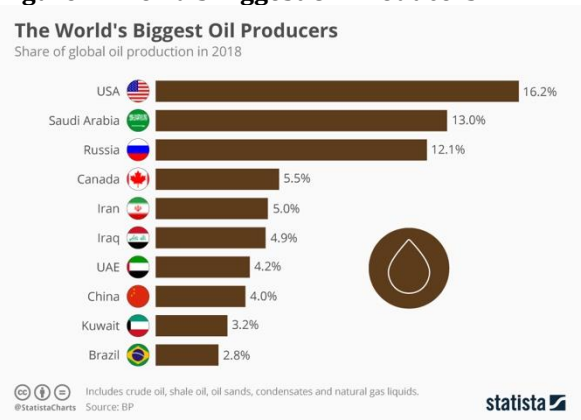
Analysts

Ling Zhao Bin
Global Macro Analyst
zhao.bin.ling@u.nus.edu

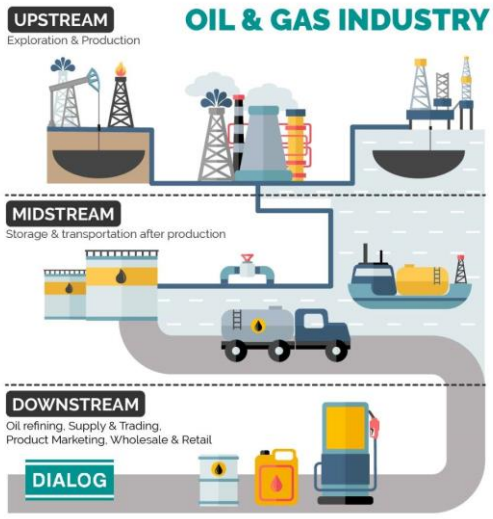
Joshua Liang
Global Macro Analyst
liangjiaweijoshua@u.nus.edu

Figure 1: World's Biggest Oil Producers



Source: Statista

Figure 2: Oil Supply Chain



Source: Dialog Group

Figure 3: Impact of Russia-Ukraine War on oil prices

Overview of Oil

- Oil is widely regarded as the most important commodity in the world as it is the primary source of energy production. Crude oil can be refined into various types of products such as diesel, gasoline and jet fuel that are used to power vehicles. Moreover, they can also be refined into petrochemicals for the production of daily essentials such as plastic. Needless to say, oil is vital for the sustenance of the modern lifestyle.

- Crude oil in itself is not an efficient source of energy, and refining is needed to yield oil products that are more efficient for usage. In a barrel of crude oil, 42.7% is refined into gasoline, 27.4% is refined into diesel, and the remaining are refined into products like jet fuel, fuel oils and asphalt. However, it is important to note that there is a large number of different crude oils, all with different specifications, resulting in different yields.

- Despite the impacts that Covid-19 has had on US oil production, they still remain the largest oil producer, producing about 18.9 mbd. Following that, Saudi Arabia produces 10.8 mbd and also has 17% of the world's total petroleum reserve. Despite the war in Ukraine, Russia still ranks third amongst major oil producers, producing 10.7 mbd which accounts for 10% of worldwide oil output. However, many countries have banned Russian oil imports, resulting in Russian exports to decrease by about 13%.

- The oil and gas industry is broken down into 3 segments, namely upstream, midstream, and downstream. Upstream refers to the exploration and production of oil, where they locate (exploration) specific areas that are rich in oil and drill them to the surface (production). Midstream refers to the transportation and storage of oil before refining takes place. This includes pipelines and other infrastructure needed to transport the oil long distances. Finally, downstream refers to the refining process, where crude oil is refined into the different types of products we use every day.

