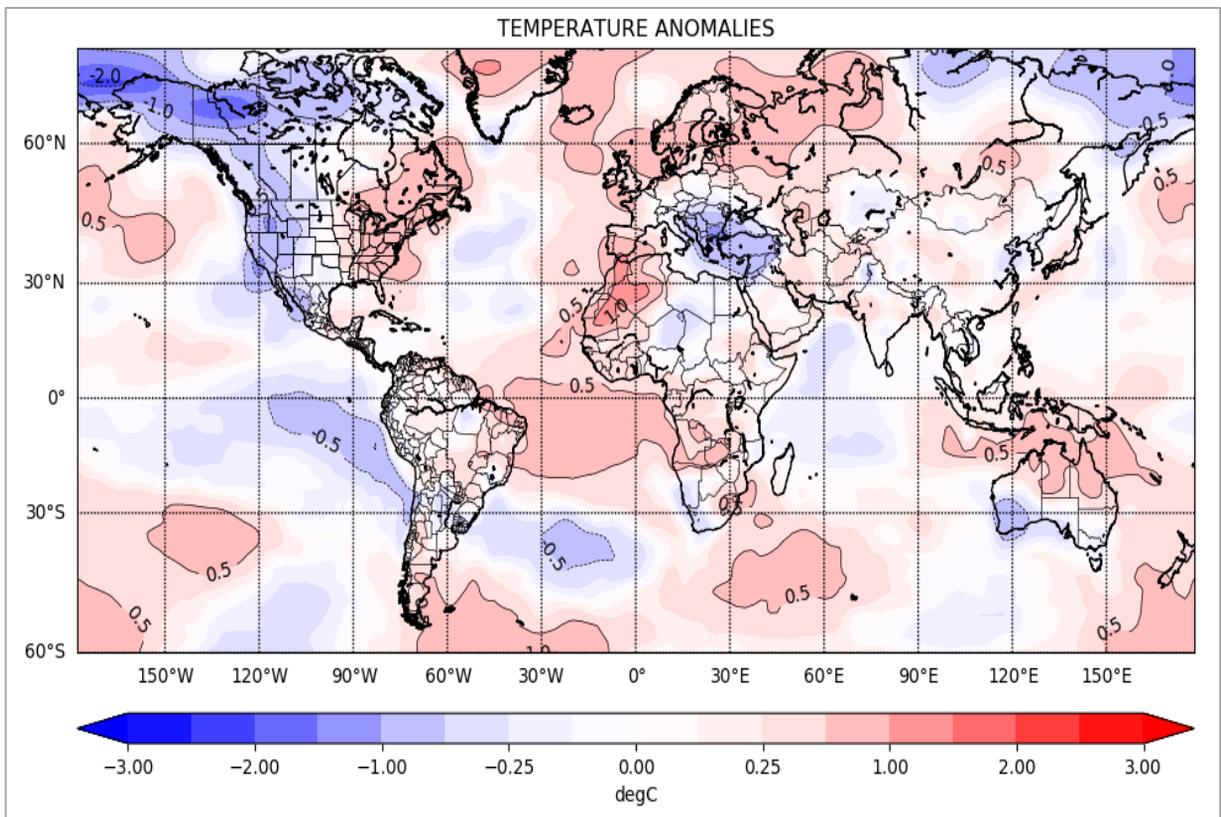
The upcoming months are critical for many crops across the globe. We present our global seasonal weather outlook for August/September/October from our proprietary seasonal model.

In Figure 1 we show our temperature anomaly outlook for August/September/October. Beginning with the US, we note that a warm temperature anomaly is forecast over the eastern portions of the US. Colder temperatures are, however, forecast for most of the west coast. The rainfall outlook for the US leans toward near normal conditions.

In South America, temperature outlook show near average conditions. Our rainfall outlook there still points toward wetter conditions over the north Amazon basin and in northern Mato Grosso. This area remains a key corn producer, which crop may benefit from surplus rainfall.

