

### Analyst

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Global Macro Analyst

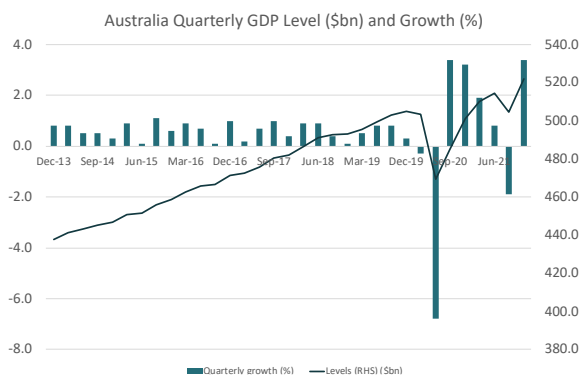
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### Basic Information

Real GDP (USD)	1330.9B
M2 (USD)	2.02T
CPI	123.9
PPI	118.3
Con. Confidence	90.4
Building Permits	15,183
Stock Index	ASX200
Currency	AUD

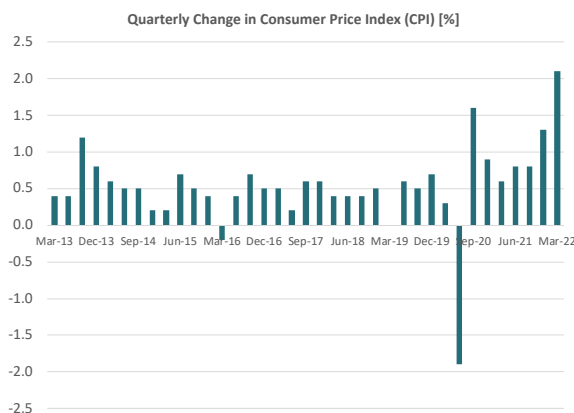
### Chart info

**Figure 1: GDP Quarterly Growth Rate**



Source: Australian Bureau of Statistics

**Figure 2: Quarterly Change in Consumer Price Index (CPI)**



Source: Australian Bureau of Statistics

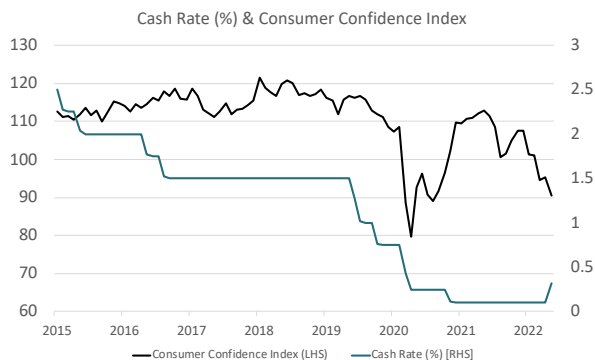
## Overview of Australia

- Lying between the Indian and Pacific Oceans, Australia is the world's sixth-largest country and is the second wealthiest nation in terms of median wealth per adult, right after Switzerland.
- Being an open economy, trade accounts for 43.98% of Australia's annual GDP and top trading partners include China, Japan, U.S., U.K. and Korea. China remains Australia's largest two-way trading partner as two-way trade, taking up 38.67% of Australia's export volume. Moreover, Australia's GDP is largely reliant on its Services industry, which is equivalent to 62.70% of its annual GDP.
- With regards to Australia's Export Composition, it mainly exports Iron Ore and Coal, which constitutes 58% of its total exports. Furthermore, other minerals such as Copper Ores and Gold also take up a significant proportion of Australia's total exports.
- Australia's Import Composition mainly comprise of Petroleum, Cars and Broadcasting Equipment, which are largely satisfied by its main trading partners, China and U.S.
- Australia is a member of the APEC, G20, OECD and WTO. The country has also entered into free trade agreements with ASEAN, Canada, Chile, China, South Korea, Malaysia, New Zealand, Peru, Japan, Singapore, Thailand and the United States.

## Summary of Events in the Past 6 Months

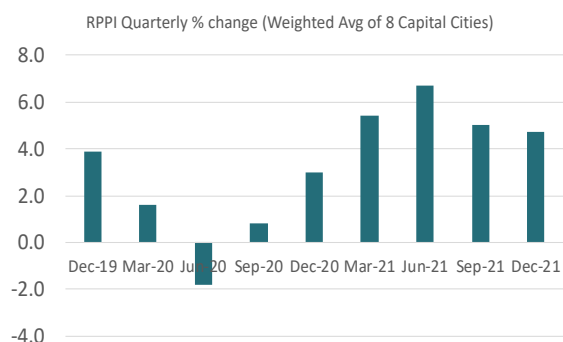
- The Reserve Bank of Australia (RBA) raised the cash rate target by 25 basis points to 0.35%, marking the country's first rate hike in a decade.
- Australia signed an Economic Cooperation & Trade Agreement with India in April 2022, which will likely strengthen bilateral relations and improve trade flow between both countries.
- Sino-Australian relations continue to experience greater tension due to the likelihood of a security pact between China and the Solomon Islands. The security pact is expected to potentially undermine the Land-Under's influence in the Pacific.
- The Russian-Ukraine War has induced unprecedented demand for commodities on a global scale. Australia has since begun fulfilling most of Asia's demand for coal, oil and gas, while the US and Qatar fulfils demand from the EU.

**Figure 3: Cash Rate (%) & Consumer Confidence Index**



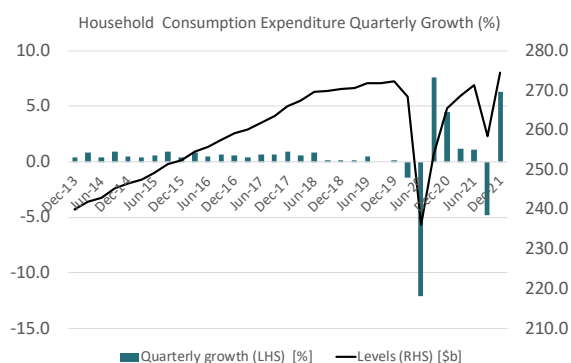
Source: RBA.gov & ANZ

**Figure 4: Residential Property Price Index: Eight Capital Cities**



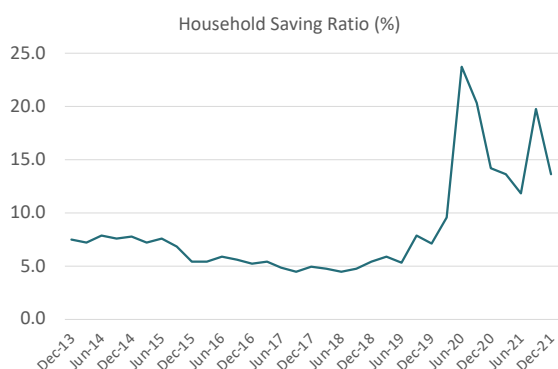
Source: Australian Bureau of Statistics

**Figure 5: Household Consumption Expenditure Quarterly Growth (%)**



Source: Australian Bureau of Statistics

**Figure 6: Household Savings Ratio**



Source: Australian Bureau of Statistics

## RBA's Key Measures

### Time To Hike!

Towards the end of 2021, the Reserve Bank of Australia (RBA) indicated that Australia's economy was well-positioned to experience greater growth and that inflationary pressures were transitory. As a result, Reserve Bank governor Philip Lowe was confident that 2022 would be rate-rise free. However, most central banks, including Australia's, underestimated the significance of the post-pandemic demand (which resulted in a fall in unemployment rate), Russia's invasion of Ukraine and soaring energy and food prices.

During the board meeting on 3<sup>rd</sup> May 2022, the board of the RBA decided to increase the cash rate target by 25 basis points to 35 basis points (Fig. 3). The move was justified by the fact that the Australian economy has experienced tremendous growth over the past 6 months, resulting in persistent inflationary pressures. As shown in Figure 1 & 2, on a quarterly basis, both GDP and CPI growth had outpaced the previous quarter, indicating probable signs of an overheated economy. As such, the RBA assessed that it was appropriate to begin withdrawing some of the monetary support that was put in place to bolster the Australian economy during the pandemic.

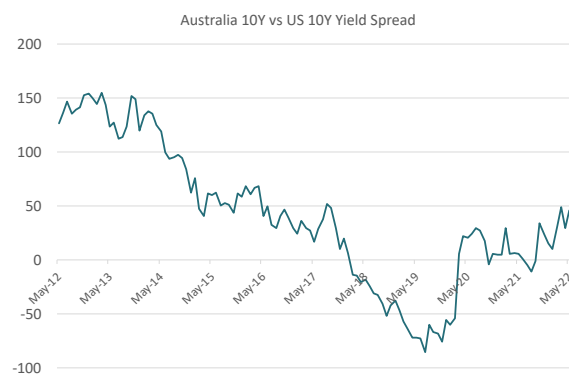
With the RBA adopting a more hawkish stance toward its monetary policy regime, the implications for the Land-Down-Under are likely to be threefold.

Firstly, rising cash rates will likely cool price pressures in the economy, specifically the housing market. In 2021, residential property prices in Australia soared by 16.8% as low interest rates drove demand from first home buyers and investors. The surge in demand for housing further exacerbated the already overheated property market, as shown by the 6 consecutive positive quarterly changes in the Residential Property Price Index (RPPI) – which is the weighted average of the RPPI across Australia's 8 Capital Cities (Fig. 4). With rising rates, potential investors are likely to be deterred from investing in the property market due to higher borrowing and opportunity costs. This will likely dampen sentiments among investors and alleviate inflationary pressures that stem from the property market.

Secondly, Australia might see a reduction in consumption expenditure and a rise in household savings ratio in the second half of 2022/ early 2023, as a result of rising cash rates. As shown in Figures 5 & 6, for the December Quarter of 2021, consumption expenditure rose sharply by over 6.3% to exceed pre-pandemic levels while household savings ratio slid to 13.8%. This was largely attributed to strong post-pandemic demand, coupled with RBA's fiscal stimulus and its initial decision of keeping cash rates low at 0.1% due to QE. However, with cash rate standing at 0.35%, and consensus estimates expecting it to reach 1.50% by the end of 2022, it is likely that we will see a significant behavioural shift that will help to curb inflation in Australia.

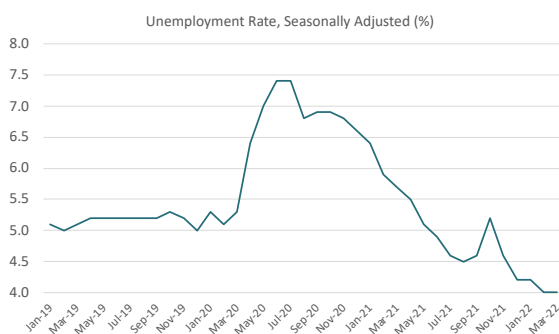
Lastly, the RBA's decision to hike cash rates may potentially attract more carry trades and in turn strengthen the currency, due to more favourable yield differentials. Both the RBA and the Fed have adopted a hawkish stance on their monetary policy regime since the start of 2022. However, the markets had already priced in much of the Fed's rate hike in early 2022, while that of Australia's came as a surprise to the markets. As shown in Figure 7, the spread between the Australia 10Y and the U.S. 10Y treasury yields has been increasing steadily since the start of the pandemic, and it is likely to continue for the near term. As such, widening spreads will likely favour carry trades in AUD terms due to higher yield gains and hence strengthening the Aussie Dollar.

**Figure 7: Australia - US 10Y Yield Spread (Bps)**



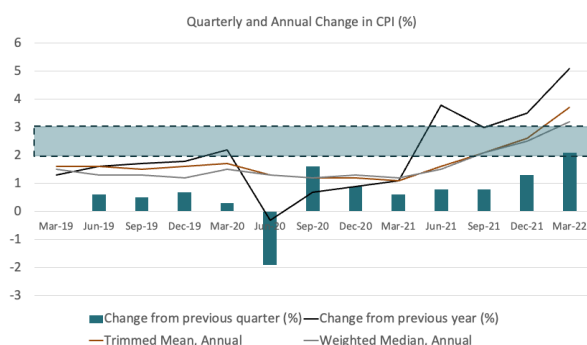
Source: Refinitiv

**Figure 8: Unemployment Rate (%)**



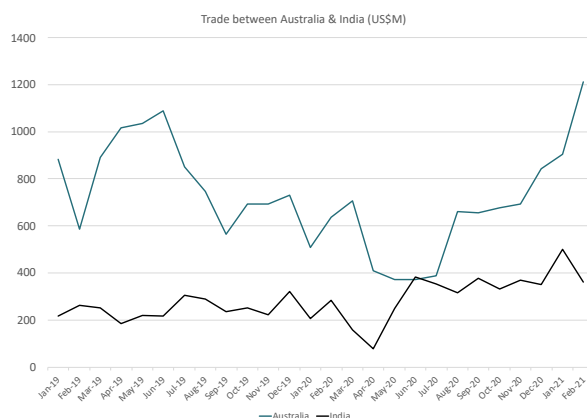
Source: Australian Bureau of Statistics

**Figure 9: Consumer Price Index (CPI)**



Source: Australian Bureau of Statistics

**Figure 10: Trade between Australia & India (USD Million)**



Source: Australian DFTA

## Unemployment Rate & Inflation

Australia's unemployment rate remained unchanged for the latest quarter in March, standing at 4.0% (Fig. 8). In seasonally adjusted terms, the number of unemployed people decreased by 12,100 to 551,300 while employment increased by 17,900 people to 13,389,900 people. With job vacancies remaining at all-time-highs and businesses indicating strong demand for more labour, Australia's unemployment rate is forecasted to hover slightly below 4.0% with marginal fluctuations over the next 2 quarters in 2022.

Despite lower unemployment rates, real wages growth has not kept pace with existing inflationary pressures. In the latest quarterly statement on Australia's monetary policy, the RBA had trimmed some of its GDP forecasts for the rest of 2022 and 2023. Australia's economic growth is now expected to slow to 3.5%, lower than the 5% predicted in the February statement. Growth will likely quicken slightly in the second half of 2022 to 4.25% before slowing again to 2% by December 2023. Consensus estimates that CPI will likely peak at 6% in December 2022, outpacing the forecasted 3% real wages growth. In light of this, the Albanese government could be for the notion of supporting a pay raise for a quarter of all working people in the annual wage review. However, it is important to note that narrowing margins, coupled with the withdrawal of the government's fiscal stimulus might spur further inflation growth.

Inflation in the first quarter of 2022 stood at 5.1%, deviating from consensus expectation of 4.7%, with a 2.1% quarter-on-quarter (QoQ) increase (Fig. 9). The quarterly increase was broadly spread among sub-components. The only item to decline this quarter was clothing (-0.6%). All other segments showed gains of more than 1% over the previous quarter, led by transportation (4.2%), education (4.5%), food (2.8%), housing (2.7%) and health (2.3%). On an annual basis, the trimmed mean inflation rate rose from 2.6% to 3.7%, and the weighted median inflation rate rose from 2.5% to 3.2% (Fig. 8). With the RBA's target for inflation of 2-3%, all 3 measures of inflation are now hovering above the upper limit of the target range.

Over the next few quarters, the RBA will likely stay committed to a period of rising rates. The Reserve Bank is currently expecting both headline and core inflation to still be at the top of its inflation rate target, even by mid 2024. With that said, cash rates might not necessarily be on an straight upward path – given the lags involved in monetary policy – but it does imply that rates will likely not be lowered before 2024.

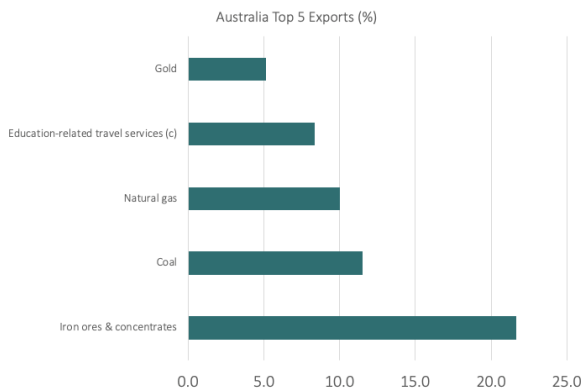
## International Developments

### India-Australia Economic Cooperation & Trade Agreement (IndAus ECTA)

On the 2<sup>nd</sup> of April 2022, Australia signed a historic trade agreement with India, the India-Australia Economic Cooperation and Trade Agreement (IndAus ECTA). Australia was the 17<sup>th</sup> largest trading partner of India and India was Australia's 9<sup>th</sup> largest trading partner in 2021. India-Australia bilateral trade for both merchandise and services was valued at USD 27.5 billion in 2021 and India's merchandise exports to Australia grew by 135% between 2019 and 2021 (Fig. 10). The ECTA is forecasted to be able to bring trade value to USD 50 billion over the next 5 years

The agreement will likely strengthen the bilateral relationship between both countries, allow more price-competitive Australian goods to be exported to India and create more opportunities for workers and businesses. The ECTA covers almost all the tariff lines between India and Australia. India will benefit from preferential market access

**Figure 11: Australia Top 5 Exports (%)**



Source: Australian DFTA

provided by Australia on 100% of its tariff lines. This includes all the labour-intensive sectors of export interest to India such as Gems and Jewellery, Textiles, Leather, Food, and Agricultural products. On the other hand, India will be offering preferential access to Australia on over 70% of its tariff lines, including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc (Fig. 11).

By 2035, the Australian Government has plans to include India in its top 3 export markets and to make India the 3<sup>rd</sup> largest destination in Asia for outward Australian investment. This will likely benefit Australia greatly as the country will be able to gradually reduce its reliance on China for its demand for Australian exports, which has been adversely impacted due to economic sanctions.

### **Solomon Islands Security Pact With China**

On the 19<sup>th</sup> of April 2022, the Chinese Foreign Ministry spokesman announced that the Solomon Islands had signed a security cooperation pact with China. It would involve China cooperating with the Solomon Islands on maintaining social order, protecting people's safety, aid, combating natural disasters, and helping safeguard national security. China's strategic intent to gain a foothold in the Pacific is apparent – to potentially threaten Australia's military intelligence & communications, and undermine Western dominance in the South Pacific.