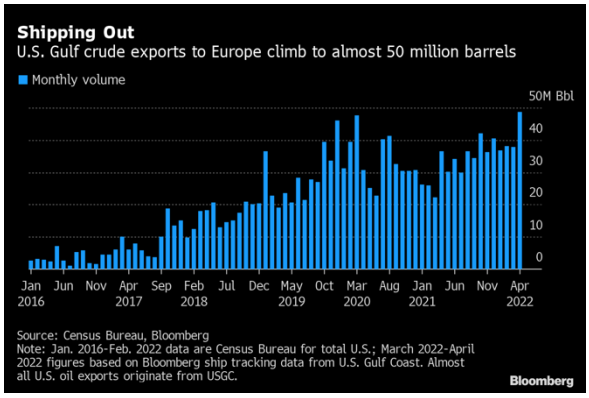
- Since oil is a finite resource and its price is extremely sensitive to supply and demand factors, many traders prefer to trade it due to its volatility which allows for huge profits. Most oil trading is done in the form of CFDs, which means that the underlying asset is not being traded, and traders are simply speculating on the price movements of the oil they are trading.

- The two main crude benchmarks are WTI and Brent. Brent crude is drilled from below the North Sea, and is popularly refined into jet fuel and gasoline. On the other hand, WTI (West Texas Intermediate) oil is drilled from the North Sea and is mainly used for gasoline refining.

Summary of events in the past 6 months

Source: Al Jazeera

Figure 4: Increase in U.S. exports to Europe as buyers seek alternatives to Russian supplies



Source: Bloomberg

- In a bid to curb Russia's revenue to fund their war against Ukraine, the EU has imposed unprecedented sanctions on Russian oil exports. The sanctions prevent EU insurance companies from underwriting Russian oil exports, making it difficult for Russia to export their seaborne oil due to the stringent laws surrounding the need for insurance for oil tankers. This poses a threat to the world's oil supply as Russia is the world's third largest oil exporter, and ultimately drove prices of crude oil to over $100 per barrel.

- In a world plagued with rapid inflation, high oil prices also mean high input costs, which exacerbates inflation across the globe. Realising the need for Russian supply of oil, the G7 countries proposed a price cap initiative, which allow Russian exports to be insured, if Russia sells at or below $60 per barrel of crude oil. The aim was to prevent Russia from earning supernormal profits to curb their war efforts, while ensuring that Russian exports are still able to flow.

- In August, China adopted a "zero-covid" policy and imposed stringent lockdown measures. A policy like this on China, the world's largest importer has led to bearish sentiments for oil due to fears of lacklustre demand.

  In December, China has announced that they will be lifting key parts of their "zero-covid" policy after protests. This is bullish news for the oil market as more activity within the country can take place, resulting in increased demand for products like jet fuel, diesel, and gasoline.

- In early October, OPEC+ agreed to reduce production by 2 mbd from November, despite the USA calling for higher production to lower fuel prices in a bid to curb inflation. OPEC+ justified the cut with the weakening global economy and interest rate hikes in some western countries, resulting in weakening demand for oil. This has not been well received by USA, who has accused OPEC+ of colluding with Russia to raise oil prices.

Figure 5: Brent Crude Oil Futures Price

Source: TradingView

G7 Russian Oil Price Cap

Following months of planning and wrangling, the largest tranche of sanctions on Russian crude oil to date is now in effect. As of 5th December 2022, The Group of Seven (G7) countries, European Union (EU) and Australia, have agreed to implement a $60/b ceiling on global purchases of seaborne Russian oil. The aim is clear — squeezing revenues to Russia's war machine, while avoiding a devastating oil price spike. The measure means only oil sold at a price equal to or less than $60/b can continue to be delivered. The price cap is enforced by specifically banning companies based in the EU, G7 countries and Australia from providing services enabling maritime transport, such as insurance, if the oil cargo is bought above the price cap. Since the G7 nations – Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States – provide insurance services for 90% of the world's cargo and the EU is a major player in sea freight, they should be able to pass on the cap to the majority of Russia's customers around the world, making for a credible price cap.

In response to this measure, Russia has repeatedly reiterated that it would not supply oil to countries supporting anti-market price caps. Russia's reaction function is one that is unclear at this juncture, but there are a few possibilities currently laid out:

1. Evasion of Oil Sanctions through a 'shadow fleet'

Russia has been quietly amassing a fleet of more than 100 ageing tankers to help bypass western restrictions on Russian oil sales following its invasion of Ukraine, according to shipping brokers and analysts. Shipping broker Braemar estimates Moscow, which relies heavily on foreign tankers to transport its crude, has added more than 100 ships this year, through direct or indirect purchases. In addition, energy consultancy Rystad also said that Russia has added 103 tankers in 2022 through purchases and the reallocation of ships servicing Iran and Venezuela, two countries under western oil embargoes. These Russian tankers are being referred to as a 'shadow fleet' by analysts.