In the Eastern Hemisphere, our model is forecasting warmer conditions for most of northern Europe, Northwest & southcentral Africa, north Australia and northern Russia. Colder conditions will prevail in southwest Australia and the Balkans/Turkey.

For precipitation in the Eastern Hemisphere, our model is forecasting noteworthy positive rainfall anomalies over the Philippines and Indonesia with the remainder of the continental areas showing negligible departures from the base 30-year climatology.



Past performance is not indicative of future returns.

First, we briefly discuss global exports of wheat. Comparing 2022 monthly wheat exports with the five-year running average, we noted that in the first three months of 2022, global exports were at their maximum compared to the long-term mean. The typical seasonal dip in exports combined with the invasion of Ukraine led to a significant drop in exports during April and May. Exports from Ukraine remained well below average in June as Ukraine has only been able to export via road and rail. The situation looks to improve as an agreement to ensure safe shipping routes for grain shifts may be signed this week.

We also note that in June the USDA estimated that Durum and Other Spring Wheat production at 555 million bushels, up by 51% from last year. Much of this production is made up of Hard Red Spring Wheat (457 million bushels), estimated up 54% from 2021. US Spring wheat, and other grains, saw delayed planting in April and May due to very wet conditions. In the North-West and in the Northern Plains, where Spring Wheat is concentrated, average to above average rainfall totals were recorded (anomaly up to +3 mm/day) between April and July.

In Figure 1, we look closer at the observed rainfall in North Dakota (the largest producer of Hard Red Spring Wheat). We have plotted the accumulated precipitation, averaged over North Dakota (ND), from April to present (dashed blue line) and compared to the long-term mean (black line). The red line denotes the forecast for the next 10 days. Rainfall totals will have varied regionally but we note steep increases in precipitation in April and May. Blizzards in April brought heavy snowfall across ND, and subsequent snowmelt contributed to localised flooding. As a result of delayed

planting, the Spring Wheat crop season has fallen well behind the typical schedule. According to the latest USDA crop progress report (July 11<sup>th</sup>), 44% of US spring wheat crop has reached the headed stage, compared to 81% in the previous year, and an average of 77% during the past 5-years.

Despite the delay, crop conditions appear good so far. On July 10<sup>th</sup>, 70% of spring wheat was rated in good or excellent condition, an improvement from 66% in the previous week and a marked improvement compared to 15% this time last year. The wet conditions earlier in the season have helped to improve soil moisture conditions across key states. In June 2021, drought conditions were in place across many of the key spring wheat states, with "extreme drought" affecting areas of western ND, impacting production. According to US Drought Monitor drought conditions are not currently present across ND, although upcoming hot weather across the Northern Plains may add to dryness concerns. Despite good crop conditions, the late start is still a concern for spring wheat, as well as corn and soybean crops, potentially impacting yield and exposing crops to frost risk later in the growing season.

The result from the above developments and assumptions for supply and demand in 2022 is displayed with the help of the Global Wheat S&D balance (Fig. 2). Last month we also introduced the scenario analysis which allowed us to stress-test various assumptions for the supply and demand in 2022. Our base case scenario is for supply contraction of -2% and demand increase of +1.5%. It is clear that decline in supply of -5% or more will result in very tight market for the rest of the year – see blue line on Fig. 2.