Through this security pact, the Solomon Islands will also stand to benefit from China's economic potential. The Solomon Islands is one of Asia-Pacific's poorest nations, with high unemployment rate and heavy reliance on foreign capital for its development budget. GDP growth has steadily declined since 2016 to -4.4% in 2020. Bilateral relations between the Solomon Islands and China were first forged in 2019, when the Solomon Islands joined the Belt and Road infrastructure initiative. Since then, China has quickly become the Solomon Islands' biggest trading partner. In 2020, 64% of its exports (USD 312 million) went to China compared to 1% to Australia. In terms of imports, 34% of goods came from China compared to 13.5% from Australia.

With China's financial aid, trade flow, and investment, it is clear that the superpower has since cemented its footing within the Pacific Region. On top of that, the security pact has also further escalated the Sino-Australian tensions, due to the fact that it may potentially undermine Australia's control within the Pacific Region. As such, it is crucial for the Land Under to realign its relationship with the Solomon Islands and the rest of the Pacific to limit China's influence within the region.

### **Filling Asia's Energy Gap**

While the Russia-Ukraine war created volatility within the global commodity markets and triggered a scramble for resources, the crisis has also slowly reconstructed the Asia-Pacific region's energy map.

With similar trade profiles, Russia and Australia compete in several key markets, from gas & coal to wheat and barley. As a result of the war, the EU has indicated plans to wean itself off Russia's oil and gas supply and seek alternative sources. Due to the nature of commodity trade routes, the EU has since sought oil & gas supplies from U.S. and Qatar, redirecting existing energy resources to the EU from Asia. As Australia is geographically well-positioned to supply energy resources to Asia, the Land Under has since fulfilled demand within the region, specifically in South Korea and Japan. The redirection of energy resources will likely have lasting impacts on Australia's commodities trade flow and may consequently strengthen the Australian Dollar in the near future.

Figure 12: AUDUSD Daily Chart



Source: TradingView

## Trade Idea: Long AUDUSD

In light of higher rates in 2022 and 2023, it is likely that yields will become more attractive and favour more carry trades for foreign investors. This will in turn induce demand for the Australian Dollar, which might lead to a stronger Australian Dollar against local currency. In addition, the spread between the Australian 10Y and the U.S. 10Y yields continues to widen steadily, making it more attractive for foreign investors to allocate carry trades denominated in the Australian Dollar.

Furthermore, with the IndAus ECTA, Australia's reliance on China for imports and raw materials will reduce significantly, thereby making it less susceptible to existing geopolitical tensions with China. As such, geopolitical risks that surround the Australian Dollar will be of lower significance and this would increase investors' confidence on the currency.

Lastly, regardless of the outcome of the Russian-Ukraine war, it is highly likely that Australia will remain to be Asia's main source of commodities supply. This will in turn increase the demand for the Australian Dollar so as to facilitate trade flows.

With that said, it is important to note that the Australian Dollar is extremely sensitive to risk sentiment among investors. As we are currently in a risk-on environment, it is crucial to closely monitor the country's economic metrics to align our thesis according to what the market is pricing in.

### Technicals

As shown in Figure 12, the daily chart of the AUDUSD pair has implied significant bearish pressure over the past 3 months, as shown by the downward channel between the 2 trendlines. However, over the past week, the currency pair has been showcasing bullish momentum as it approaches the upper bound of the trendline with bullish candle stick patterns. Utilising the Fibonacci retracement tool, 0.70408 (0.500 level) has been identified to be a key support/resistance level which we will be looking to enter a Long position at. However, we will only execute the trade if the currency pair breaks above and retrace back to the level mentioned. Using 0.74522 as our resistance level and 0.68528 as our support level, the trade will reap a risk reward ratio of 2.03.

### Trade

Entry point will be at 0.70408, upon confirmation of the pair breaking through the support level and retesting the level. Our stop loss will be at 0.68528, which was the most recent 'higher-low'. The take profit level will be at 0.74522, which constitutes a 2.03 risk to reward ratio.

**Entry: 0.70408**  
**Take Profit: 0.74522**  
**Stop Loss: 0.68528**  
**Risk Reward Ratio: 2.03**

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### Analyst

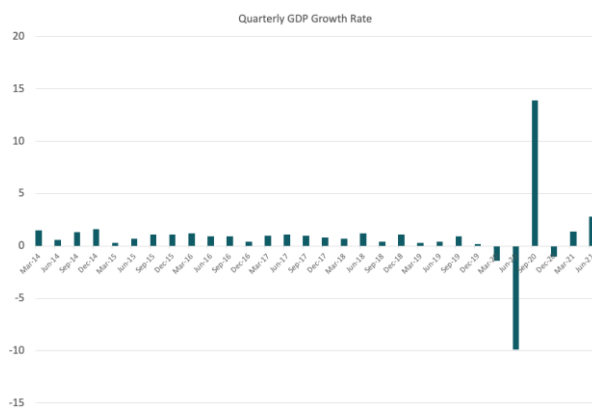
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### Basic Information

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Con. Confidence	92.1
Building Permits	4,580
Stock Index	NZ50
Currency	NZD

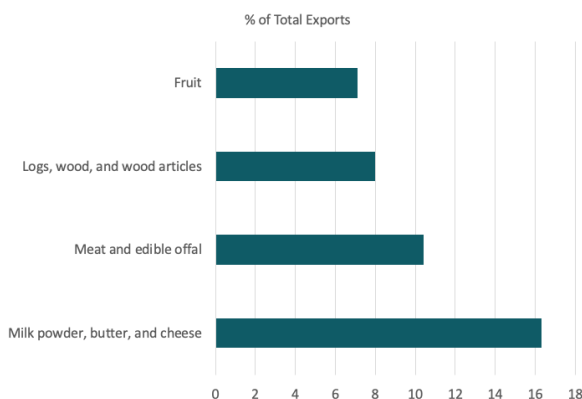
### Chart info

**Figure 1: GDP Quarterly Growth Rate**



Source: Stats NZ

**Figure 2: Top Exports in New Zealand (%)**



Source: Stats NZ

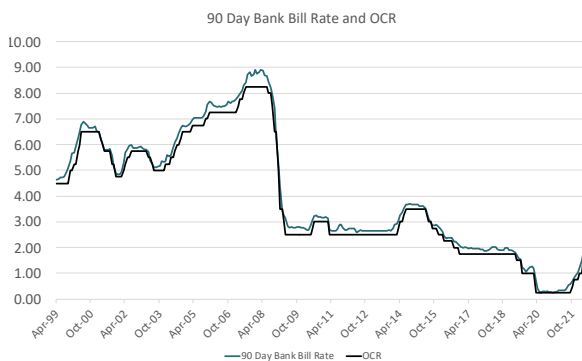
## Overview of New Zealand

- Located in the southwestern Pacific Ocean with a population of five million and an abundance of natural resources, New Zealand is known to possess high levels of well-being, government transparency, and economic freedom.
- Led by Prime Minister Jacinda Ardern, she was the world's youngest head of state when elected in 2017.
- Being an open economy, trade accounts for 26.99% of New Zealand's annual GDP and top trading partners include China, Australia, U.S., Europe Union (EU) and Japan. China remains New Zealand's largest two-way trading partner, taking up 24.93% of New Zealand's export volume. Moreover, New Zealand's GDP is largely reliant on its Services industry, which is equivalent to 71.0% of its annual GDP.
- With regards to New Zealand's Export Composition, it mainly exports dairy products (Milk, Butter and Cheese takes up 16.3% of total exports), Meat (10.4%) , Wood (8.0%) and Fruits (7.1%).
- New Zealand's Import Composition mainly comprise of Mechanical machinery, Vehicles parts, Electrical machinery and Petroleum which are largely satisfied by its main trading partners, China and EU.
- New Zealand is a member of the APEC, OECD and WTO. The country has also entered into free trade agreements with ASEAN, Canada, Chile, China, South Korea, Malaysia, Australia, Peru, Japan, Singapore, Thailand and Hong Kong.

## Summary of Events in the Past 6 Months

- With the OCR currently standing at 1.5%, the RBNZ continues to remain hawkish and has indicated intentions to raise rates on 3 other occasions for the rest of 2022.
- Alongside rate hikes, the RBNZ has also officially commenced the gradual slowdown of its Large Scale Asset Purchase (LSAP) program and drafted a new property law to limit investments in the property market.
- New Zealand has since reopened its borders, as the country now defines Covid-19 as an endemic rather than a pandemic. This will likely benefit the tourism industry and encourage more human capital flow.
- New Zealand and China has signed a new Free Trade Agreement that aims to strengthen economic ties and increase exclusive trade flow between both countries.

**Figure 3: 90-day Bank Bill Rate and OCR (%)**



Source: Stats NZ

**Figure 4: Holdings of central government debt securities, Monthly Change (%)**



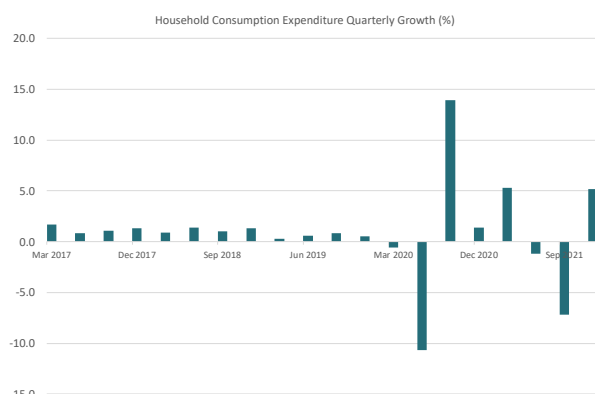
Source: RBNZ.govt.nz

**Figure 5: Property Prices, Annual % Change**



Source: RBNZ.govt.nz

**Figure 6: Household Consumption Expenditure Quarterly Growth (%)**



Source: Stats NZ

## RBNZ's Key Measures

### Hefty Rate Hikes

The level of global economic activity continues to generate rising inflation pressures, exacerbated by ongoing supply disruptions due to Covid-19 and the Russia-Ukraine war. To maintain price stability and support maximum sustainable employment amid inflationary pressures and uncertain economic conditions, the Monetary Policy Committee of the RBNZ raised interest rates by half a percentage point in April 2022, marking its biggest increase in 22 years. Interest rates currently stand at 1.5% (Fig. 3), and the RBNZ has indicated that they will be hiking rates by 50 basis points at each of the next 3 policy meetings to accommodate a tighter labour market and tame surging house prices.

Furthermore, the RBNZ has also announced that it will commence the gradual reduction of its bond holdings under the Large Scale Asset Purchase (LSAP) program through both bond maturities and managed sales (Fig. 4). A reduction in bond holdings will likely further tighten financial conditions and complement upcoming rate hikes. In addition, the housing market in New Zealand is overheating due to excess Government stimulus and historically low-interest rates over the course of the Covid-19 pandemic (Fig. 5). As such, alongside rising interest rates, the New Zealand government also drafted a new law in late 2021, limiting property investors from deducting mortgage interest from their taxable income.

As the RBNZ slowly adopts a more hawkish stance toward its monetary policy regime, the decision to raise rates will likely significantly tame domestic inflationary pressures and possibly encourage more carry trades from countries such as China.

As New Zealand transits into a higher interest rate environment, it is likely that it will cool the property market and reduce household consumption expenditure. As a result of a large amount of fiscal stimulus and prolonged periods of low interest rates, demand for housing was at a record high, as shown by the 25.8% annual increase in property prices, which is the highest percentage increase over the past 25 years. Furthermore, Household Consumption Expenditure has also been on the rise, due to low borrowing costs and a lack of incentive to save (Fig. 6). The sharp increase in Household Consumption Expenditure has exacerbated the pace of domestic inflation, which the RBNZ hopes to regain control of. By raising interest rates, the RBNZ hopes to scale down investments within the property market and increase the country's household savings ratio (Fig. 7) as it will translate to lower disposable income available for spending. Higher borrowing and opportunity costs will likely alleviate inflationary pressures within the country in the near term.

Furthermore, the RBNZ's decision to hike rates may lead to a rise in carry trade volume from other countries, especially China. Due to a difference in policy mandates, China is currently channelling efforts to engage in Quantitative Easing (QE) to keep rates low while New Zealand is keen to hike rates in the near term to ensure sustainable growth. As such, the spread between the NZ 10Y and the CN 10Y yields is widening as shown in Figure 8, favouring carry trades in Kiwi terms. Foreign investors, especially investors from China, will likely allocate more investments into New Zealand due to more favourable yield differentials and hence this might strengthen the Kiwi over the next few quarters.



Year	Household Savings Ratio
1991	6.5
1992	7.5
1993	7.0
1994	7.8
1995	7.8
1996	7.5
1997	7.5
1998	6.8
1999	5.5
2000	5.5
2001	5.5
2002	5.5
2003	5.5
2004	5.5
2005	5.5
2006	5.5
2007	5.5
2008	4.5
2009	4.5
2010	4.5
2011	4.5
2012	4.5
2013	4.5
2014	4.5
2015	5.5
2016	5.5
2017	5.5
2018	8.0
2019	7.0
2020	23.5
2021	14.0

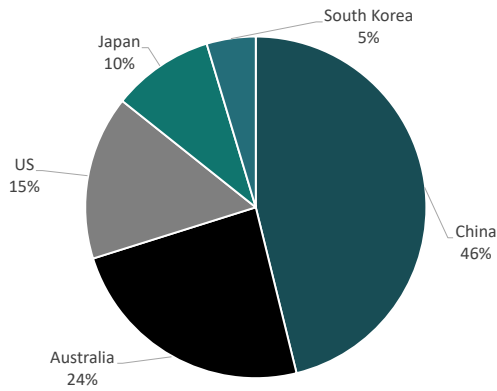
The chart displays two metrics over a five-year period. The Unemployment Rate (blue line) starts at approximately 4.9% in March 2017, peaks at 4.9% in August 2017, and then fluctuates between 3.0% and 5.3% until late 2020, when it spikes to 5.3%. It then declines to 3.2% by March 2022. The Employment Growth rate (black line) starts at approximately -1.0% in March 2017, peaks at 1.5% in August 2017, and then fluctuates between -0.5% and 1.5% until late 2020, when it spikes to 1.5%. It then declines to -0.5% by March 2022.

Date	Unemployment Rate (%) [RHS]	Employment Growth (%) [LHS]
Mar-17	4.9%	-1.0%
Aug-17	4.9%	1.5%
Jan-18	4.5%	0.5%
Jun-18	4.5%	0.2%
Nov-18	4.0%	-0.2%
Apr-19	4.3%	0.8%
Sep-19	4.0%	0.2%
Feb-20	4.2%	0.8%
Jul-20	4.0%	-0.2%
Dec-20	5.3%	0.5%
May-21	4.5%	1.5%
Oct-21	3.5%	-0.2%
Mar-22	3.2%	-0.5%

Month	CPI, Annual Change (%)
Mar-18	1.1
Jul-18	1.5
Nov-18	1.9
Mar-19	1.9
Jul-19	1.6
Nov-19	1.7
Mar-20	2.5
Jul-20	1.6
Nov-20	1.5
Mar-21	1.6
Jul-21	3.5
Nov-21	5.0
Mar-22	6.9

## China – New Zealand Free Trade Agreement 2.0

New Zealand's Top 5 two-way trade partners (%)



Source: Stats NZ

On 7<sup>th</sup> April 2022, China and New Zealand initiated an upgrade to their existing long-standing trade deal, as Beijing pushes to expand its global trade network to bolster its economic standing amidst persistent tensions with the U.S. and Australia. China is New Zealand's biggest trading partner, with two-way trade standing at USD 24.7 billion for the year ending June 2021 (Fig. 11). The improved trade agreement is expected to promote more extensive trade and investment exchanges and support the development of economic and trade relations to a higher level.

Notably, the trade agreement now comprises of new areas which include e-commerce, public procurement and competition policies, as well as measures on environmental protection. The agreement also indicates that China will be opening up its aviation, construction, shipping and finance sectors to New Zealand citizens. Furthermore, China has also agreed to the immediate reduction of tariffs on certain types of wood and paper products from New Zealand – from 7.5% to 0%. In return, New Zealand has agreed to lower its barriers for Chinese investors to allocate private and government-backed investments into the country.

With the 'upgraded' FTA, it is clear that New Zealand will continue to forge stronger ties with China so as to leverage on its economic potential and trade network. In the near term, this may lead to a stronger Kiwi against the Renminbi due to increased trade flows in the form of exports from New Zealand.

Figure 12: NZDCNH Daily Chart



Source: TradingView

## Trade Idea: Long NZDCNH

In light of higher rates in 2022 and 2023, it is likely that yields will become more attractive and favour more carry trades for foreign investors. This will in turn induce demand for the Kiwi, which might lead to a stronger kiwi against local currency. On the other hand, China's policy mandate differs from that of U.S. and New Zealand, as the country seeks to further encourage (QE) efforts by using its balance sheet to support the growth within financial sector and across the economy. As such, yield differential is likely to widen in the near term which will favour carry trades in Kiwi terms.

In addition, the new FTA between China and New Zealand will also strengthen ties and economic relations between both countries. This will in turn lead to a healthier volume of trade flow and at the same time make New Zealand's exports more price-competitive due to cheaper input costs. Both factors will likely lead to a greater demand for the Kiwi and hence supporting a Long position on the Kiwi against the Renminbi (RMB).

Furthermore, macroeconomic conditions in China continues to remain bleak amid greater effort in pushing for QE to stimulate the economy. The country's zero-covid mandate has also created significant volatility across assets denominated in RMB.

### Technicals

As shown in Figure 11, the daily chart of the NZDCNH pair has shown a significant shift in momentum, as the currency pair starts to make higher-lows and higher-highs. As a result of bullish sentiments, the currency pair is now above the trendline and is now trading at 4.2907. Utilising the Fibonacci retracement tool, we will be looking to enter a Long position at the 4.2816 level, which is the 0.618 retracement level. Using 4.4798 as our resistance level and 4.2277 as our support level, the trade will reap a risk reward ratio of 3.56.