Utilising their 'shadow fleet' of oil tankers, Russia may be compelled to continue its flows to end-consumers at prices higher than the price cap (but likely still discounted from global benchmarks). Russia could maintain such flows as these vessels wouldn't be reliant on EU maritime insurance or transportation services and would additionally be unlikely to require such services in the future given the age of the vessels in question. However, analysts still estimate a shortfall of oil exports as Russia still needs more tankers to maintain its export levels. Braemer expects exports to fall by between 700,000 and 1.5 million barrels a day, while Rystad estimates a fall of 200,000 barrels.

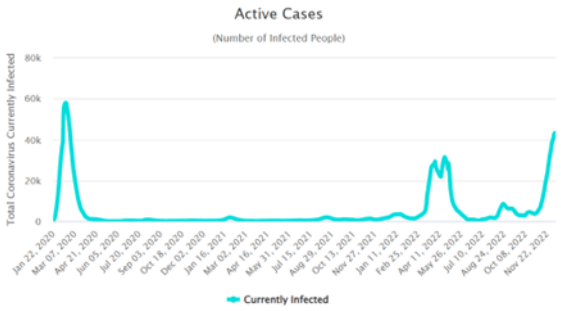
2. A price floor for international oil sales

Russia is considering setting a "price floor" for its global oil sales. Russia is reportedly pondering either imposing (i) stipulating maximum discounts to the international Brent benchmark at which they can be sold; or (ii) a fixed price for its Urals barrels. The discounts and the fixed price would be revised on a regular basis, according to people familiar with the matter.

China's Pivot – Optimism or Pessimism?

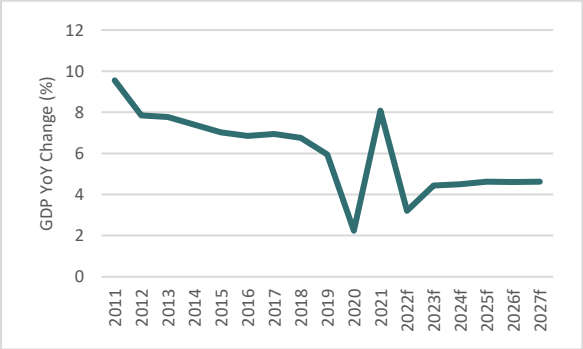
China's draconian Zero-Covid policy saw a significant shift after the Chinese government announced the removal of COVID-19-related checking and other barriers for movement within regions in the

Figure 6: Active COVID-19 cases in China



Source: Worldometer

Figure 7: China's GDP growth



Source: Statista

country and allowed COVID-positive patients with less severe symptoms to quarantine at home instead of staying in isolation facilities along with eight other measures.

This pivot in policy stance followed widespread protests resulting from frustration over the tough Zero-Covid regime, the biggest show of public discontent in China since President Xi Jinping came to power in 2012.

China's pivot would not bode well for oil demand in the short-term as it is likely that it would see a wave of infections that would engulf the country all at once in a population that until now has largely avoided exposure to the virus. This is in contrast to the whack-a-mole pattern of the outbreaks that took place in the US and Europe over months and years. China's active COVID-19 cases has been climbing rapidly over the past few months (see fig. 6) and this abrupt reversal in policy stance would aggravate the situation, with estimates pointing to infections totalling 5.6 million a day at its peak. Economic growth will likely remain depressed over the coming few months as infections surge, with Morgan Stanley's analysts also commenting that China's growth would remain subpar in the near term. S&P Global expects China's gasoline demand to fall 10% year on year to 3.2 mbd in Q4 2022, while jet fuel demand is likely to fall 34% year on year in Q4 2022 to about 414,000 bd.