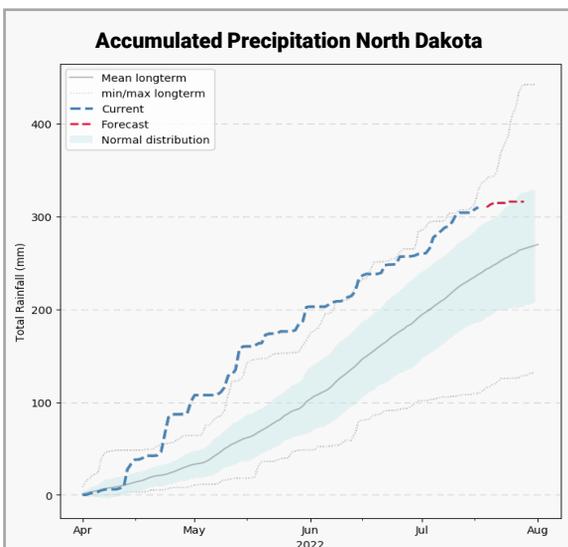


Figure 1. Source: USDA, Marex Research

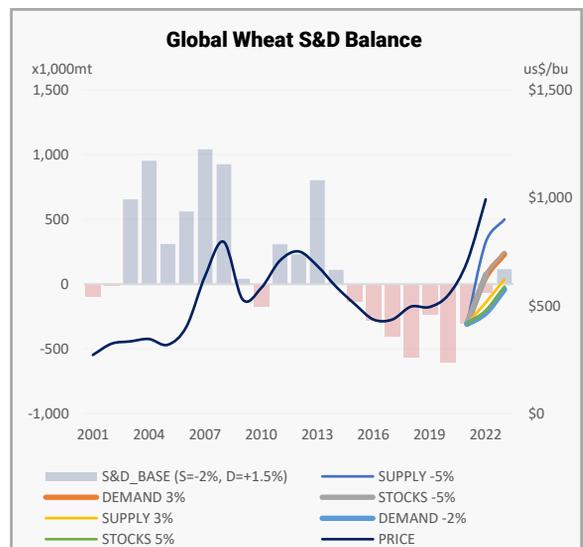


Figure 2. Source: USDA, Marex Research

Past performance is not indicative of future returns.

At the end of June, the USDA published their updated acreage report for 2022. The USDA revised corn slightly up from their March estimates putting planted area at 89.9 million acres. This is down 4 percent from last year. Attention is on the upcoming weather conditions over the next few months as these will be important for determining this year's crop yield. Temperature is one important aspect to consider when assessing crop growth.

Accumulated Growing Degree Days (AGDDs) is a measure of temperature in our model which is used to evaluate plant development and how quickly the corn season is progressing. Key corn states typically see between 1000 and 2000 AGDDs per year. Over the Corn Belt, AGDDs in 2021 increased at a faster pace compared to the previous 5 years and 2021 saw the highest annual total of AGDDs. In 2022 in April and May AGDDs increased at a relatively slow pace due to the colder temperatures observed in the Midwest, with the pace picking up since mid-May.

In Figure 1, we present an index which compares average weekly AGDDs to the 5-year running average. A positive (negative) value indicates that AGDDs are increasing at a faster (slower) rate than the 5-year average. We note that the AGDDs values are inverted on the Y-axis. We include a short term AGDDs forecast, represented by the grey bar. We see that temperatures across the Corn Belt over the next week will allow GDDs to increase relatively quickly in the key corn regions. Looking at the seasonal outlook from NOAA's NCEP/NOAA multi-model ensemble outlook, warmer than average temperatures are forecast across much of the US over the next three months, which may continue to support a good pace of AGDDs. However, this index does not consider

extreme temperatures or heat stress. It is important to note that while temperatures may be favourable for GDDs, adequate soil moisture and rainfall is also necessary for good crop growth over the next few months.

We have duly documented the demand strength on the global corn market in all our publications since 2020 and the market reacted accordingly. The data for 1H 2022 kept suggesting continued demand strength but there are now signs that the pressure is abating as we enter 2H 2022. Corn, just like other Ukraine-Russia conflict dependent commodities, was impacted by the assumption that exports from these two origins will be lower. The result was over-inflated price due to perceived future supply reduction, not realized/current reduction. In other words, the market is tight, but it is nowhere near as tight as suggested by the price during Q1-Q2 2022.