### Trade

Our entry point will be at 4.2816, upon a bullish candle wick formation at the region. Our stop loss will be at 4.2277 (0.786 Fibonacci retracement level). The take profit level will be at 4.4798 (0.00 Fibonacci retracement level), which constitutes a 3.56 risk to reward ratio.

**Entry: 4.2816**  
**Take Profit: 4.4798**  
**Stop Loss: 4.2277**  
**Risk Reward Ratio: 3.56**

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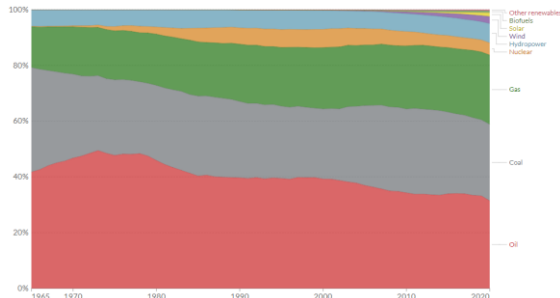
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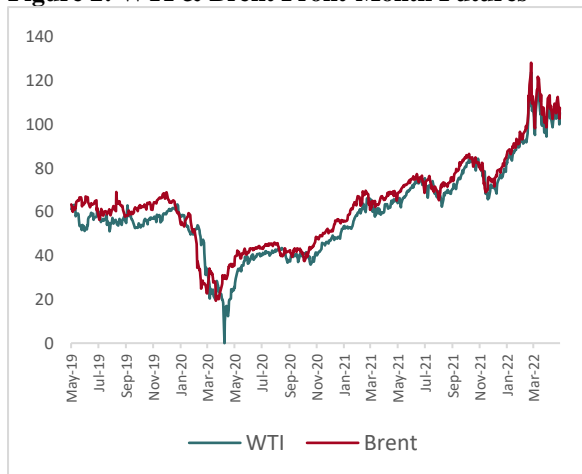
### Chart info

**Figure 1: World Energy Consumption by Source (1965 – 2020)**



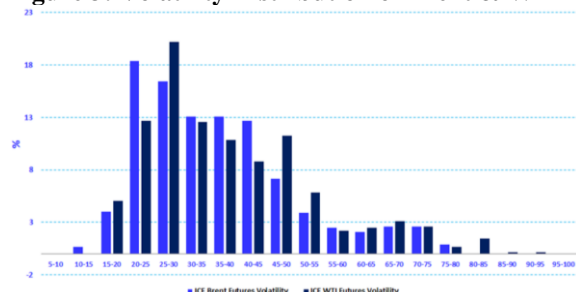
Source: BP Statistical Review of World Energy

**Figure 2: WTI & Brent Front-Month Futures**



Source: Refinitiv

**Figure 3: Volatility Distribution of Brent & WTI**

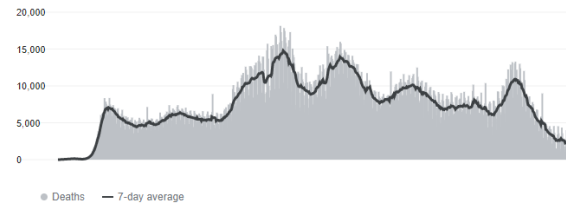


Source: S&P Global Platts Analytics

- Crude oil is perceived by economists as the single most important commodity in the world given that it is one of the primary sources of energy production. As seen in Fig. 1, although the percentage of energy source derived from crude oil has been steadily decreasing through the decades in-lieu of major discoveries in renewable energy, oil still forms a significant 30% of the world's energy needs.
- Within a typical barrel of crude, approximately 42.7% is refined into gasoline, a major transportation fuel for cars. 27.4% is refined into diesel, a major fuel for industrial vehicles, while 5.8% is refined into jet fuel which is used in jet aircraft engines. The remaining crude is usually refined into other products such as fuel oil and petrochemicals.
- Crude oil extracted comes in various amounts of sulfur content and density. The amount of sulfur content determines if the oil is sweet or sour, while the API gravity determines if the oil is light or heavy. Light sweet crude is primarily favored by refiners over heavy sour crudes, as they require less processing and are less pollutive.
- There are three major benchmarks of crude oil, namely West Texas Intermediate (WTI), Brent and Dubai. Oil from these three benchmarks differ in terms of place of extraction, sulfur content and density. WTI oil is sourced from the U.S., Brent from the North Sea, and Dubai from the Middle East. Dubai crude usually trades at a discount to Brent and WTI due to it being sour crude (and hence lower value). However, the Brent/Dubai spread inverted briefly on several occasions such as in late 2011, where the weak gasoline and naphtha cracks, plus the return of Libyan crude to the oil markets, dragged down the value of light sweet crudes.
- The price of crude oil is primarily driven by demand-supply fundamentals. Major events in 2022, such as the resurgence of Covid-19 in China and the Russia-Ukraine war, has caused abrupt changes to both the demand and supply dynamics of crude oil. This has translated into extremely volatile oil prices, with WTI front month futures returning 43.33% YTD.
- Historical data shows that WTI tends to be more volatile than Brent. Specifically, Brent's equilibrium level is within the 20-25% range while WTI's is 25-30% (refer to Fig. 3). Additionally, the probability of volatility trading above 45% is higher for WTI than it is for Brent, implying that the American crude market's fluctuation rate spikes more often than that of the European grade. The difference in volatility can be explained by the fact that Brent, being a seaborne crude, does not have regional logistics and storage constraints as compared to WTI.

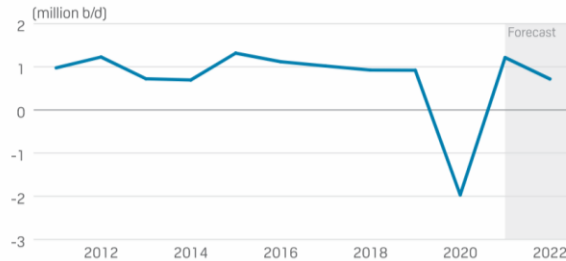
## Summary of Events in the Past 6 Months

**Figure 4: Covid-19 Worldwide Deaths (All Time)**



Source: Our World in Data

**Figure 5: Asian Oil Demand Growth Outlook**



Source: S&P Global Commodity Insights

**Figure 6: \$DXY (RHS) vs WTI Front-Month Futures (LHS)**



Source: TradingView

- Globally, the daily number of Covid-19 deaths has continued to decline since the end of March 2022, a result of widespread vaccination uptake across the world. The 7-day average daily death rate has decreased from a peak of 14.6 thousand/day in January 2021 to 2.3 thousand/day in May 2022. Most countries have exited stringent Covid-19 management measures and have adopted an endemic approach towards dealing with the pandemic, with the exception of China. The relaxation of Covid-19 measures has resulted in the release of pent-up demand for crude oil, in the form of higher mobility and industrial activities.
- Nevertheless, oil prices have remained volatile in recent weeks due to China heading for the largest oil demand shock since the start of the pandemic amidst increasingly stringent lockdowns. This has brought down the forecasted overall oil demand growth for Asia this year to 716,000 bpd, from 1.2 million bpd in 2021 (refer to Fig. 5). China's demand for gasoline, diesel and jet fuel in April 2022 is expected to slide 20% from a year earlier, equivalent to a drop in crude consumption of 1.2 million bpd. This decline equates to about 9% of China's daily oil demand when compared with the 2021 average.
- The Dollar Index (\$DXY), a popular gauge of the Greenback's value against a basket of six major currencies, is hitting two-decade highs in recent weeks due to an increasingly hawkish U.S. Fed topped by an increasingly risk-off backdrop. \$DXY soared 0.96% to 103.60 on 5<sup>th</sup> May 2022, reaching a high not seen since November 2002. This comes a day after the May FOMC raised interest rates by 50 basis points (bps) and signaled their intention to hike at this pace in the next couple of meetings. Fundamentally speaking, a biddish USD does not bode well for oil prices, as there is a negative correlation between the value of the USD and oil prices. However, in recent weeks, oil prices are decoupling from the value of USD, as they have been surging higher despite stronger USD. This could be owing to increasing supply deficits brought about by the Russia-Ukraine war, decreased CAPEX in oil exploration & production, and resurging demand from countries exiting strict Covid-19 measures.
- The ongoing Russia-Ukraine war has created immense uncertainty to future oil supply, as the European Union (EU) is reaching final stages of a plan to ban oil imports from Russia. The planned oil embargo seeks to phase out Russian supply of crude oil within six months and refined products by the end of this year. This could lead to a potential loss of approximately 3 million barrels per day (bpd) from the oil markets as nations scramble to find other sources of oil. Nevertheless, the eventual financial impact on Russia might be muted as oil initially meant for the EU are merely being redirected to countries such as India and China, who are purchasing these Russian crude at a discount. In particular, India has bought at least 40 million barrels of Russian oil since the invasion on February 24<sup>th</sup> - this was more than twice as much crude bought from Russia in the whole of 2021. Furthermore, an alternate release valve for supply could come from the easing of sanctions against Iran and Venezuela. While the Iran nuclear deal remains at a standstill, it was reported that U.S. officials have been dispatched to Venezuela to engage in dialogues

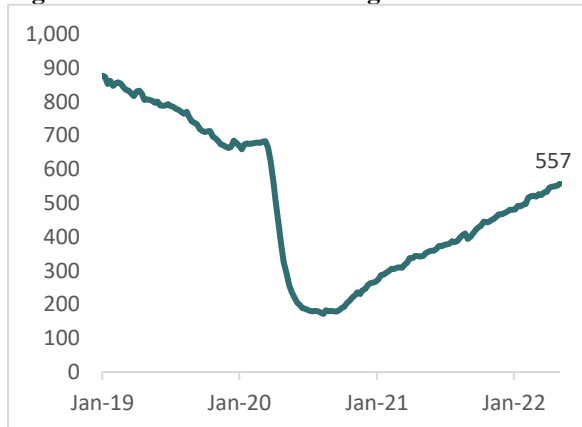


in recent weeks, potentially warming up the floor for the reintroduction of Venezuelan barrels.

- Tensions continue to run high between the U.S. and OPEC, as OPEC consistently rebuffed calls by the Biden Administration to increase oil production in view of surging gasoline prices stateside. On 5<sup>th</sup> May 2022, a U.S. Senate committee passed a bill, known as the No Oil Producing or Exporting Cartels (NOPEC) bill, that could expose the OPEC to lawsuits for collusion on boosting crude prices. While it is evident that the bill is slowly gaining traction amongst U.S. lawmakers, it still has to pass the full Senate and the House and be signed by President Joe Biden to become law.

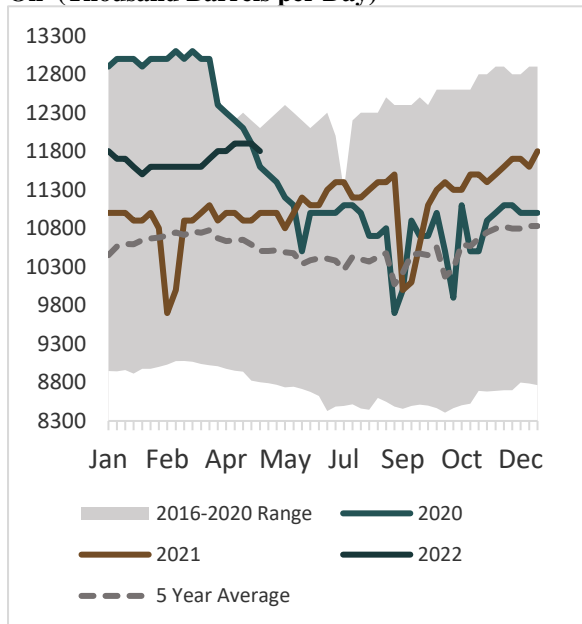
## U.S. Shale Production & SPR Release - Last Ditch Attempt?

**Figure 7: North America Oil Rig Count**



Source: Baker Hughes

**Figure 8: Weekly U.S. Field Production of Crude Oil (Thousand Barrels per Day)**



Source: EIA

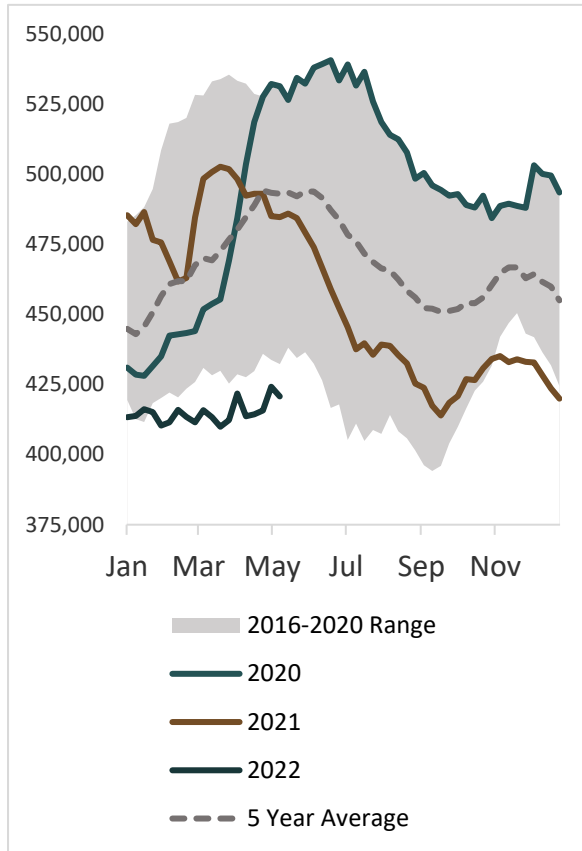
The shale revolution in 2014 has boosted U.S.' net crude production and propelled them from being a major net importer to being one of the top few net exporters in the world. Shale oil now accounts for around 65% of total U.S. oil production, and this new production capacity has reduced their dependence on oil imports from overseas. However, the Covid-19 pandemic has triggered company bankruptcies and production shut-ins due to low oil prices and hence low profitability. Major shale companies are now scaling back conventional, more expensive oil projects as they shift strategy to include plans for energy transition. The shale companies' pivot to a lower-carbon operating environment may also be hastened by governments directing economic stimulus packages to climate-friendly investments.

As can be seen from Fig. 7, the number of North American Rotary Rig Counts has been steadily increasing after the sharp drop during the highs of the pandemic in early 2020. This gradual but steady increase in rig count will in turn increase shale production in the longer term and potentially bring the level back to its 2020 pre-pandemic highs (~13 million bpd as seen in Fig. 8). The gradual increase in rig count can be explained by the fact that oil prices have increased tremendously from its pandemic lows in March 2020, bringing in record-high cash flows for American oil producers. In fact, the shale patch is on track for massive free cash flows of a combined USD 172 billion in 2022 alone as estimated by Deloitte.

Nevertheless, while the short to medium-term outlook for shale production looks bullish due to attractive oil prices, the shale industry is consolidating and is now taking a more conservative approach to investment due to a shift in focus towards directing a larger part of cash flows to boost shareholder returns with higher dividends, special dividends and share buybacks. The consolidation is also attributed to regulatory uncertainty of the Biden Administration, which deterred shale producers from ramping up production in fear of draconian measures by the administration to clamp down on fossil fuel production.

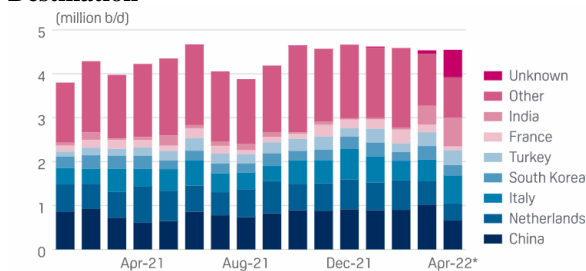
In view of the slower-than-expected ramping up of shale production and surging gasoline prices, President Biden recently announced the release of 180 million barrels of crude from the Strategic Petroleum Reserves (SPR) over 180 days. This amounts to 1 million barrels of oil released per day. It is in our view that this effort will be futile in lowering the cost of gasoline, as fundamental supply deficits are still in place and are likely to worsen in the medium term. Furthermore, this release might potentially backfire on the administration as the price of oil has edged higher since the announcement, and the U.S. might have to replenish the reserves at a higher cost in the future.

**Figure 9: U.S. Commercial Crude Inventory/ '000 bbls**



Source: EIA

**Figure 10: Russia's Seaborne Crude Exports by Destination**



Source: Kpler

All in all, the slowdown in U.S. shale production growth in the longer term will clear the way for OPEC to fill much of the supply gap as it taps into its spare capacity. The call for OPEC crude will only increase in the years to come, and this sets the stage for the producer group to recover its market share which it forfeited previously in its bid to rebalance supplies when demand plummeted in the wake of the pandemic in 2020. However, whether or not OPEC has the ability to ramp up oil supply remains in question, as they have been producing below their quota in recent months.

## Russia-Ukraine War – Paradigm Shift in Oil Landscape

The ongoing war in Ukraine has resulted in increased volatility of oil prices as efforts are being made by countries and organizations such as the U.S., the EU and G7 to curb Russian oil imports as a means to penalize Russia financially. The possibility of oil supply disruptions resulting from Russia's full-scale invasion of Ukraine and associated sanctions on Russia continue to contribute to Brent crude oil prices remaining above \$100/barrel. This uncertainty is occurring amidst low inventory levels globally, especially in the U.S. as can be seen in Fig. 9.

The planning of an oil embargo by the EU has already been in the works the past few weeks, but have yet to be finalized due to significant opposition from land-locked countries like Hungary and Slovakia, who depend on Russia for more than 60% of their oil. Although efforts have been made to source oil from other places, converting Hungary's oil refineries and pipelines to process oil from non-Russian sources would take five years and require massive investment. We foresee this would further drive up high energy prices, leading to refinery shutdowns and unemployment in Hungary. Nevertheless, Slovakia and Hungary have been offered a delay in imposing the oil embargo until the end of 2024, while the full ban would come into force for the rest of the EU by the end of this year. While Hungarian prime minister Viktor Orban has compared the plans to an "atomic bomb", we expect a consensus on an embargo to be reached by the EU in the weeks to come. While an oil embargo by the EU is certain to cause volatility in the oil markets, the spike in volatility might be muted as Russia has been exporting more crude to India in recent months (as seen in Fig. 10) in order to compensate for the loss in export to countries in the EU and the U.S.