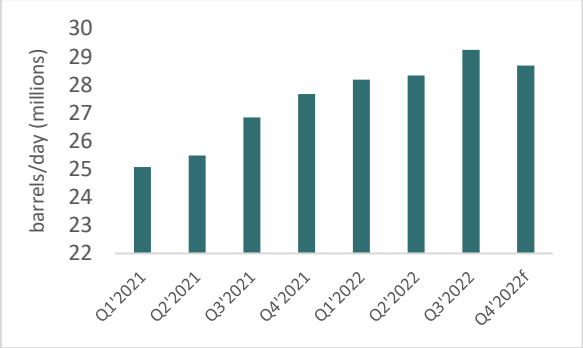
However, a rebound in China's oil demand is expected in 2023, as COVID-19 infections are expected to peak around the start of Lunar New Year, where travelling would be popular among the country's 1.4 billion people as they celebrate their most important holiday of the year. The cases of COVID-19 peaking earlier than expected as a result of the shift from the Zero-Covid policy, will lead to an early demand rebound, which is likely to happen in Q2. China's GDP growth is expected to approximately rise to 4.5% in 2023, significantly higher than the expected 3.2% for 2022 (see fig. 7). S&P expects travelling interest in China to recover in Q2 or Q3 2023, raising jet fuel demand 36% on the year to 656,000 bd in 2023, still 33% below pre-COVID-19 levels in 2019. On the other hand, gasoline demand is expected to rise 7% to 3.6 million bd.

OPEC+ 's Tight Grip on Markets

The OPEC+ alliance, a group of 23 oil-exporting countries consisting of the original 13 members of OPEC and 10 other major oil-producing countries, has demonstrated its dominant position as a cartel over oil prices this year through imposing its deepest oil output cuts since the coronavirus pandemic, a collective reduction of 2 mbd which started from November. The decision, which was agreed upon on their 5th October meeting, was unprecedented as the group decided to take barrels off global markets amid one of the tightest oil markets on record and way ahead of the EU ban on Russian seaborne crude imports and the G7 price cap, which could result in a potential decline in Russian exports this year as Russia threatened to cut supply to any country adhering to the cap.

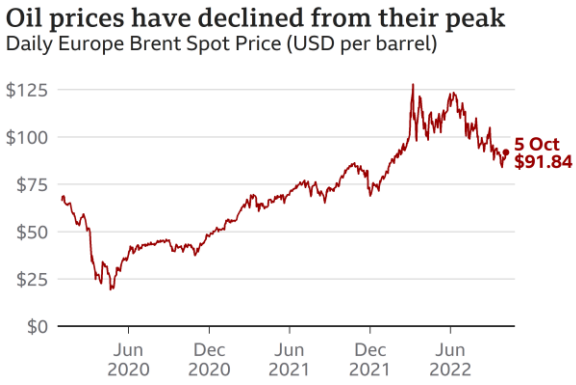
The production cuts of 2 mbd were based on existing baseline figures, which means the cuts were less deep because OPEC+ were already falling short of about 3.6 mbd of its output target in August. Under-production happened because of Western sanctions on countries such as Russia, Venezuela and Iran and output problems with producers such as Nigeria and Angola. Thus, the real cuts were estimated to be

Figure 8: OPEC Crude Oil Production



Source: EIA

Figure 9: Brent Crude prices (Jan 2020 – 5th Oct 2022 OPEC+ meeting)



Source: Bloomberg

around 1.0 - 1.1 mbd. Of the 2 mbd cut, 1.27 mbd was to come from the 10 participating OPEC countries too. As a result of the cuts, it is expected that OPEC's crude oil production would fall to approximately 28.69 mbd in Q4 2022 from 29.24 mbd in Q3 2022.

The rationale that OPEC+ articulated to the market that was behind its cuts centred predominantly on the demand-side. The group accentuated that heightened macro concerns necessitates a proactive approach in order to stabilise the market. They also maintained that the world is running worryingly thin on available spare capacity, and that oil prices need to be higher, particularly in the context of other energy prices (such as natural gas) in order to incentivise investment that the space has been starved off due to the ESG-induced pivot towards a reallocation of capital away from fossil fuels for nearly a decade. Brent crude, which was $91.84 at the time of their decision on October 5 (see fig. 9), had fallen from its peak of $123 in June and was deemed to be a grave concern by OPEC+ as its members are heavily reliant on oil-exporting revenues.