In fact, the latest assessment from the USDA was for supply to increase alongside ending stocks. This suggests that downstream demand may not be as strong as it used to be earlier in the year. Such erosion of demand is unlikely to be only down to weak purchasing power parity. It is more likely that high corn prices have impacted the margins of key end-users who are either turning to substitutes or reducing consumption, or both.

The result is a steady contraction of the S&D balance (green bars on Figure 2). The divergence between price and S&D balance was ominous for the price rally in Q2. We notice that certain realignment is already underway.

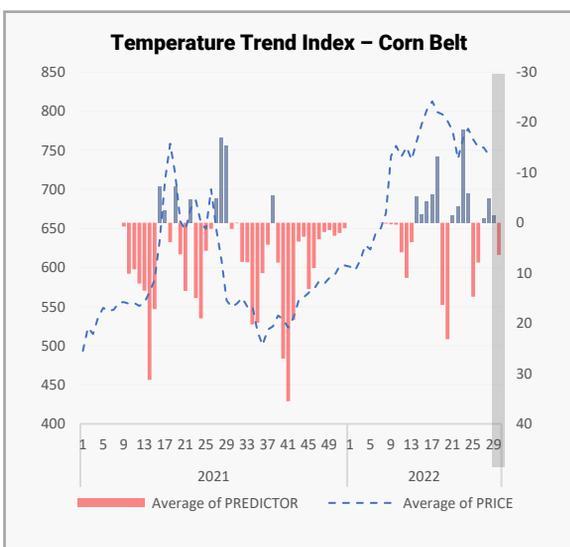


Figure 1. Source: USDA, Marex Research

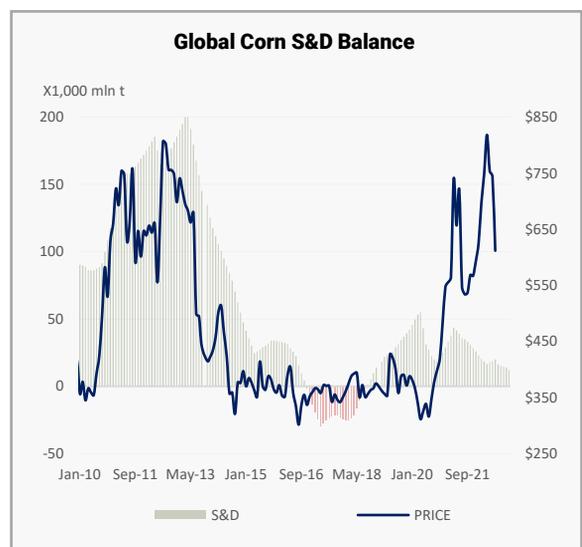


Figure 2. Source: USDA, Marex Research

Past performance is not indicative of future returns.

As with spring wheat and corn, the wet spring weather disrupted the soybean crop season in the US and in Canada. For example, soybean planted area in the US was reduced from USDA estimates of 91 million acres in March down to 88.3 million acres in June. Production is still forecast to be up this year in the US, despite a difficult start to the season. Overall global production for 2022/23 is also forecast up this year, despite some reduction in estimates this month compared to last.

Key exporters are all expected to see an increase in production y-o-y. Brazil, Paraguay and Argentina contribute most to this increase. For example, Paraguay is forecast at 138% increase y-o-y although the country has significantly smaller market share compared to Brazil and Argentina. These developments follow a poor harvest in 2021/22 as severe drought across South America had a significant impact on yield at the start of the year. Paraguay production is estimated at 4.2 million metric tons down from nearly 10 million metric tons in 2020/21.

With the global supply of soybeans expected to increase in 2H 2022, we now turn our attention to demand. One powerful metric which describes the demand-pull is the import arbitrage which compares the domestic soybean prices in China with the CIF prices originating in key export regions (US and Brazil). The individual export arbs have increased from both the US and Brazil over June but have generally favored trade flow from Brazil.