Moving forward, the eventual impact on oil prices would depend on the finalized timeline the EU imposes for constituent countries to wean off Russian oil imports. While we wait for details on the EU oil embargo to be released, oil price risk remains skewed to the upside due to pre-existing structural supply deficits.

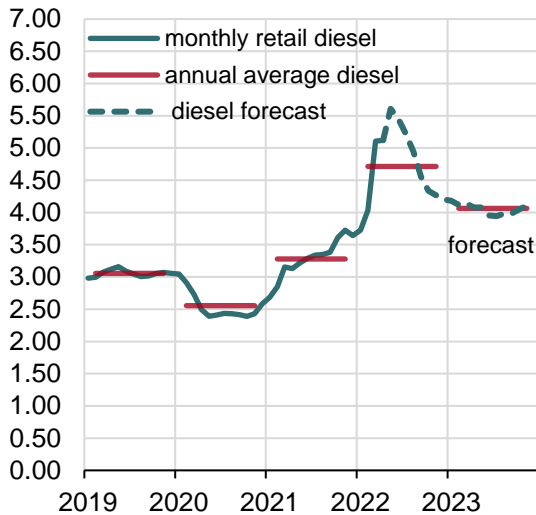
## Soaring Product Prices – Supply Chain Grievances

Ever since the Russia-Ukraine war began, diesel prices have assumed leadership of the petroleum complex. Monthly retail diesel prices in the U.S. have surpassed USD 5.00 per gallon, much higher than the annual average price of USD 3.30 per gallon in 2021 (refer to Fig. 11). Diesel is used in various industrial activities and is a core component of global supply chains, from goods transportation to manufacturing and agriculture. They have charged higher to new highs as massive shortages developed, leading to sharply higher crack spreads and record backwardation in the diesel forward curves.

In fact, the gasoline-diesel spread has shifted tremendously, with diesel commanding a significant premium since the start of the war in Ukraine. As can be seen in Fig. 12, the RBOB-ULSD spread has been negative since the start of March 2022. In response, U.S. refiners have been maximizing diesel yields relative to gasoline to capture the wide spread. However, this spread could invert in the coming months as we

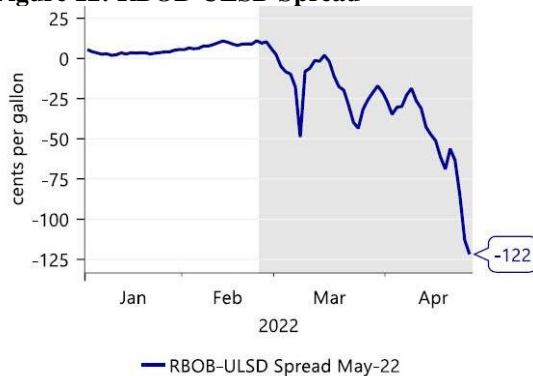
head into the summer driving season, where gasoline demand will face a seasonal increase.

**Figure 11: U.S. Diesel Prices (Dollars/Gallon)**



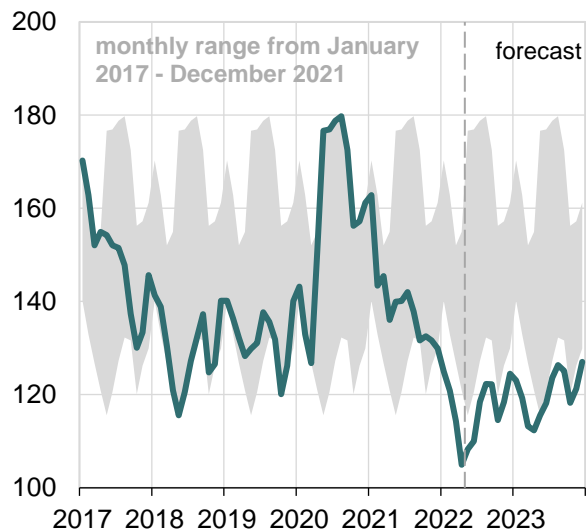
Source: EIA

**Figure 12: RBOB-ULSD Spread**



Source: Bloomberg, Rabobank

**Figure 13: Total U.S. Distillate Inventories (Million Barrels)**



Source: EIA

**Figure 14: OPEC Surplus Crude Oil Production Capacity (million bpd)**

On balance, total U.S. distillate fuel inventory remain well below the 5-year range (refer to Fig. 13), and will continue to remain so for most of 2023. This implies that diesel prices will be more vulnerable to future supply shocks and will inevitably experience larger price fluctuations. We strongly believe the volatility of diesel prices is of major concern to the Biden administration, as it has added further upward pressure on U.S. inflation figures in recent months (in addition to gasoline). Should the EU reach on a compromise on banning Russian oil product imports, it will only serve to keep gasoline and diesel prices elevated, further aggravating the rate of inflation in the U.S. This is detrimental to the economy as it would force the Fed to raise rates at a quicker pace, leading to deterioration of economic activity, household spending and ultimately, a recession.

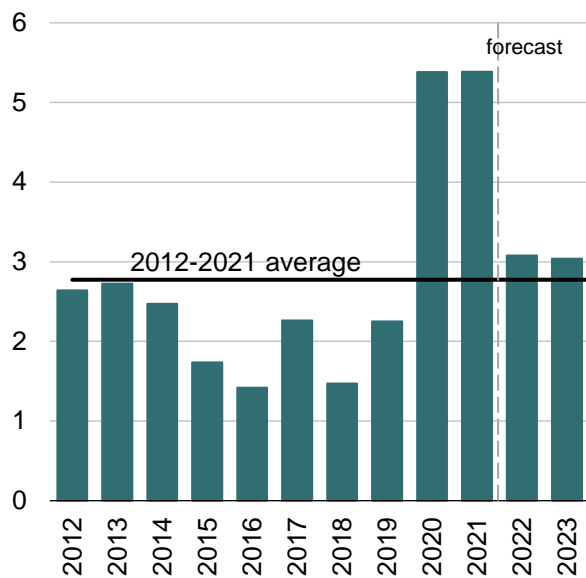
## Tussle Between OPEC and the U.S.

As oil and product prices surged the past few months due to structural supply deficits and the war, the Biden Administration has been urging OPEC to ramp up production of oil, given that they still possess extra spare capacity. However, OPEC has constantly rebuffed such calls by the U.S., ostensibly due to soured relations between Saudi Arabia and the Biden Administration. This was a result of the U.S.' lack of support for their intervention in the Yemen civil war, Biden's attempts to strike a nuclear deal with Iran, and the accusation of Prince Mohammed as a co-conspirator of the murder of a journalist. Nevertheless, OPEC's refusal to increase production could also be attributed to the fact that they actually lack the capacity. In April 2022, the ten OPEC members bound by the production agreement saw their collective production at 24.464 million bpd, 0.851 million bpd below their collective quota of 25.315 million bpd. The gap of 0.851 million bpd was mainly due to severe underperformance from African members Angola and Nigeria, which have been pumping 0.3-0.4 million bpd below quota each, for months, due to a lack of investment and political uncertainty. As such, we postulate that even if Saudi Arabia improves relations with the Biden Administration, it will not directly correlate with increased chances of OPEC ramping up oil supply.

Recently, it was revealed that Saudi Arabia, the de-facto leader of OPEC, was in active talks with Beijing to price some of its oil sales to China in Yuan. This move would potentially dent the USD's dominance of the global petroleum markets and hence threaten its status as a global reserve currency. The talks with China over Yuan-priced oil have been ongoing for the past six years, but have accelerated this year as the Saudis have grown increasingly unhappy with the new U.S. Administration. Currently, China buys more than 25% of the 6.2 million bpd of oil that Saudi Arabia exports. If entirely priced in Yuan, those sales would boost the standing of China's currency and threaten USD hegemony.

In one of the surest sign yet that Washington has finally run out of patience with Saudi Arabia and the OPEC, the No Oil Producing or Exporting Cartels (NOPEC) bill was passed by a U.S. Senate committee last week. The NOPEC bill has a broad mandate which allows it to declare it illegal to artificially cap oil production or to set oil prices. This is in direct opposition to the main mandate of OPEC, which is to "co-ordinate and unify the petroleum policies" of all of its member states – effectively fixing oil prices. Moving forward, should the bill be passed into law, this would threaten the legitimacy of OPEC, potentially causing a paradigm shift in the global oil landscape. We should hence remain cautious and position ourselves for retaliatory action from OPEC, which could boost oil prices in the short run.

## Overall Outlook on Oil Prices – Cautious Optimism



Source: EIA

The analysis on the oil markets has revealed that increasing oil demand is being met with decreasing oil supply. This is all occurring against a backdrop of increased volatility in the short run, where global events such as the Russian-Ukraine war and the resurgence of Covid-19 in China are dominating market narratives. In the longer run, we posit oil prices to remain on the upside as we expect improvements to the key fundamental drivers of oil demand. As the world returns to the pre-pandemic era, international and intranational mobility will increase, driving up demand for oil. Likewise, as aforementioned, supply is not playing catchup with demand, as major producers such as OPEC and shale companies are refraining from ramping up production. There remains to be seen how the world will strike a balance between the needs of a higher oil demand and significantly reduced supply.

**Figure 15: July-December 2022 WTI Crude Oil Time-Spread**

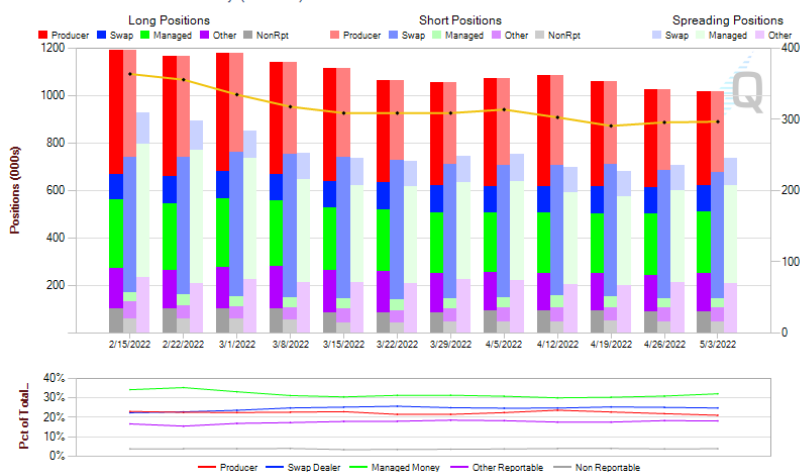


Source: TradingView

**Figure 16: WTI Crude Oil Futures Commitment of Traders**

### Summary

WTI Crude Oil COT Summary (Futures)



Source: CFTC

## Trade Idea: Long July-December 2022 Time Spreads

Over the past few weeks, we have seen oil prices remain volatile and skewed towards the upside as market players are still uncertain about the confluence of shorter-term demand-supply factors. On the demand side, the upcoming summer driving season is coming into vogue, as it serves to drive up demand for gasoline and indirectly demand for crude. On the supply side, market players are still anxiously waiting for Hungary and Slovakia's approval to join hands with the rest of the EU members to impose an oil embargo on Russia. Furthermore, fears of OPEC retaliation towards NOPEC might drive up oil prices in the short-term. However, potential stricter lockdowns in China continue to pose a key risk to the upwards pressure on oil prices. Just days ago, officials tightened pandemic restrictions in Shanghai and expanded a mass testing drive in Beijing in their fight towards achieving Covid-zero, damping down China's demand for crude.

In the longer-term (i.e. the next 6 months), we expect oil prices to stabilize with price risk skewed towards the downside. We attribute this primarily to the Fed projecting rate hikes each FOMC till the end of 2022, which has the effect of curbing demand for oil as economic activity will be curtailed. In addition, the gradual increments in U.S. oil rig counts in the previous months (refer to Fig. 7) would have brought online a considerable volume of oil production by then, further boosting overall global oil supply and exerting downwards pressure on oil prices. Lastly, the effects of EU oil embargo on Russia would have been mitigated within a few months as countries gradually succeed in sourcing their oil from other countries. The key upside risk to note is the potential for China to veer away from their Covid-zero policy, which will boost their economic activity and hence drive demand for crude.

To express this view of higher oil prices in the short-term and lower oil prices in the long-term, we recommend a time-spread trade on WTI Crude Oil futures, by longing the July 2022 contract and shorting the December 2022 contract, entering the pair position when the time-spread moves down to 9.70. The Stochastic RSI reflected an intersection between the %K and %D a few days ago, indicating a huge shift in momentum and potential for a complete reversal of the previous downtrend in the time-spread, which is in our favor. We will take profit at 14.00 and set our stop-loss at 7.95, giving us a comfortable risk-reward ratio of 2.46.

A key fundamental risk to this time-spread trade would be the systematic unwinding of net long positions by oil producers and managed money funds (refer to Fig. 16) should oil prices crash. This would cause the flattening of the current backwardation curve, and potentially invert it into a contango.

**Entry: 9.70**

**Take Profit: 14.00**

**Stop Loss: 7.95**

**Risk Reward Ratio: 2.4**

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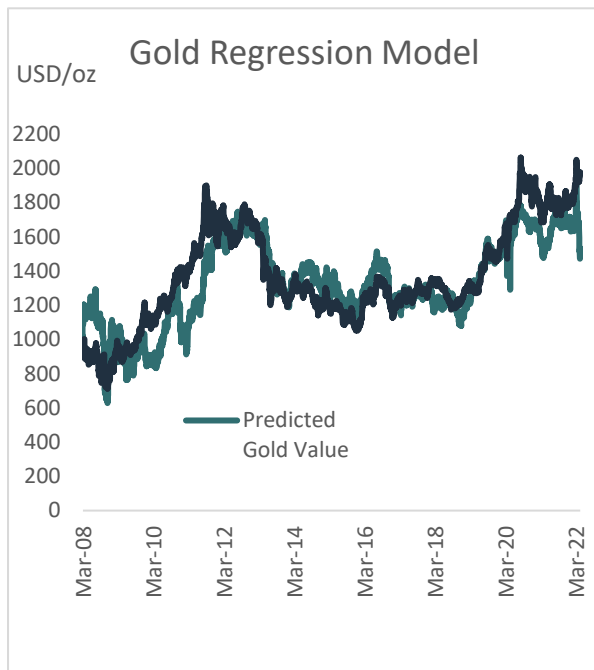
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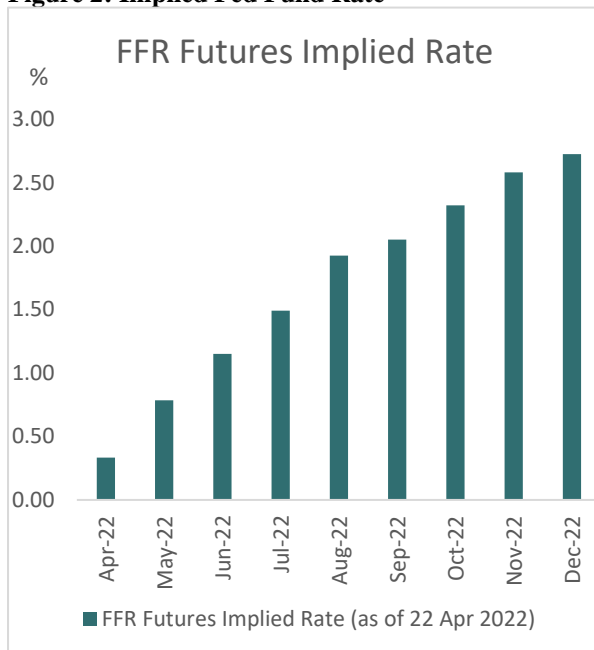


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**Chart info**
**Figure 1: Gold Regression Model**


Source: Bloomberg

**Figure 2: Implied Fed Fund Rate**


Source: Bloomberg

**Gold: Supported by Geopolitics and Inflation**

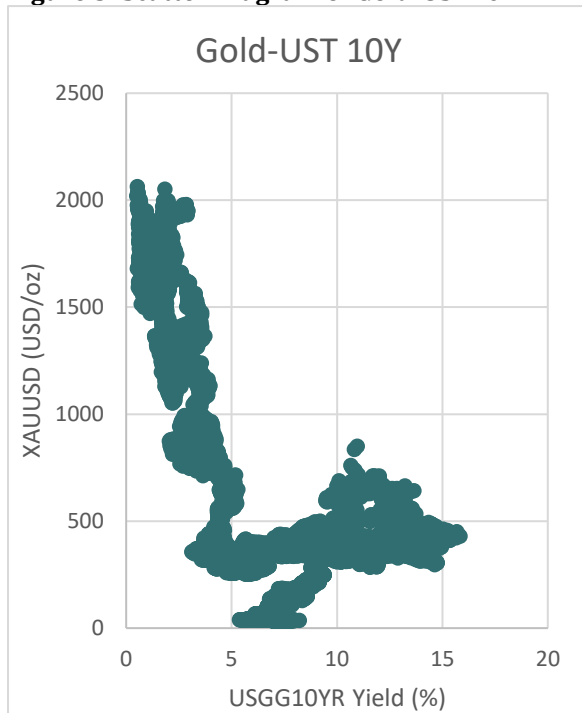
- Q1 2022 has been a tough year for asset managers. The S&P 500 Index has corrected more than 15% from its peak in Jan 2022 but it has also rallied more than 10% off its lows in Mar 2022. Although the reason for the slump can be largely attributed to geopolitical concerns and risk-off sentiments, we could all agree that 2022 is a very volatile year for asset prices compared to the previous 2 years. Despite the volatile environment, gold has outperformed against its equities and fixed income peers as gold has benefitted from the current narrative – geopolitics and decade high inflation.
- Year to date, gold prices increased by 13.89%, an enviable performance by any standard. Although gold prices have retraced from the high of USD2045/oz, after the markets eased concerns on the geopolitical front, we have continued to see strong price action despite very hawkish rhetoric coming from the Fed and major central banks across the world. While major economies are experiencing decade high inflation, with the US March CPI YoY coming in at 8.5%, this backdrop have supported gold prices despite market pricing in more than 8 rate hikes by the Fed.