The ability for OPEC+ to conduct such a large cut was also entrenched in the lack of any supply elasticity, with US shale activity showing signs of slowing, negligible spare capacity outside of core-OPEC+ producers (Saudi Arabia, the UAE and Kuwait). This was ultimately a return to the approach by OPEC+ wherein it behaves under the rational behaviour of a dominant producer with pricing power. In that sense, while exceptional, this cut is also logical as it maximises the group's revenues today with minimal sacrifice of future profitability.

At its most recent meeting on December 4 however, OPEC+ maintained their production cut policy of 2 mbd and left it unchanged, citing the uncertainty of the market resulting from the EU ban and G7 price cap which was just imposed. With massive and offsetting fundamental and geopolitical risks bearing down on the oil market, the group opted to hold steady and hunker down.

With OPEC+ staying on the side-lines and not taking any additional actions for now, it is expected that the production cuts from OPEC+ would not play as instrumental a role in influencing oil prices in the short term as compared to the other supply factors: the EU ban on Russian seaborne crude imports and the G7 price cap. In the longer term however, OPEC+ may play a bigger role in influencing oil prices as they have cautioned the markets with their intentions to take immediate additional measures to address market developments and support the balance of the oil market and its stability if necessary, including having additional meetings before their next scheduled key meeting in June. JP Morgan reinforced this by stating that OPEC+ could review production in the new year based on fresh data on Chinese demand trends and consumer compliance with price caps on Russia crude output and tanker flow.

Figure 10: WTI Futures Daily Chart

Source: TradingView

Figure 11: Crude Oil Stocks

Product / Region	Current Week	Last Week		Year Ago		2 Years Ago	
	11/25/22	11/18/22	Difference	11/26/21	Percent Change	11/27/20[2]	Percent Change[2]
Crude Oil	808.2	822.2	-14.0	1,035.7	-22.0	1,126.2	-28.2
Commercial (Excluding SPR)[3]	419.1	431.7	-12.6	433.1	-3.2	488.0	-14.1
East Coast (PADD 1)	8.0	8.6	-0.6	9.1	-11.8	10.5	-23.8
Midwest (PADD 2)	106.5	108.5	-2.0	113.3	-6.0	146.9	-27.5
Cushing[4]	24.3	24.7	-0.4	28.5	-14.8	59.6	-59.2
Gulf Coast (PADD 3)	230.1	241.2	-11.0	237.2	-3.0	262.2	-12.2
Rocky Mountain (PADD 4)	25.0	24.9	0.2	23.6	6.3	24.0	4.5
West Coast (PADD 5)	49.4	48.5	1.0	50.0	-1.2	44.6	10.9
Alaska In-Transit[5]	4.8	4.3	0.5	5.8	-16.6	4.2	15.3
SPR[6]	389.1	390.5	-1.4	602.6	-35.4	638.2	-39.0
Total Motor Gasoline[7]	213.8	211.0	2.8	215.4	-0.8	233.6	-8.5
Reformulated	0.0	0.0	0.0	0.0	9.1	0.1	-53.8
Conventional	16.8	16.7	0.1	18.9	-11.0	26.0	-35.5
Blending Components[7]	197.0	194.3	2.7	196.5	0.2	207.6	-5.1
Fuel Ethanol[7]	22.9	22.8	0.1	20.3	13.0	21.2	8.0
Kerosene-Type Jet Fuel	36.3	37.4	-1.2	36.1	0.5	37.2	-2.6
Distillate Fuel Oil[7]	112.6	109.1	3.5	123.9	-9.1	145.9	-22.8
15 ppm sulfur and Under[7]	101.1	97.4	3.7	112.1	-9.8	133.9	-24.5
> 15 ppm to 500 ppm sulfur	2.9	2.3	0.6	3.4	-15.2	2.6	7.9
> 500 ppm sulfur	8.7	9.4	-0.7	8.4	3.0	9.3	-7.4
Residual Fuel Oil	29.6	29.7	-0.1	27.9	6.3	29.9	-0.9
Propane/Propylene[8]	90.6	89.0	1.6	72.7	24.7	91.7	-1.2
Other Oils [9]	286.4	289.3	-3.0	292.8	-2.2	306.3	-6.5
Unfinished Oils	82.1	84.3	-2.2	90.4	-9.2	78.8	4.2
Total Stocks (Including SPR)[4,7,8]	1,600.4	1,610.6	-10.2	1,824.7	-12.3	1,992.1	-19.7
Total Stocks (Excluding SPR)[7,8]	1,211.3	1,220.1	-8.8	1,222.2	-0.9	1,354.0	-10.5