Brazil exports typically peak in May, but we have seen much lower exports from that country in May 2022 and therefore, also lower exports to China. The likely reason is the weak

domestic downstream demand and subsequently poor crush margins – see Figure 1.

In fact, we assess the global demand for soybean, not only the Chinese domestic demand, as weak. While the Chinese case can be at least partially explained away with restrictions on the economic activity, the demand in the rest of the world is likely to be down due to eroded purchasing power. Consumers continue to face a double hit to their purchasing power from stronger USD and higher grain prices.

The result from the above developments is a negative S&D balance for late Q3-22 and especially Q4-22 which come to represent steady supply growth and contraction in demand. The forward soybean market is already attempting to price all this in – see Figure 2

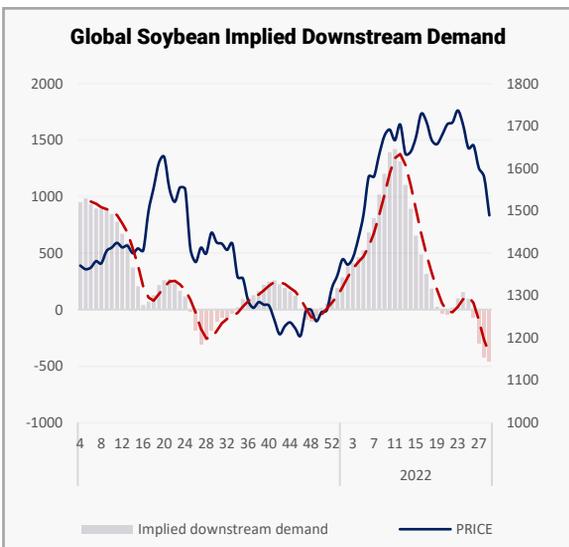


Figure 1. Source: Bloomberg, Marex Research

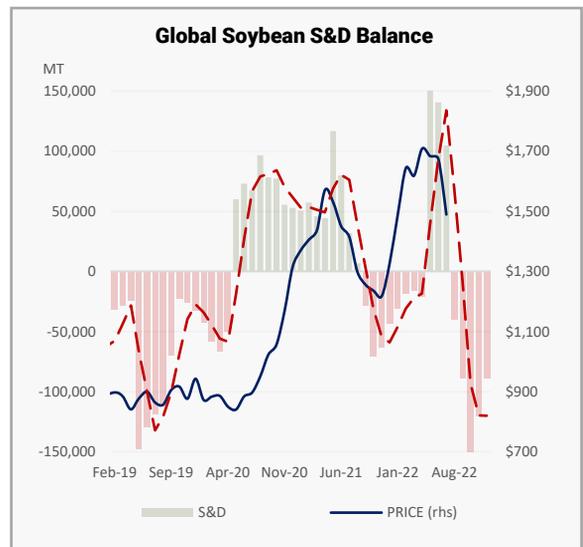


Figure 2. Source: USDA, Marex Research

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The Indian monsoon is underway, and rainfall totals have improved in July over key cane regions in western India including over Maharashtra and Karnataka. These states have recorded above average rainfall during July. However, in the east, key states; Andhra Pradesh and Uttar Pradesh have recorded below normal rainfall. Our short-term weather outlook, forecasts improved rainfall conditions across north-east India next week.

India is the second largest producer of sugar, and we see production has generally increased over the past 10 years. Figure 1 shows the ratio of their exports to production since 2010. The latest forecasts from the USDA estimate a drop in exports from India, after steadily increasing over the past 5 years. According to the USDA sugar production is forecast down in 2023 by approximately 1 million metric tonnes y-o-y. Exports however are expected to decline by nearly 3.5 million metric tonnes. This was linked to a cap on exports early in the year in order to prevent a surge in domestic prices. There is currently uncertainty if the Indian government will impose another cap on exports starting in October.