**Summary of events in the past 6 months**

- Gold started the year on a strong footing, and gold prices traded near all-time highs, fuelled by a concoction of decade high inflation and safe haven flows amid the Russia-Ukraine war. Prices have since came down as geopolitics concerns have eased, but prices remain supported as the inflationary pressures have brought inflows into gold.
- As geopolitics concerns ease, the main narrative driving gold's performance falls back to inflationary pressures and central bank dynamics. The markets have increasingly priced in a more rate hikes by the Fed, yet gold prices seem to be unfazed by the hawkish rhetoric. This could be seen as a change in investor's sentiments. Historically, gold tend to underperform in rising rates environment, but current narrative suggest that yields and gold are moving in the same direction – suggesting that investors prefer to hedge inflationary risk in a rising rate environment.
- We believe that gold prices will continue to stay supported as the market has moved ahead of the curve. It is in our opinion that market has already priced in the impact of future rate hikes, and the downside risk is limited. The Fed Fund futures have currently priced in 7.5 hikes (not including the Mar 25bp hike). And as supported by the tightening 2s10s and 5s30s spread, the treasury market is reflecting a future slowdown in the economy as an inverted yield curve have also historically predicted a recession. On top of rate hikes, the Fed has also projected to shrink its balance

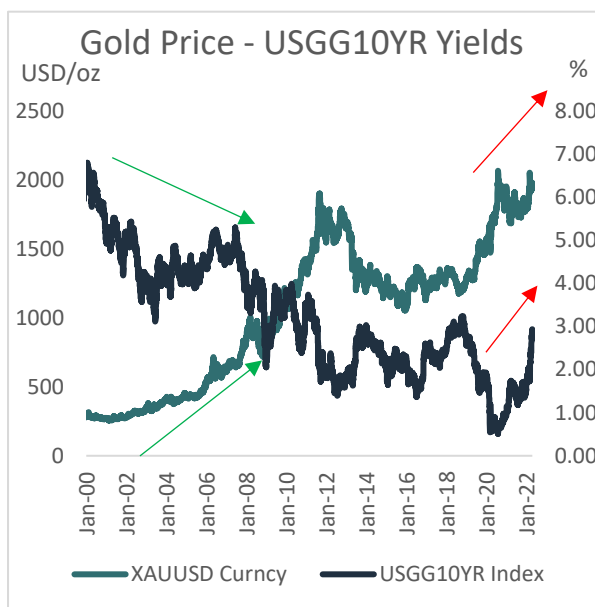
sheet at a pace of roughly \$90bn a month. We prefer to remain conservative and opine that the market is currently overly optimistic on Fed's tightening capability and pricing itself ahead of the curve. If the Fed fails to enforce 7 more rate hikes in 2022, or induce a recession, our target for gold would be \$2000/oz.

**Figure 3: Scatter Diagram of Gold-UST10Y**



Source: Bloomberg

**Figure 4: Gold-USGG10YR**



Source: Bloomberg

## Defying higher yields and rate hike expectation

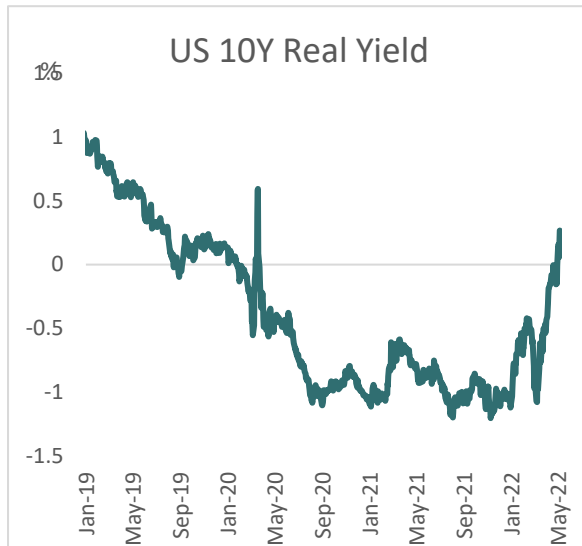
As gold is not an interest-bearing instrument, gold has a negative correlation with interest rate. If history is any guide, we tend to see a non-linear negative correlation between gold price and UST 10-year yields. Interesting to note is that as nominal yields increase from 0 to 5%, we can observe a very linear negation correlation. As mentioned, as gold does not pay dividends, unlike bonds, gold tends to underperform when yields are rising.

However, as yields increase beyond 5%, we see a reversal of the trend. Possibly since if treasury yields must rise above 5%, it would mean that inflation have gotten severe, and rates were raised to fight inflation. In fact, as rates rose above 10%, we could observe that gold prices went up together with yields. This could be explained by gold's inflation hedging characteristics, as gold tends to overperform over periods of rapid inflation.

Likewise, gold prices have been following such a trend right now although 10-year yields are only trading within the 2.80% region. Gold seems to defy current hawkish rhetoric and the impending rate hikes. As inflation approaches 40-year highs, there appears to be strong support for gold, as gold stay strongly supported above \$1900/oz throughout the whole of 2022.

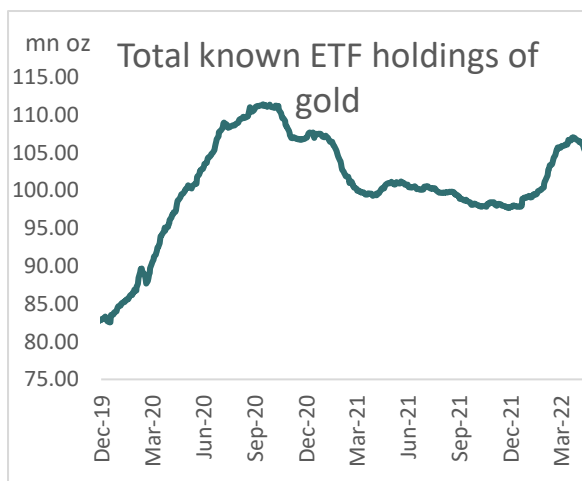
As we believe that the market has been overly optimistic with Fed's ability to raise rates above the neutral rate of around 2.5%, coupled with the trend of gold rallying together with rising yields, our opinion is that there is more upside potential to gold prices.

**Figure 5: US 10Y Real Yield**



Source: Bloomberg

**Figure 6: Total known ETF holdings of gold**



Source: Bloomberg

## Rapid rise in real yield proves to be bearish for gold

The 10-year TIPS yield, or real yield, have went negative in early 2020 during the onset of the pandemic, which saw the use of extraordinary loose monetary policy. Rates were kept low in order to support the weak economy and demand. As negative real yield is seen as a sign of extremely easy financial conditions since the expected inflation would be more than enough to cover the interest on borrowing. Negative real yields were the key narrative supporting the gold price during its bull run in 2020. Currently, this narrative has fizzled out as we have observed a strong surge in real yield in 2022, as the Fed has spoken out against decade high inflation and committed to using whatever tools available to curb the rate of inflation. This has brought about a surge in nominal yields, and real yields rallied together.

That said, we believe that the market has been pricing ahead of Fed's tightening and there is much room for downside surprise in the Fed tightening cycle. We have just experienced the first 50bp hike since May 2000 and thus far, we have observed periods of extreme volatile trading in the bond and equity market. We do believe that it will be difficult for real yields to have a sustainable run due to 2 factors. Firstly, higher real yield means higher nominal yield, the Fed has already been very clear in its forward guidance and market has already been way ahead in anticipation of any tightening. Hence, for nominal yields to go higher, it would require Fed to surprise the market with even more hawkish rhetoric. Secondly, higher real yield means rate of inflation has to come down, all things being equal. With this episode of inflation largely driven by supply side disruptions and high energy costs, central banks have limited purview on the root cause of the inflation problem. Also, with the rate still largely below the perceived neutral rate of between 2% to 3%, it is unlikely that the tightening will have any significant impact on bringing down inflation, especially with continued supply chain disruptions mounting from China and soaring energy costs due to the war in Ukraine.

Thus, we believe that positive real yields would only provide a short-term bearish environment for gold, and we still look towards buying on dips.

## Total known ETF holding in gold at previous peak

Following the previous peak in gold, which happened in Aug 2020, we have seen a resurgence of investor's interest into gold backed ETFs. Gold backed ETFs provide investors with exposure in gold, and it can be purchased in small quantities, with minimal spreads as compared with buying physical gold in small amounts. It could be seen as a proxy for retail investor's interest in gold. Even with global central banks reducing their pandemic-era stimulus, and starting their rate hike cycle, investor's enthusiasm for bullion has not been derailed. This is largely due to decade high inflation, geopolitics, and a fear for a policy-induced recession.

We continue to view this as a structural bullish indicator, that despite the environment turning bearish for gold, we continue to see inflows into gold backed ETFs.

Figure 7: XAUUSD Daily Chart



Source: TradingView

## Trade Idea: Long Spot Gold

We do note that during March 2022, the run-up in gold was largely attributed to geopolitical concerns, as investors fled to safe havens like gold and US Treasuries and inflation expectations took a back seat. However, gold prices have come down from a high of \$2050/oz and traded within the range of \$2000/oz to \$1900/oz, mainly supported by decade-high inflation print. After a period of trading within the ranges, gold retraced lower and trade within the range of \$1900/oz to \$1800/oz. Gold's underperformance is due to the surge in real yields, as well as central bank's commitment to curb inflation.

Moving forward, we believe that geopolitical concerns would not play a substantial role in influencing gold price, unless there is further escalation in the forms of nuclear threats or complete oil/gas embargo.

That said, we shift our focus back to central bank dynamics, rate hikes, inflation and growth expectations. It is in our view that if rates were to be raised to neutral rate in 2022, it would not be enough to bring inflation down as the onset of inflation is not demand driven. It is largely due to very sticky global chain disruptions, as well as continued lockdowns in China. For rate hikes to effectively bring down inflation, it would have to be raised quickly above the neutral rate, and that together with the implementation of QT would likely induce a policy error.

In our opinion, we see limited downside in gold for H2 2022, although we do acknowledge that prices will dip during the as the rhetoric turn more hawkish.. However, on a mid-term horizon, we recognize the huge upside potential in gold, and we prefer to enter at \$1800/oz, which we believe is the bottom. For gold to move any lower, it would require further hawkish surprise, which we believe is not what we expect as the market has already been very much ahead of central bank tightening. We believe gold will eventually return to \$2000/oz and our target take profit level for gold is \$2000/oz. Our stop loss would be at \$1715/oz, breaching it would mean that our thesis was wrong, and the economy was indeed strong enough to handle a much tighter monetary policy.

**Entry: 1800**

**Take Profit: 2000**

**Stop Loss: 1715**

**Risk Reward Ratio: 2.11**

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**Analyst**

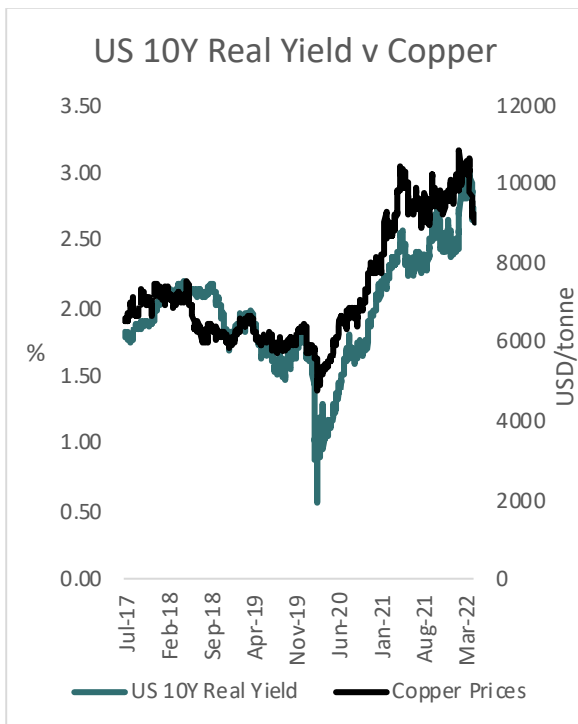
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**Chart info**

**Figure 1: US 10Y Real Yield v Copper Prices**



Source: Bloomberg

**Copper: Inflation v Growth**

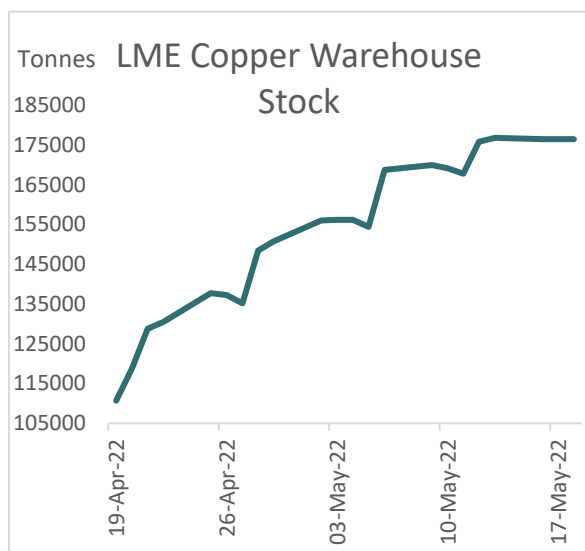
- In late 2021, the resurgence of demand and the economic recovery from the Covid-19 pandemic triggered huge bull runs in metal prices. However, the underlying fundamentals were mainly due to a collapse in metals supply, while demand surged from the reopening of economies. Towards Q3 and Q4 of 2021, there were signs of runaway inflation but it did not appear to have dented growth outlook. Many research houses were touting this bull run as the next commodity super cycle, and there seem to be no end in sight for this optimism.
- Fast forward to H1 of 2022, the bull run has fizzled out and most major economies are bracing for a very much tighter monetary policy. Inflation have risen to an out of control 8% handle, and major central banks are way behind the curve. The commodity super cycle theme has died down and many are worrying that concerns on the growth front will put an end to the increase in cyclical commodity prices.
- Copper's broad use in industry and many different sectors of the economy, ranging from infrastructure to housing and consumer electronics, makes it a good early indicator of economic activity. When copper prices rise, economic activity soon often follows. When copper prices fall, the economy often then stagnates.

**Summary of events in the past 6 months**

- Copper came down from an all-time high of over \$10,000/tonne as investors weighed the prospects of a slowing economic growth and tightening of accommodative monetary policies. The March 2022 peak also coincided with the Russia-Ukraine conflict, which heightened volatility as producers worry that physical flows will be materially impacted. There was a spectacular squeeze on Nickel prices due to the inability to physically deliver, as the Russia-Ukraine region is a major Nickel producer. Hence, there were trickle down effects on other metal prices and copper prices saw its peak then.
- As geopolitics died down, global economic growth outlook does not seem optimistic. 3 major economies, namely US, EU and China have slowed down considerably. US and EU are dealing with decade high inflation, and their central banks are rushing to tighten monetary policy in an effort to keep inflation in check. In China, the resurgence of Covid-19 and a Covid-19 zero stance meant that economic activities would have to take a back seat. The economic slowdown has already been reflected in GDP growth downgrades as well as April data prints.
- Slowing demand has also seen LME copper inventory levels recover from decades low. Currently at 176,875 tonnes in end of



**Figure 2: 30 Day LME Copper Warehouse Stocks Level**



Source: Bloomberg

May 2022, it is at its highest levels since October 2021, amid inflows into the warehouses in Europe and Asia.

- As of mid-May 2022, copper plunged below \$9,000/tonne, a first since October 2021, amid mounting worries on weak global demand. This is more than 15% off the peak, firmly putting copper into correction territory. Until the global economy appears strong enough to withstand the incoming rate hikes, or inflation coming down to the 2% target, copper prices would remain heavy.

**Figure 3: China GDP Annual Growth Rate**



Source: Bloomberg

## Commitment to stimulus: China Infrastructure stimulus playbook

China's ambitious growth target of 5.5% seem tough to achieve as the economy have been plagued by a deepening property sector slump as well as disruptions from virus outbreaks. However, the loss of momentum fuelled speculation for more monetary and fiscal stimulus. Thus far, on the monetary policy front, PBoC has cut the RRR by 25bp, releasing 530bn yuan in long term liquidity to cushion the slowdown in growth. Other supportive measures include a 10bp cut in 1Y LPR earlier in the year, and two cuts in 5Y LPR in 2022. However, at a time where there is growing divergence between the West and China's monetary policies, there is limited room for PBoC to act, as policy makers are concern about currency depreciation and capital outflows.

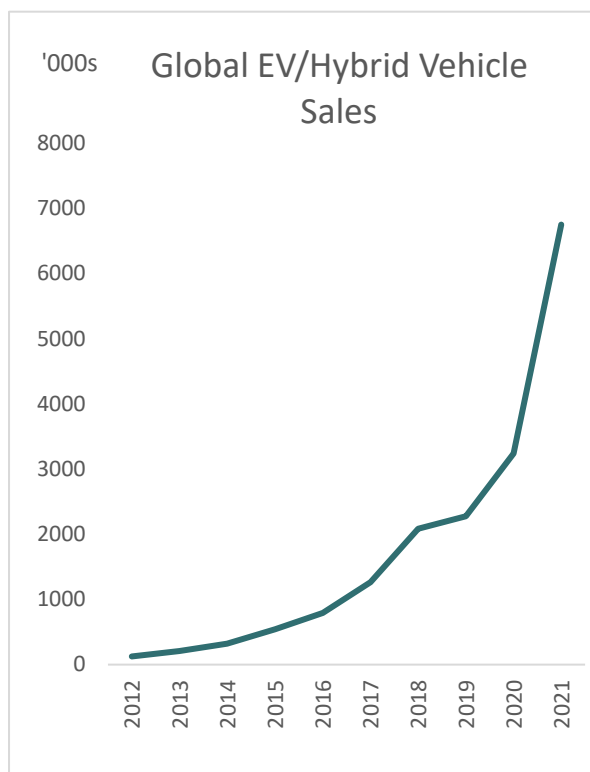
The next strategy on the playbook would be to support the economy via fiscal spending. China is well known to boost its infrastructure spending, and that is what they will likely fall back on in order to prop up the economy. The government is also focusing more on its property market, and we have seen the PBoC cut the lower bound of mortgage rate to 4.4% from 4.6%. However, given how there is an ongoing campaign to curb speculation against property prices, these measures would at best support the market, and is unlikely to tilt the market into overdrive.