Source: EIA

Trade Idea: Long WTI Futures

Oil prices have weathered extreme volatility this year thus far, with WTI rising from $76/b at the start of 2022 to a peak of $124/b in March, before erasing all of its gains recently and falling to a price of $71.02/b as of 9th December, its lowest level year-to-date.

Despite the recent fall in oil prices, it is expected that oil prices will remain supported by tight supplies. After the build-up in inventories during the COVID-19 pandemic, they have been declining steadily (see fig. 11) throughout the year which, coupled with reduced refining capacity and investment, signals that existing capacity is less capable of meeting demand. In addition, with the recent EU embargo and G7 price cap on Russian oil, Russian producers would likely not be able to reroute all their oil supplies elsewhere in the short-term, leaving them to cut supplies while alternative arrangements are made. Where oil supplies are concerned, we also have to remember the dominant player – OPEC+. OPEC+ exists for one purpose and one purpose only: To support oil prices by cutting production whenever necessary. Its proactive approach it has taken to balance out excess supply this year so far is likely to continue in 2023 and oil prices are expected to edge higher.

With these in mind, we seek to enter a long WTI front-month futures trade at a price level of $82.06. We will be taking our profits at a level of $90.09, the Fibonacci retracement level of 38.2%. This is also a resistance level that has been tested multiple time previously. Our stop-loss level will be at $76.71, which will garner us a risk-reward ratio of 1.50. The Stochastic RSI has been at a level below 20 recently, which signifies that WTI futures are in the oversold territory, hence indicating a possible buy signal.

Entry: 82.06
Take Profit: 90.09
Stop Loss: 76.71
Risk Reward Ratio: 1.50

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Analyst

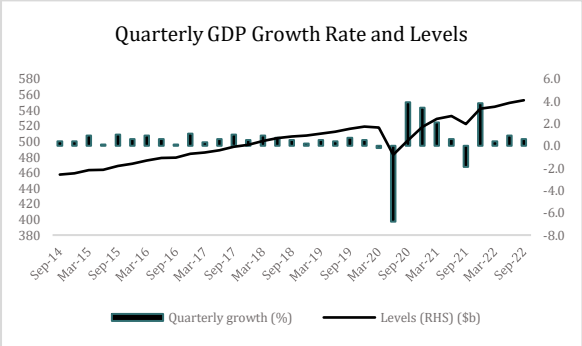
Angie Oh Ler Chee
Global Macro Analyst
(angieoh@u.nus.edu)

Basic Information

Real GDP (US$)	1542.66B
M2 (US$)	1782.16B
CPI	128
PPI	122
Con. Confidence	78
Building Permits	15382
Stock Index	ASX200
Currency	AUD

Chart info

Figure 1: GDP Quarterly Growth Rate (%)



Source: ABS

Figure 2: Quarterly and Annual CPI (%)

Overview of Australia

- Australia has a mixed market economy that is rich in natural resources. Australia is the 14th largest national economy by nominal GDP and the 22nd largest goods exporter and 24th largest importer. It also has the 2nd largest accessible reserves of iron ore and the 5th largest reserves of coal and significant gas reserves.

- The main contributors to Australia's GDP are the services sector (65.71%) and the industrial sector (25.5%). At the height of the mining boom in 2009 – 2010, mining contributed to 8.4% of the GDP. Despite the decline in the mining industry, the Australian economy has remained resilient and did not experience a recession from 1991 until 2020.

- Being a resource rich country, Australia's main exports are coal and petroleum gas (34.6%) iron ore (23.5%), gems and precious metals (6.3%) and meat (2.7%). Bulk of their exports are delivered to Asian countries, namely China, Japan and South Korea.