Despite the forecasted reduction in production and exports from India, globally the production of sugar is largely influenced by the conditions in Brazil, where sugarcane production is forecast up 1 million tons of cane for 2022/23 y-o-y. Moreover, our crude oil market view continues to evolve, and it is becoming less and less bullish for 2H 2022 compared to 1-2 months earlier, The implications from weaker oil price in 2H 2022 for one of the important sugar price determinants in our model, namely the ethanol parity, can be significant. Broadly speaking, crude oil price explains on average between 60-70% of the variability of ethanol

parity in Brazil. If our expectations for the direction of the global oil market are met later in the year, we would expect a further weakness in the parity, and subsequent decline of internal sugar demand (with respective increase of supply) by the respective explanatory power coefficient.

The price of sugar on the international market has largely followed the prevailing supply and demand conditions until early 2021. The disconnect since the start of last year is interesting because it happened at the time when the importance of Supply to the sugar market price formation declined sharply from 34% to 23%. At the same time, the combined impact of Demand and Macroeconomic environment on price increased from 66% to 77%. The price formation dynamics for the last 2-4 weeks have kept the importance of supply low, but it is worth noticing that the influence of the macroeconomic forces have expanded sharply. Macro forcing now contributes close to 60% of the sugar price formation which is similar to the record achieved in late February 2022 around the time of the Russian invasion of Ukraine. It goes without saying that with such high macro factor in the model, the market outlook will be highly dependent on what the global economy would do.

Therefore, and bearing in mind the negative global economic stance discussed on the previous pages of this document, we conclude that there is no material change in our structural market view for 2022 as the cumulative S&D balance remains bearish (see Figure 2).

The next publication will introduce our latest probabilistic range forecasts based on different scenarios for supply and demand shocks.

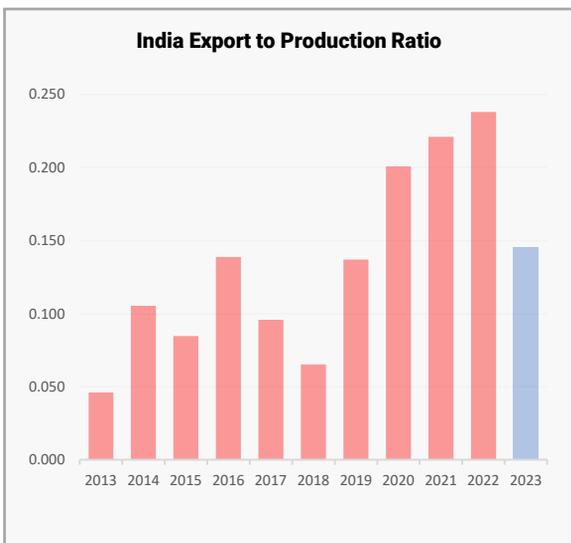


Figure 1. Source: USDA, Marex Research

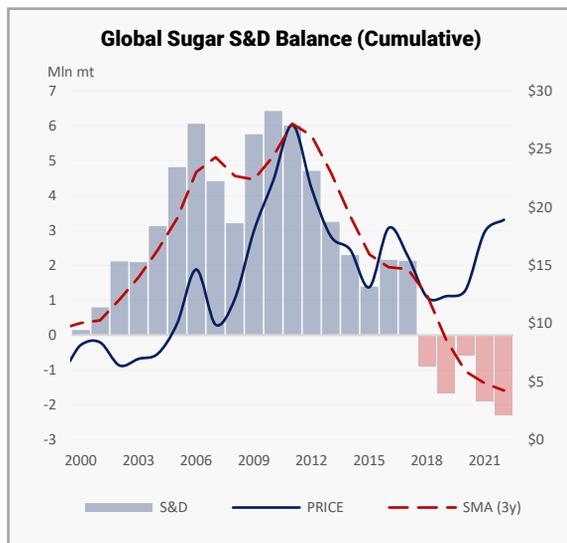


Figure 2. Source: USDA, Marex Research

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