That said, we think that China acting alone with their infrastructure stimulus support would unlikely be enough to overturn any pessimism stemming from the larger global economy. We expect inflation to continue on an upward trajectory, especially with no signs of easing on energy cost and China's economic output continues to be hampered by its Covid-19 resurgence. As such, our base case is slowing global economic growth in H2 2022 but not to the point of a recession. Copper prices should continue to remain heavy, but fiscal spending from China's infrastructure stimulus could ease the decline in copper prices.

## ESG the name of the game in future

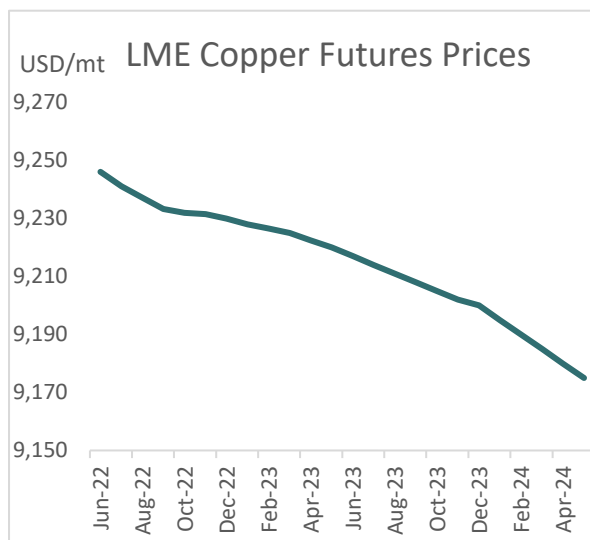
Copper production is set to play a large role in the global transition to renewable energy over the next decade as governments ramp up production of solar and wind technology and electric vehicles to meet climate goals. Because copper is a highly efficient conductor of electricity and heat, it is used largely in renewable energy systems to

**Figure 4: Global Sales Volume of EV/Hybrid Vehicles**



Source: Bloomberg

**Figure 5: LME Copper Futures Backwardation**



Source: Bloomberg

generate power from solar, hydro, thermal and wind energy across the world.

ESG has been the main narrative fuelling the long-term bullish trend for copper. Fully electric-vehicles (EVs) use more than 10 times the amount of copper required by a conventional internal combustion engine (ICE) car. Demand from renewable power generation, battery storage, electric vehicles, charging stations and related grid infrastructure accounts for about a fifth of copper consumption. With governments aiming for aggressive net zero emission targets in the coming decades, the transition to sustainable energy sources will inevitably drive up the demand of copper.

However, in the short to mid-term, high input cost of raw materials may set back the progression of decarbonization. Copper has roughly doubled from the lows seen a year ago and had breached all-time highs twice in 2021 and 2022. While elevated prices mean companies have an incentive to ramp up investment in mining, which would help supplies, the downside is the length of time it takes to get projects up and running. In the meantime, demand is expected to outgrow supply in the years ahead, and copper is set up nicely for a long bull run.

### Backwardation: Incentivising drawing down of supplies

Given the fundamental environment and the depletion of inventories in 2021, the copper futures are still trading in backwardation, although less steeply. Inventories are slowing restocking, as inventory levels hit the highest level last seen October 2021. However, the market does not appear to be particularly optimistic. If economic recovery can manage to sustain, demand for copper will be boosted by its vital role in a number of rapidly growing industrial sectors, such as electric vehicle batteries, semiconductor wiring and as a raw material in infrastructure building. However, if the economy recovery is derailed, we expect copper to continue retracing lower, given its cyclical nature. That said, we continue to be optimistic on copper in the longer term horizon.

### Copper's Forecasted Supply Surplus

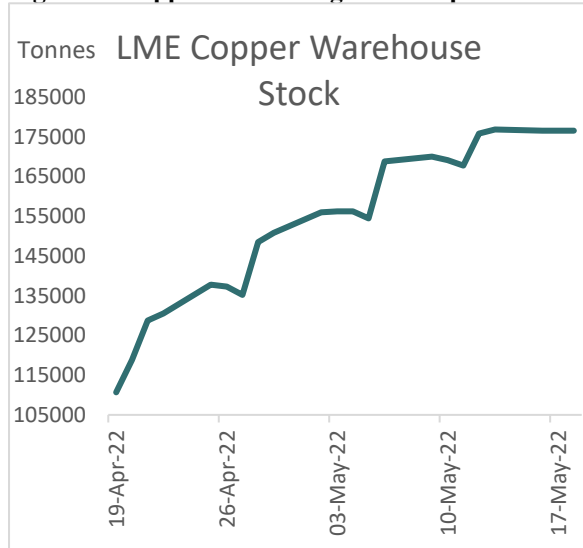
Following the supply crunch in 2021, which saw copper prices trading at elevated levels, the global refined copper market is expected to be in slight surplus in 2022. According to the International Copper Study Group (ICSG), the refined copper market saw a deficit of 42,000 mt in 2021, and supply is forecasted to exceed demand by 328,000 mt in 2022.

The 2022 surplus is based on the assumption of a slower increase in demand, while mine output rise more significantly due to the commissioning of several new projects and expansion of existing mines.

Aside from primary copper production, an increase in the recycling of scrap copper, also likely contribute to copper's surplus. The supply chain was not as disrupted as during the height of the pandemic, and operations have resumed to normality following the periods of easing of lockdown restrictions in China. However, April and May data print may suggest a reversal of such improvements, and secondary copper production may fall back.

However, on a net basis, demand would have risen less rapidly than supply as global growth in the latter part of this year is a sharp contrast to 2021, when the economy was rebounding from its pandemic slump and policy makers were still leaving their loose monetary policies untouched. That early performance is losing steam fast and what we have for 2022 is a slowing economy.

**Figure 6: Copper's Widening Future Spread**



Source: Bloomberg

As of 10 May 2022, money managers are net short in open positions (64,194 short v. 45,247 long), according to data from the Commitment of Traders (COT). Recent shifts in money manager positioning have reflected in the weak copper price action, as traders pull back from going long, amid growing concerns of economic weakness. We are bearish on copper prices in the near term, while remaining bullish on copper on the longer term as we believe that the green initiatives will result in a persistent supply deficit for years to come.

**Figure 7: Copper Futures Daily Chart**



Source: TradingView

## Trade Idea: Short Copper

### Narrative

Prices of copper have retraced more than 15% since its peak in March 2022, putting it firmly into the bearish camp. Decade high inflation, as well as the tightening of monetary policy also applied brakes on global growth sentiments. As central bankers commit to price stability, promising to 'do whatever it takes' to get inflation within their target, we expect economic growth to slow in 2022 as monetary policy gets restrictive. Given how copper is a cyclical commodity, and how its widely used in multiple industries, copper has been a good leading indicator of economic strength. As such, as copper prices retraced by 15%, we also expect global economy to slow down in H2 2022. For our base case, we do expect to see copper prices continue in its downward trajectory.

Looking at the technical chart, the next resistance is at 4.0545/4.0020, while the next support is at 4.2585. We look to go short at 4.1500, and given how we believe that the economy will slow in H2 2022, we think that copper prices will follow the global sentiments lower. Take profit levels is at 3.5500, which is the rangebound level before the commodity super cycle theme took over. Stop loss will be at 4.7800, as breach of that level would mean that the underlying fundamentals for copper is supportive as prices would be near all-time highs.

**Entry: 4.1500**

**Take Profit: 3.5500**

**Stop Loss: 4.7800**

**Risk Reward Ratio: 1.05**

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## Chart info

**Figure 1: Henry Hub Gas Futures - Front Month**



Source: TradingView

**Figure 2: Dutch TTF Gas Futures - Front Month**



Source: TradingView

**Figure 3: JKM Gas Futures - Front Month**



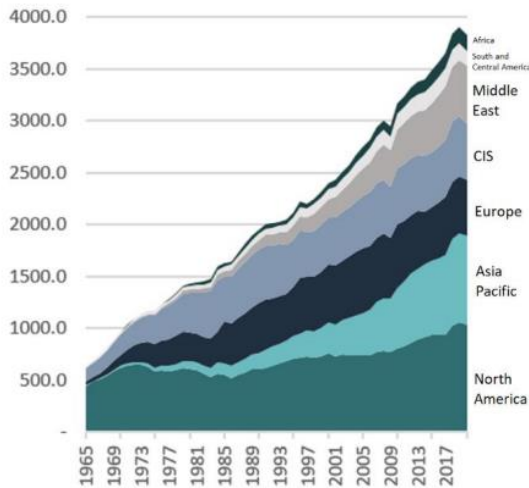
Source: TradingView

## Overview of Sector

- Natural gas is one of the three most significant fossil fuels used for the production of energy along with oil and gas. Due to it being the cleanest source of energy out of the 3 main fossil fuels, OECD and developed economies have generally made efforts to use it over oil and coal. It is viewed as a “transition fuel” to help bridge the transition away from fossil fuels to cleaner and renewable energy.
- The most significant consumers of natural gas today are the U.S., Russia, China and Iran, which make up more than 55% of the world’s share. The most significant producers are the U.S., Russia, Iran and Qatar.
- Natural gas can be subdivided into types based on their number of carbon chains. Methane gas (C1) is the main type of natural gas being burnt for energy due to higher energy released per unit mass burnt and will be the type of gas analysed in this report. It is also used for production of fertilisers. Methane is known as liquified natural gas (LNG) when liquified, and gaseous methane needs to be converted to LNG to transport across sea. If transported via land, pipelines can be used to transport the methane gas easily without the need for conversion. Natural gas with a higher number of carbon chains are called natural gas liquids (NGLs), and are used in production of chemicals like plastics, aerosols and refrigerants.
- The most important gas benchmarks are the Henry Hub benchmark for the U.S., Dutch Transfer Title Facility (TTF) benchmark for Europe, and the Japan-Korea Marker (JKM) benchmark for Asia. The three major markets are largely independent with different demand and supply factors affecting them separately. They are interconnected in the sense where arbitrage can be possible between lower and higher-priced markets after taking into account all costs like shipping or differences in specifications of contracts.
- Geopolitics has always been a major influence in energy markets like natural gas with relations between countries affecting trade and transport of fossil fuels. Tensions between Russia and western countries, especially Europe, have always led to some volatility in natural gas markets. With Russia invading Ukraine this year and the war highly likely to become a sustained war of attrition, geopolitics will play an oversized role in deciding the trajectory of natural gas markets over the mid-term until a new equilibrium is reached with western countries



**Figure 4: Gas Consumption by Continents over Time**



Source: Our World in Data, BP Statistical Review of World Energy 2021

## Summary of events in the past 6 months

- The Ukraine war is definitely the single most significant event influencing energy markets right now. The unprovoked Russian invasion has regrettably led to widespread suffering, death and destruction. Countries around the world, especially western ones, have rushed to place sanctions on Russian exports, and commodities markets like natural gas have been upended by the developments of the war.
- Europe is the region suffering the most heavily from the war, given their high reliance on Russia for 40% of their natural gas demands. The benchmark Dutch TTF gas markets are at extremely high levels right now, with expectations of decreasing reliance on Russian gas and increasing disruptions and gas cut-offs resulting from the war.
- Within the U.S., high demands globally for their natural gas exports because of shortages from sanctions on Russian energy, as well as increased demand for cooling amid hot weather has led to heavy price pressures on the benchmark Henry Hub gas markets. Capacity to convert gaseous methane to LNG for export across sea is limited in the U.S. which adds additional price pressures on U.S. natural gas with importers bidding up prices to obtain the limited natural gas exports.
- Demand for energy and natural gas in Asia has remained muted. China, by far the most significant consumer of natural gas in Asia, is facing the biggest Covid-19 wave since the pandemic began and has repeatedly expressed support to stick to its zero-Covid Strategy (ZCS) to fight the highly infectious Omicron wave despite extremely high difficulties in doing so, resulting in greatly decreased economic activity. Many Asian countries have also been more willing to fall back on the cheap, reliable and readily available coal to substitute expensive natural gas despite coal being highly pollutive.
- Supply shortages of natural gas in Asia is alleviated by willingness of China and India to scoop up discounted Russian gas which is shunned by many other countries due to ethical concerns. Along with the muted demand for natural gas in Asia, price pressures are not as high for the benchmark JKM gas markets, as compared to U.S. and European markets.
- Overall, as of energy and commodities markets all around the world, natural gas markets are likely to continue to face very high prices in the short to medium term, though Asian markets might face weaker price pressures compared to others.

**Figure 5: Map of Russian Offensive on Ukraine as of 19 May 2022**



Source: BBC, Institute for the Study of War

## War of Attrition Expected in Ukraine

Following the previous update on natural gas, the single most significant event which is roiling natural gas markets, leading to record high prices and volatility is definitely the Ukraine War and the daily developments around it which will affect the level of sanctions which nations place on Russia.

### No easy way out of the war

Natural gas markets, especially European ones, will almost certainly face prolonged periods of volatility and unpredictability and will be very heavily dependent on developments of the war. Our base case is that the war will be turning into a war of attrition, seeing how Russia and Ukraine have been nowhere close to reaching a peace deal despite many rounds of negotiations, and how Ukraine has been holding up well against the ill-prepared and poorly equipped Russian forces with low morale with financial aid and military equipment from western countries. Russian President Vladimir Putin has expressed his determination to continue on with its “special military operation” until Russia’s objectives, widely believed to be an installation of a pro-Russian government, are fully met. Previous Russian demands of recognising independence of the separatist regions of Donetsk and Luhansk as well as ceding of Crimea to Russia in exchange for a ceasefire have been rejected by Ukraine. On the other hand, Ukraine has vowed it will not surrender any land to Russia in exchange for peace. With a prolonged war of attrition being our base case, natural gas markets are expected to remain tight for months and even years to come as western countries start to reduce reliance on Russian gas. This underlying expectation will be guiding our forecasts for the different major gas markets around the world in the next few segments.

**Figure 6: Map of NATO Member Countries and their Proximity to Russia**

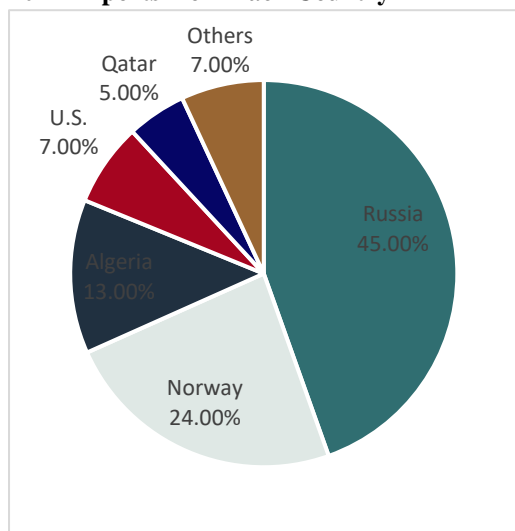


Source: Al Jazeera, NATO

### Possibility of escalation?

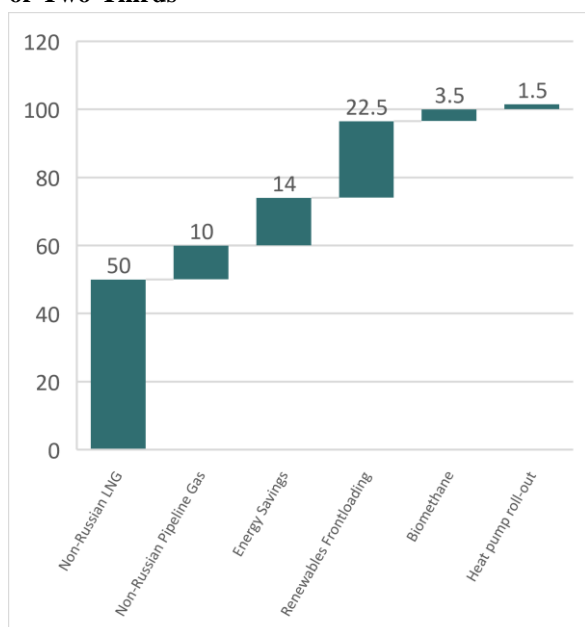
While de-escalation is unlikely given how a compromise is far from being reached, we factor in some possibilities of escalations in the form of tactical nuclear and chemical weapons usage, increase in war crimes and brutality, or enlargement of the scale of war. Recent events which indicate likely elevated risks of escalation include frequent nuclear threats by the Russians, multiple evidence of war crimes committed by the Russians emerging, as well as Sweden and Finland’s application to join the North Atlantic Treaty Organisation (NATO). With an escalation in the situation, greatly increased tightness in gas markets would be expected with western countries imposing more sanctions to punish Russia for their actions.

**Figure 7: Percentage Share of EU's Natural Gas 2021 Imports from Each Country**



Source: Eurostat

**Figure 8: Breakdown of How Europe Plans to Reduce Dependency on Russian Gas by 101.5bcm, or Two-Thirds**



Source: Fitch Ratings, European Commission

**Figure 9: Map Showing Natural Gas Pipelines in Ukraine (Sokhranivka is in the Donbas Region)**



Source: The Oxford Institute for Energy Studies

## Europe to Suffer Most Heavily

### Plans for decoupling from Russian natural gas to go through

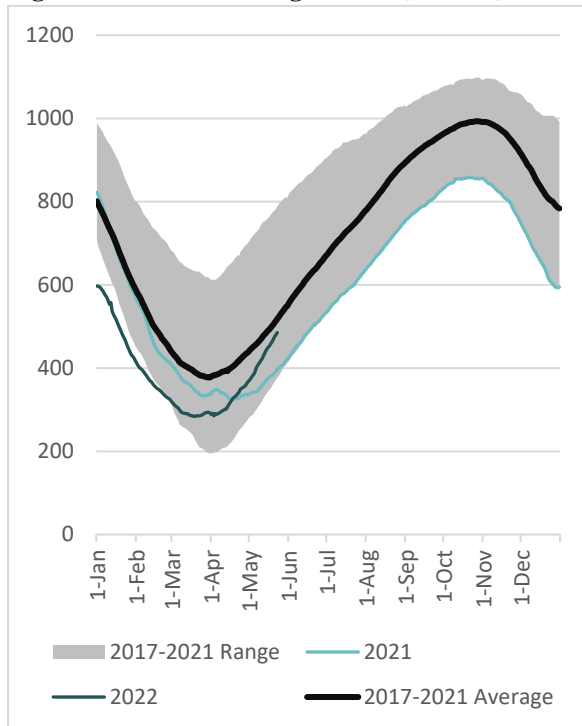
The reaction from western countries and their allies have so far been swifter and more decisive than usual, but as many have expected Russian gas has been a point of contention for European Union (EU) countries. While coal is already banned and oil about to be banned, the EU is far too reliant on Russia for natural gas to be placing significant sanctions on it immediately, with 40% of their natural gas coming from Russia. Of course, this will likely all change with time with the EU searching for ways to decouple itself entirely from Russia, making plans to reduce reliance by two-thirds by the end of 2022. The EU has recently given guidance for companies to meet Putin's demands to pay for Russian gas in roubles with designated Russian bank accounts without breaching current sanctions on Russia in an apparent softening of its stance towards Russia, but this is not entirely unexpected given the difficulty of weaning off Russian gas as previously mentioned.

For now, we believe that it is still likely for Europe to follow through with its current ambitious plans to reduce reliance on Russian gas by two-thirds, with a possibility of accelerating as well either voluntarily or involuntarily. There is evidence to suggest that the EU has the ability to follow through with this plan: the European Commission (EC) has provided a breakdown of how it plans to replace approximately 100bcm of Russian gas through other avenues like LNG imports, non-Russian pipeline gas and domestic energy savings (Fig. 8). With reference to data from the EC, LNG import capacity is around 157bcm per year, with only 80bcm used in 2021 and hence LNG imports can indeed be greatly increased by the proposed 50bcm to significantly substitute Russian gas. Increased pipeline gas from suppliers like Algeria and Norway, domestic energy savings with a 6% decrease in gas consumption projected by the International Energy Agency (IEA), as well as growing renewables capacity from increased green investments can help to substitute the rest of the 100bcm of Russian gas. However, supply is already tight in these alternative exporting countries and prices need to be bid higher for Europe to divert the natural gas away from other destinations. This means price pressures will continue or even build up in order to compete with Asia to import sufficient volumes of LNG, as well as to entice pipeline suppliers to increase supply to the EU.

### Increasing disruptions and unreliability expected

In addition, there have been multiple developments showing supply to Europe is likely to be increasingly disrupted, as well as Russia's increasing unreliability as an energy supplier, which are involuntary factors which can speed up Europe's rate of weaning off Russian oil. Notable developments as of May include Russia cutting off gas supplies to Poland and Bulgaria with Finland likely soon to follow after its bid to join NATO, ceasing of Russian gas transits at the Sokhranivka station on the Ukrainian border due to ongoing fighting in eastern Ukraine, as well as Russian sanctions against former Gazprom assets in Europe. Together with the unilateral reneging of contract terms by demanding companies from "unfriendly countries" pay for gas with roubles, these incidents have shown there will likely be increasing disruptions to gas

**Figure 10: EU Gas Storage Levels (in TWh)**



Source: Bloomberg Terminal

supplies as the war ensues. Add on the possibility of escalation of the conflict as mentioned previously, and it is likely price pressures will build up in the coming months with more disruptions resulting from the war.

### Stocking up on natural gas supply

Currently, European gas supply remains below typical levels given shortages, with EU gas storage levels at 40% as of 15 May 2022. There have been recent proposals by an European Commission member to mandate EU member states fill up 80% of gas storage capacity by 1 November this year ahead of winter. It remains to be seen whether this will be implemented, but after the severe shortages faced last year and increased volatility from the war it is likely EU countries will want to stock up in advance which can build price pressures in the short term.

### Overall, sustained and even worsening price pressures expected

Dutch TTF gas contracts, the benchmark in Europe to follow, surged greatly at the beginning of the invasion of Ukraine in fears of acute shortages and uncertainty of EU policy but has since stabilised and is hovering around the €100 level since early April. We would expect price pressures to build in the coming months, either through competition with other regions for gas, further disruptions in supply, or through an escalation in the conflict leading to additional sanctions on Russian gas.

## Elevated Prices in the U.S.

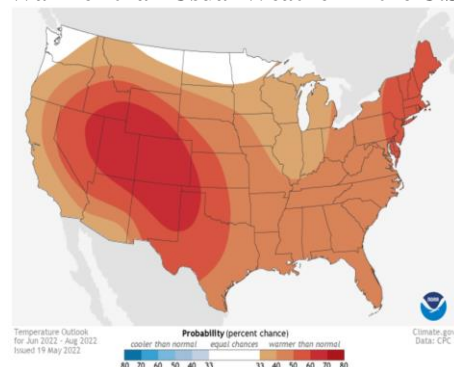
### High demand for U.S. gas exports amid acute shortages

Elsewhere in the U.S., prices of the benchmark Henry Hub natural gas contracts have not been abating too, with prices steadily rising since the start of the year and after the invasion of Ukraine. The U.S., along with many of its non-EU allies like the U.K. and Australia have already banned Russian natural gas (and other energy exports) entirely and demands for U.S. natural gas exports have been high amid acute shortages after the invasion. While the U.S. natural gas markets are usually isolated from the rest of the world with a large majority of its natural gas produced being consumed domestically, along with low capacity to export only 12.4% of its natural gas due to shortages of facilities to convert natural gas to LNG, the situation has become very different after the energy crisis last year and the invasion of Ukraine. The increase in demand for U.S. gas exports has led to buyers bidding up prices within domestic natural gas markets, and many suppliers now prefer to ship it overseas, especially to Europe where there are attractive premiums to be earned. As a result, the U.S. Energy Information Administration (EIA) has forecasted a significant 23% increase in exports this year as compared to 2021, driven by swift export capacity expansions.

### Warm weather increases demand for cooling

Another significant factor contributing to higher prices would be hotter weather in many areas of the U.S. this summer, with upside risks expected moving forward. Higher temperatures going into the summer increases demand for cooling greatly which puts additional price pressures on the Henry Hub contracts. The National Oceanic and Atmospheric Administration's (NOAA) has forecasted above average temperatures between April and June in its U.S. Spring Outlook, with persistent droughts expected in the west. Regions like Northern

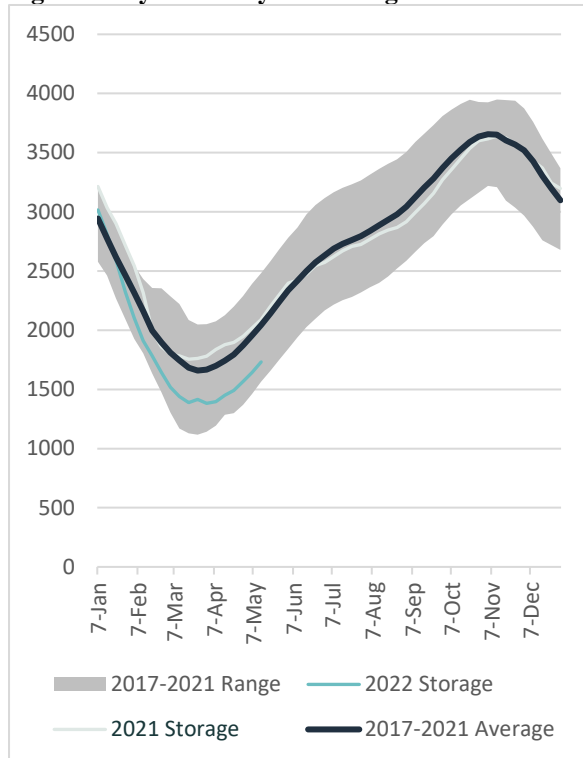
**Figure 11: Map Showing High Probability of Warmer than Usual Weather in the U.S.**



Source: U.S. Climate Prediction Center

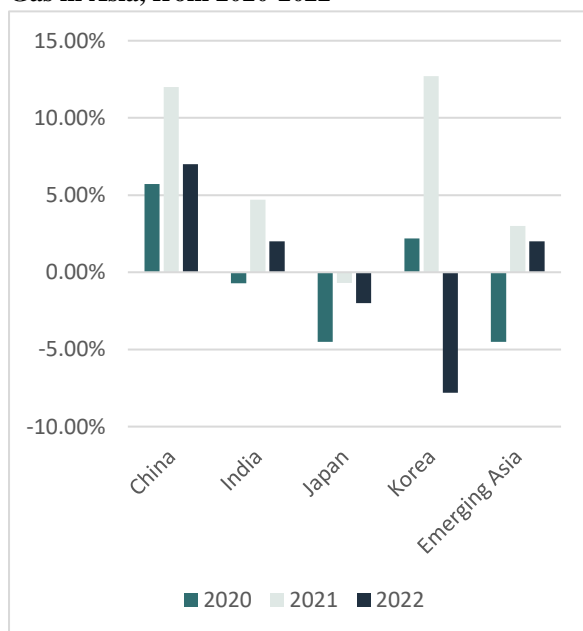


**Figure 12: U.S. Natural Gas Inventories Now Significantly Below 5-year Average**



Source: U.S. EIA

**Figure 13: Y/Y Change in Demand for Natural Gas in Asia, from 2020-2022**



Source: IEA

California have already seen cooling demand spike amid hot weather. The EIA has mentioned in its short-term energy outlook as well that upcoming weather will greatly affect gas storage levels in the U.S., and in turn gas prices.

### Tight markets expected, especially as the Ukraine war rages on

Increasing economic activity amid continued reopening of the U.S. economy has weighed onto U.S. gas prices as well along with high demand for gas exports and warmer weather. Storage levels within the U.S. are now 17% lower than the 5-year average, reflecting the shortage resulting from the above-mentioned factors. Given that these factors will not be going away in the short-term, it is expected that price pressures on U.S. gas markets will continue or even worsen given our expectations for the interrelated gas markets in Europe to also become tighter. Cooler temperatures after summer ends and an impending recession in the U.S. might alleviate price pressures a little, but high demand for U.S. gas exports will likely weigh on prices significantly for months or even years to come. This will continue to be so until export capacity in the U.S. increases with greater capacity to convert natural gas to LNG. This will not happen in the short to mid-term, given that forecasts from the EIA show no new major export facilities becoming operational anytime soon and export capacity can only grow by 5% next year.

### Milder Asian Benchmark Gas Prices

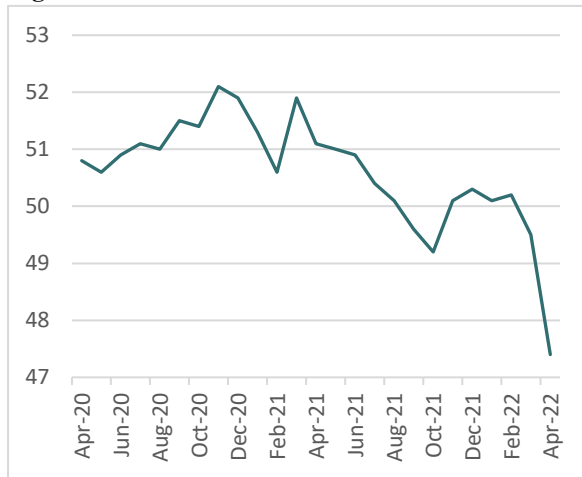
While prices of the U.S. and European markets have been pushed to extremely high levels after the energy crisis and Ukraine war, this is not observed to a similar extent in Asia, where the JKM LNG contracts are taken as the benchmark. Prices briefly increased sharply at the beginning of the invasion but have since moderated to levels last seen in September 2021 before the peak of the energy crisis last year. The milder gas prices in Asia can be explained by the slowing demand growth in the continent this year (Fig. 13), in stark contrast with the Wood Mackenzie forecast of a 5% increase in 2022 Asia gas demand, mentioned in the previous gas report by NUSInvest.

### China's adamant zero-Covid stance

The most significant factors easing price pressures on Asian gas markets are related to China, which is by far Asia's most significant natural gas consumer. Unlike previously in 2021 and 2020 where outbreaks were sporadic and suppressed relatively swiftly with mass testing and tracing, outbreaks this year within China have been very frequent and much more difficult to suppress with the extremely infectious Omicron variant now being rampant. While the situation in Shanghai and Beijing might improve in the coming months, it seems inevitable that outbreaks will continue to flare up all around China to result in rolling lockdowns, given observed difficulties to contain the extremely contagious Omicron variant. Unsurprisingly, economic data like industrial production and consumer spending have fallen to the lowest levels since 2020 when the pandemic began which leads to low demand for energy and hence natural gas.

We continue to expect China's economic outlook to weaken moving forward, with China very adamant with ZCS and no exit plans expected in the near future. Officials of all ranks have repeatedly expressed their desire to continue with ZCS, there has been preparation of long-term

**Figure 14: China's PMI at 2-Year Low**



Source: National Bureau of Statistics

infrastructure like permanent large-scale isolation hospitals (Fangcang hospitals) and PCR test stations to sustain their ZCS in the long haul, as well as censorship of all online opposition against it. Given the evident ineffectiveness of China's lockdowns and border restrictions against the Omicron variant, we expect China's ZCS to continue to deal severe blows to China's economy throughout the year and dampen energy demand, in turn reducing demand for natural gas to alleviate price pressures on Asia's gas markets. While it is not impossible that China mulls an exit from ZCS after increased elderly vaccination rates and more effective local mRNA vaccines and Covid-19 drugs are developed, this is extremely unlikely before the end of this year. We can expect energy demand remain weak in China in the short to mid-term, with risks skewed to the downside especially if more major Shanghai-like outbreaks occur.

### **Discounted Russian energy scooped by China and India**

Heavy sanctions on Russia by western countries have led to Russia searching for alternative buyers for their energy and commodities. Countries willing to maintain trading ties with Russia for their invasion would likely be attracted by discounted fossil fuel they now offer with more buyers shunning them, especially EU countries which are most dependent on Russia. While China has not expressed support for the war, they continue to voice their willingness to maintain or even strengthen trade with Russia. Natural gas is one area where trade between Russia and China has increased significantly, and the first 4 months has seen Russian gas exports to China increase by 60% since a year ago despite Russia already being China's third largest supplier of gas. India is another country in Asia who is unwilling to sanction Russia and has scooped up discounted natural gas from Russia in the form of spot LNG now shunned by many buyers. The Ukraine war is expected to be a war of attrition, which means the shunned natural gas will likely continue to be offered to China and India at a discount for many more months to come with infrastructure for exports to these two countries likely to improve continuously.

### **Coal used as cheaper substitute for expensive natural gas**

Lastly, given the heavier reliance of coal in Asian countries and the availability of cheap and reliable coal in the continent from suppliers like Indonesia and Australia (as mentioned in the last report as well) Asian countries have been observed to be more willing than their western counterparts to switch from currently expensive natural gas to the cheaper coal, especially after the energy crisis last year leading to more countries willing to put energy security before environmentalism. Chinese Premier Li Keqiang has already announced a 300 million ton increase in coal production capacity this year as compared to 220 million ton in 2021, while Wood Mackenzie has observed that India and South East Asia have also been turning more to coal as a substitute for persistently high and volatile LNG.

Overall, we continue to expect Asian countries turning to coal more readily, China and India increasingly relying on discounted Russian gas as the war drags on, as well as severe slowdowns in China's economic activity with ZCS to remain for the foreseeable future. These factors would mean weaker price pressures on the benchmark JKM gas prices in the short to mid-term even as demand is still likely to continue to outstrip domestic supply in the longer term with fast growth in Asia (as mentioned in our previous natural gas report as well).



**Figure 15: Dutch TTF Natural Gas Futures July 22 Contract - JKM Natural Gas Futures July 22 Contract (TTEN2022 – JKMN2022)**



Source: TradingView

## Trade Idea: Long Dutch TTE July 22 Contract, Short JKM July 22 Contract

We believe there is a high likelihood of price pressures building for Dutch TTF natural gas futures in the coming months. Building up of sanctions on Russia, increasing likelihood of disruptions because of the war, increasing likelihood of Russia cutting off gas supplies because of deteriorating relationships, as well as possibility of escalation all mean that there is high likelihood for prices to increase further in the coming months, or at least remain elevated.

On the other hand, prices are likely to stay relatively softer in Asia in the months ahead, with decreasing demand in the near term because of lockdowns in China and Asian countries turning to cheaper coal. Supply shortages in Asian gas markets can be alleviated with China and India turning to discounted Russian gas which are no longer supplied to Europe, as mentioned previously in our coverage of Asian JKM gas markets.

With these expectations in mind, entering a long trade on Dutch TTF futures and a short trade on JKM futures can be a feasible trade idea, which means we are long on the differentials between the two contracts (Fig. 15). Technically, the differential between the two contracts is going through an ascending channel with both trendlines tested more than 3 times. Given our expectations of increasing differentials, we can enter the trade at current levels of 6.94 and take profit at 11.21 when the upper trendline is touched. Our stop loss level will be at 4.64, which is the level when prices go below the lower trendline. This gives a risk/reward ratio of 1.86.

**Entry: 6.94**

**Take Profit: 11.21**

**Stop Loss: 4.64**

**Risk Reward Ratio: 1.86**

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### Chart info

**Figure 1: Newcastle Coal Futures - Front Month**



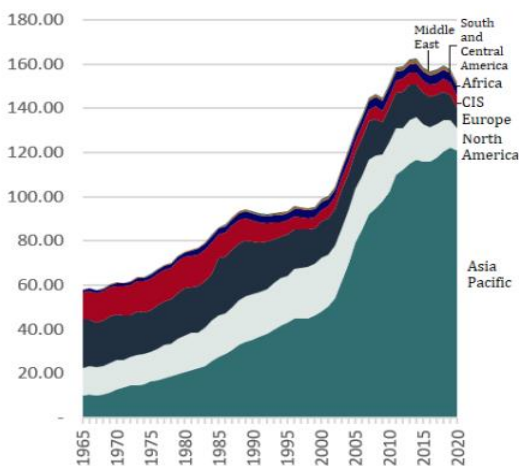
Source: TradingView

**Figure 2: Rotterdam Coal Futures - Front Month**



Source: TradingView

**Figure 3: Coal Consumption by Continents over Time**



Source: Our World in Data, BP Statistical Review of World Energy 2021

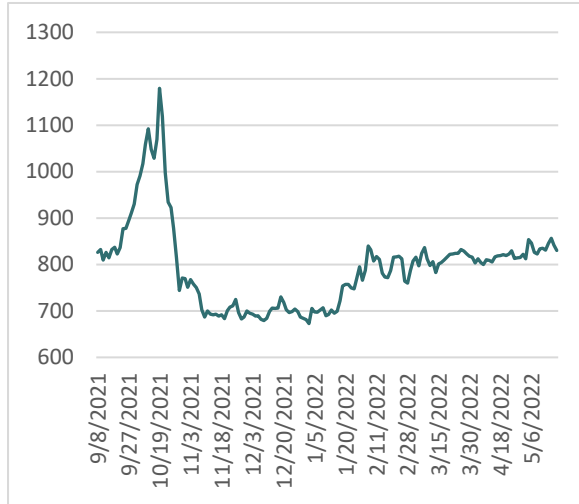
## Overview of Sector

- Coal is among the oldest fossil fuels to be used as a source of heat and energy. Despite its significance in powering economies throughout history till today, it is increasingly being phased out as a source of energy especially in OECD countries because of its highly pollutive nature. Instead, cleaner or more renewable energy like nuclear, solar, wind, geothermal, and hydroelectricity are being favoured. Oil and gas are two other fossil fuels which are also significant substitutes to coal, while being cleaner at the same time. These substitutes for coal affect coal markets greatly.
- China (50.5% of world's demand in 2020) and India (11.3%) are the most major consumers of coal by a huge margin, with the U.S. and Europe also contributing greatly to coal demand despite coal not contributing to the majority of their energy share.
- On the supply side, China (50.7% of world's production in 2020), Indonesia (8.7%), India (7.9%), Australia (7.8%) and the U.S. (6.7%) are the most significant producers.
- Coal can generally be classified into either thermal and metallurgical (met/coking) coal. Thermal coal is used for electricity generation, while met coal is used for production of steel or other metals. Met coal typically contains more carbon, less moisture and less ash than thermal coal, and can be further subdivided based on different grades like hard coking, semi-hard coking, semi-soft, as well as pulverised coal for injection (PCI).
- The most important global coal benchmarks are the Newcastle coal futures benchmark (common benchmark for coal in Asia) and Rotterdam coal futures (common benchmark for coal in Europe). The Newcastle coal futures benchmark measures prices of high quality thermal coal in Australia which is often shipped to Asian countries using coal heavily. The Rotterdam coal futures measures coal prices traded in the Rotterdam Exchange in the Netherlands, and is the primary price reference for coal in Europe.
- Within China which is by far the largest producer and consumer of coal, the benchmark commonly used by the government is 5500kcal coal sold at Qinghuangdao port. Earlier this year, the National Development and Reform Commission (NDRC) had said that prices should be within the range of 570-700 yuan.

## Summary of events in the past 6 months

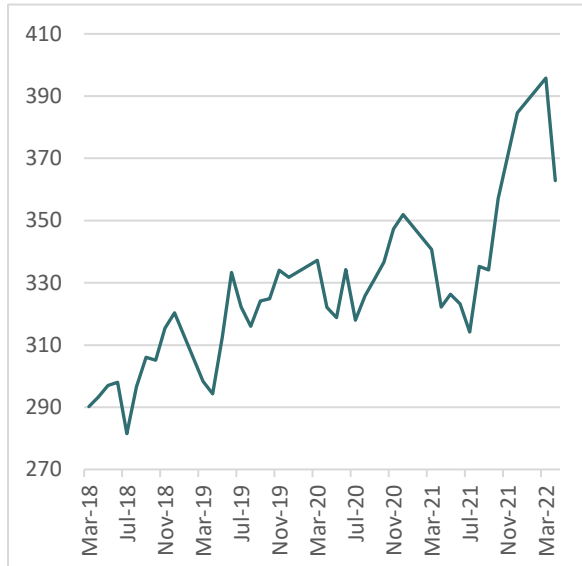
- The Ukraine war is definitely the single most significant event influencing energy markets right now. The unprovoked Russian invasion has regrettably led to widespread suffering, death and destruction. Countries around the world, especially western ones, have rushed to place sanctions on Russian exports, and commodities markets like natural gas have been upended by the developments of the war
- China, by far the most significant producer and consumer of coal, is facing the biggest Covid wave since the pandemic began and has repeatedly expressed support for its zero-Covid Strategy (ZCS) to fight the highly infectious Omicron wave despite extremely high difficulties in doing so. Energy demand has remained muted with economic indicators being at their worst since the start of 2020. This has happened amid increases in coal production this year.
- The U.S. has gone back to the long term trend of reducing its production and consumption of coal, while Europe which is much more reliant on Russian energy has increased their consumption of coal to help to wean off Russian energy
- Generally, prices will remain elevated in most coal markets amid shortages resulting from sanctions after the war and continuous recovery from the pandemic, with notable exceptions of markets in countries like China and India where production has been increasing and no sanctions are being placed on Russian energy to allow for continued imports of discounted Russian coal.

**Figure 4: Zhengzhou Commodity Exchange Thermal Coal Futures Price**



Source: Bloomberg Terminal

**Figure 5: China's Coal Production in Millions of Tons**



Source: Bloomberg Terminal

**Figure 6: Map of Russian Offensive on Ukraine as of 19 May 2022**



Source: BBC, Institute for the Study of War

## Slumping Chinese Demand Amid Heightened Output

China is by far the largest producer and consumer of coal in the world and developments within the country have great impacts on global coal markets. A multitude of factors leading to slumping demand and increasing output has meant that there is likely to be easing price pressures on domestic coal markets.

### China's zero-Covid strategy to lead to demand slump

As mentioned in our natural gas report as well, China's demand for energy has been falling and is expected to weaken further amid large Covid outbreaks across the countries and a refusal to exit from its zero-Covid strategy (ZCS). Unlike previously in 2021 and 2020 where outbreaks were sporadic and suppressed relatively swiftly with mass testing and tracing, outbreaks this year within China have been much more difficult to suppress with the extremely infectious Omicron variant now being rampant. Numerous cities have been placed under lockdowns with hundreds of millions affected, leading to economic data like industrial production and consumer spending have fallen to the lowest levels since 2020 when the pandemic began. Officials of all ranks have repeatedly expressed their desire to continue on with ZCS, even resorting to censorship of all online opposition against it. Given the evident ineffectiveness of China's lockdowns and border restrictions against the Omicron variant, we expect China's ZCS to continue to deal severe blows to China's economy throughout the year and dampen energy demand, in turn reducing demand for coal. Indeed, utilities companies have reported a 12% decrease in thermal power output as compared with last year and the sustained economic damage from ZCS will likely mean steeper decreases might be in store.

### Increased coal output in China even as demand decreases

What is happening at the same time with reduced demand is greatly increased output planned in China this year. After the severe energy crisis last year and geopolitical uncertainties arising from the Ukraine war there has been increasing indications that China will now start to ensure better energy security, even if at the expense of the environment. As mentioned in the previous NUSInvest coal report, the government has commented that impulsive coal plant closures should no longer be pursued and energy security needs to be taken into account alongside environmental conservation. The promise to prioritise energy security can be observed to have been met, coal output last month measured to be 11% greater than in April 2021, and production in March at all time highs. Premier Li Keqiang had mentioned in April that there are plans for production of coal to be increased by 300 billion tons this year. In comparison, production increased by 220 billion tons year-on-year in 2021.

### Price pressures likely to ease in coming months

While further acceleration in coal growth is no longer likely with decreased demand as seen from the slower growth in April's coal output, the combined factors of increased output to ensure energy security, as well as dampened demand means coal prices are likely to remain weaker within China as compared to other markets with downside risks this year. Zhengzhou commodity exchange prices are still rather elevated compared to historical values at 830 yuan per ton, but there is a high probability that price pressures can continue to ease over the coming months.

## War of Attrition Expected in Ukraine

The war in Ukraine is the single most influential factor affecting energy markets right now. Many countries have rushed to sanction Russia energy for its unprovoked invasion of Ukraine. While there were mixed opinions among European countries regarding how much they are reducing gas imports from Russia given Europe's heavy reliance on them, the ban on coal has been very swift given Europe's lower reliance on coal because of its highly pollutive nature.

Outside Europe, many countries like Japan, Korea and the U.S. have quickly moved to ban or reduce coal from Russia as well out of ethical concerns.

### Base case: prolonged war and sanctions

Our base case is that the war will be turning into a war of attrition, seeing how Russia and Ukraine have been nowhere close to reaching a peace deal despite many rounds of negotiations, and how Ukraine has been holding up well against the ill-prepared and poorly equipped Russian forces with low morale with financial aid and military equipment from western countries. Russian President Vladimir Putin has expressed his determination to continue on with its “special military operation” until Russia’s objectives, widely believed to be an installation of a pro-Russian government, are fully met. Previous Russian demands of recognising independence of the separatist regions of Donetsk and Luhansk as well as ceding of Crimea to Russia in exchange for a ceasefire have been rejected by Ukraine. On the other hand, Ukraine has vowed it will not surrender any land to Russia in exchange for peace. With a prolonged war of attrition being our base case and sanctions to continue or even worsen for the short to mid-term, most coal markets outside China’s domestic ones are expected to remain tight for months and even years without the supply from Russia. While we factor in a possibility of escalation of the war, we believe that might not be as disruptive to coal markets as compared to natural gas ones, given that many countries like the U.S., U.K. or Japan have already banned Russia outright and limited further disruptions can be likely.

### Elevated prices expected for global coal markets

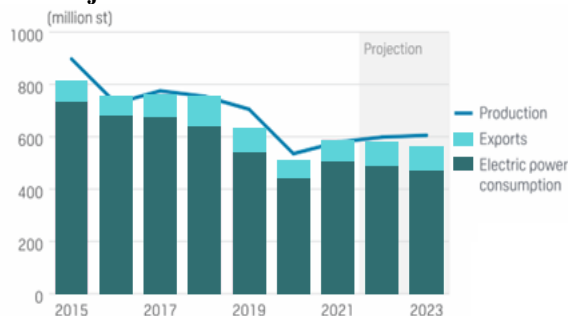
In the Newcastle coal markets which are taken as the benchmark for Asian coal, front month futures contracts have shot up to levels above USD 400, with prices now almost hitting the highs reached in early March when the Ukraine war just started. Coal markets have already been tight in Asia early this year with export bans by Indonesia, supply chain issues from floods in Australia and lingering effects of last year’s energy crisis causing rapid increases in prices. The Ukraine war amplified these shortages greatly. Aside from China which maintained trade relations with Russia despite the war, Japan, Korea, Taiwan are among the next biggest importers of Russian coal in Asia and have all halted imports or banned them entirely. Outside Asia, the US and EU have banned Russian coal entirely and are significant importers as well. The gaps in supply caused by these sanctions, as well as extremely high prices of fossil fuels have led to buyers turning to other markets, notably the Newcastle coal markets for coal supply. Even faraway countries like the U.S. and the EU have been willing to pay for coal from Australia to alleviate their severe shortages.

Other coal markets have faced elevated prices as well despite the harshest of the winter being over. Rotterdam coal futures, despite facing less price pressures since the start of the Ukraine war as compared to coal in Newcastle, are still priced at levels significantly higher than the peak of the energy crisis last year. Our expectations of a prolonged war and sanctions, with no convenient way to increase supplies in the short to mid-term means coal prices will likely remain elevated in the coming months until more output from major non-Russian suppliers like Australia and Indonesia can be available. This expectation will be an important consideration guiding our forecasts for the coal markets around the world.

### Divergent Fates of Coal in Different Markets

As mentioned in our previous report, coal faces divergent fates within emerging markets (EM), especially Asia, and developed markets (DM). Coal has made a spectacular comeback in both EM and DMs alike amid the energy crisis last year, and even developed countries like the U.S. and EU countries have experienced an uptick in usage of the highly

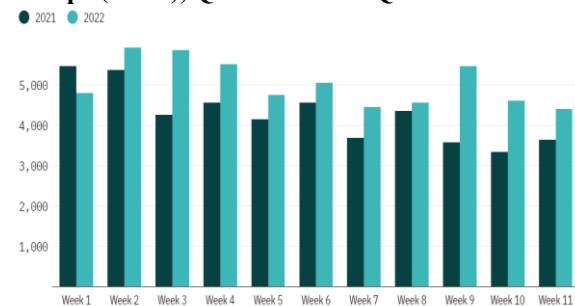
**Figure 8: US Coal Supply and Demand, Historic and Projected**



Source: S&P, EIA



**Figure 9: Hard coal electricity generation in Europe (GWh), Q1 2022 versus Q1 2021**



Source: Energy Monitor, Fraunhofer ISE based on ENTSO-E data

pollutive coal. However, we noted that this fallback on the pollutive coal is not likely to persist into the longer term for developed countries. Within developed countries, there has been evidence emerging which shows the longer term trend of declines in coal usage is continuing in the U.S. as what we have expected, but we expect European countries who are much more dependent on Russian energy might have to increase their consumption of coal in the short to mid-term.

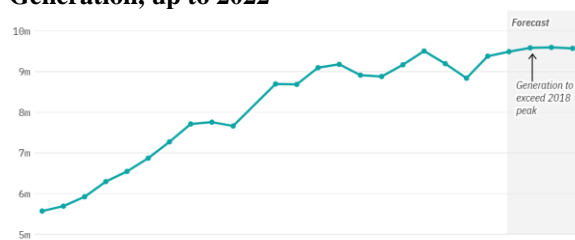
### Coal consumption expected to fall in the U.S.

In the U.S. the Energy Information Administration (EIA) has forecasted a reduction in percentage of power generated by coal to 21%, which is a significant one from 23% last year. This is expected to reduce further to 20% in 2023. While natural gas prices have remained extremely high and coal was used as a cheaper substitute last year, there are planned retirements of large coal power plants this year which generate up to 6% of coal generating capacity in 2021. The energy crisis has also sped up the expansion of renewable energy capacity with 22% of U.S. energy expected to be powered by renewables this year, a jump from 20% last year. This expansion of renewable energy's capacity will reduce the U.S.' reliance on the extremely pollutive coal moving forward and the increase in coal usage last year is not likely to continue.

### Europe to fall back on coal to alleviate shortages

Europe consists of mostly developed countries which generally rely less on the highly pollutive coal. However, severe energy shortages resulting from sanctions on Russia, highly expensive natural gas in all markets, as well as continuous recovery of demand from Covid will mean a longer-term uptick in coal production and consumption is now likely, contrary to our predictions in the previous report. The International Energy Agency now expects power generation from coal to accelerate by 9% in Europe this year. This is not a surprise given Europe's heavy reliance on Russia for fossil fuels, they import approximately 25% of their oil and 40% of their natural gas from Russia. They have already banned coal, will be about to ban oil and also plan to reduce reliance on Russian natural gas by two-thirds by the end of 2022, and some of the replacements for Russian energy will inevitably have to come from coal. Persistently elevated demand will likely ensure price pressures will remain strong within coal markets in Europe and even around the world as European countries attempt to source for coal in global markets like the Newcastle market in Australia.

**Figure 10: Historic and Projected Coal Power Generation, up to 2022**



Source: Energy Monitor, GlobalData

### Coal consumption continues to accelerate in Asia

The same scenario is playing out within Asia as well, as mentioned previously. While we had expected coal consumption and production to continue to grow as Asia's developing markets continue to rely on the cheap and reliable fossil fuel especially as large producers like China and India start to prioritise energy security, the benchmark Newcastle coal market is now even more robust than we had expected with several major economies, especially Japan, Korea and Taiwan now placing sanctions on Russian coal. On the other hand, countries which do not place sanctions on Russia like China and India are likely to have easing price pressures within their domestic economies. Given expectations of a prolonged war, we would forecast that this will be the case for many months or even years to come. Shortages in most economies around the world amid continued reopening overall would mean consumption of coal for power generation will likely increase globally in 2022, slowing the phasing out of coal in many countries.

**Figure 11: Newcastle Coal Futures (NCF1!) - Front Month Contract**



Source: TradingView

## Trade Idea: Long NCF Front Month Contract

Given our expectations of tight coal markets in Europe because of acute energy shortages after sanctions on Russian energy, as well as a prolonged war of attrition in Ukraine which means sanctions will not be going away anytime soon, it is likely that price pressures can build up in the coming months nearer to levels when the Ukraine war just started. This is especially so as the EU will attempt to reduce reliance on Russian energy even further in coming months.

Technically, a trade can be entered if prices exceed the upper trendline at the 336.35 level, which means a breakout has occurred and prices can likely scale higher. We can take profit at the 0.786 Fibonacci Retracement level at 416.93 where prices are nearer to the highs achieved at the beginning of the Ukraine war. It is not likely that levels will exceed the high achieved in March previously as similar levels of fear in commodities markets will likely not be reached this time.

Should prices fall below the lower trendline at 301.16 which is a long term trendline tested many times previously, we can exit the trade to cut losses as a breakout downwards might be possible. Overall, this gives a risk-reward ratio of 2.25.

**Entry: 336.35**  
**Take Profit: 416.93**  
**Stop Loss: 301.16**  
**Risk Reward Ratio: 2.25**

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