- Australia's main imports are machinery (14%), mineral fuels (13.3%), vehicles (13%), electronics (11.3%) and medical/technical equipment (3.7%). Australia mainly imports from China, US and Japan.

- 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.

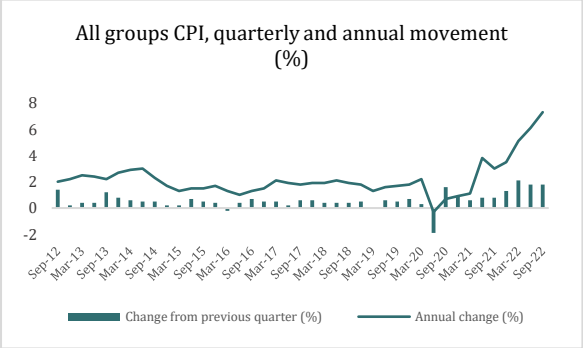
Summary of Events in the Past 6 Months

- Australia continues to face strong inflation running as high as 7.3% in September. To combat strong demand and high inflation, RBA has been consistently raising its official cash rate (OCR) since May 2022. To date, the OCR is at 3.1%, matching market forecasts. Despite RBA's relentless rate hikes, the labour market remains tight with the unemployment rate at 3.4% in October, returning to a half century low, underscoring the resilience of the economy

- The ongoing Russia-Ukraine war and supply chain disruptions from the pandemic continue to keep commodity prices elevated, further adding to Australia's export revenue and fiscal coffers.

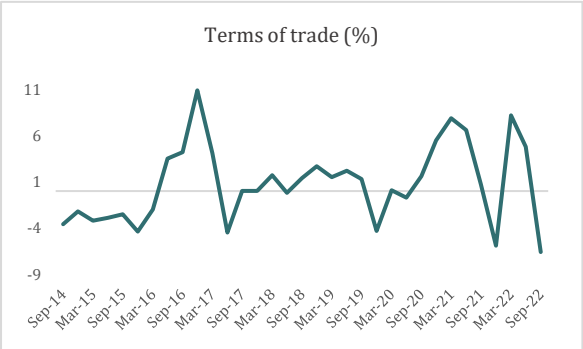
- However, China's persistence on its zero-covid policy has put a dampener on the Australian economy due to reduced demand for its exports, given China's status as its largest export and import partner.

- In the international trade space, India-Australia Economic Cooperation Trade Agreement (ECTA) has been approved and will



Source: ABS

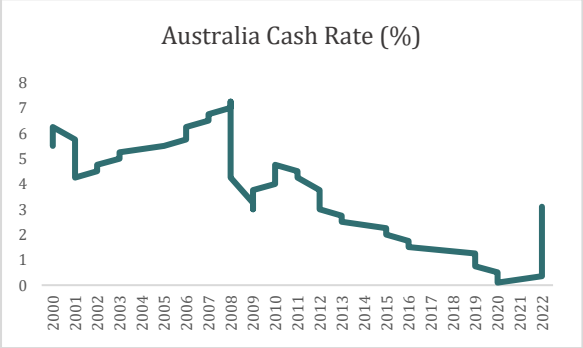
Figure 3: Terms of Trade (%)



Source: ABS

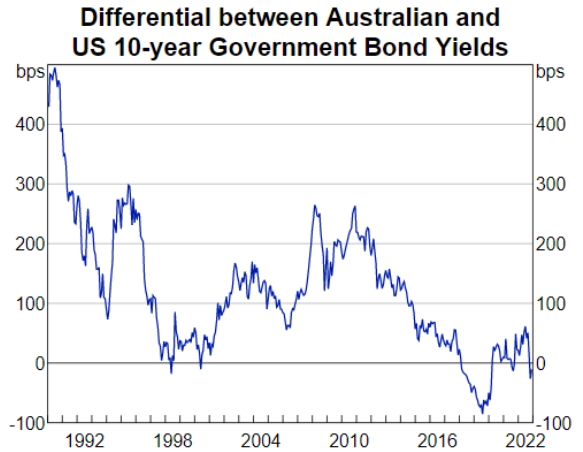
benefit Australia greatly through preferential access to the enormous untapped Indian market.

Figure 4: Australia Official Cash Rate (%)



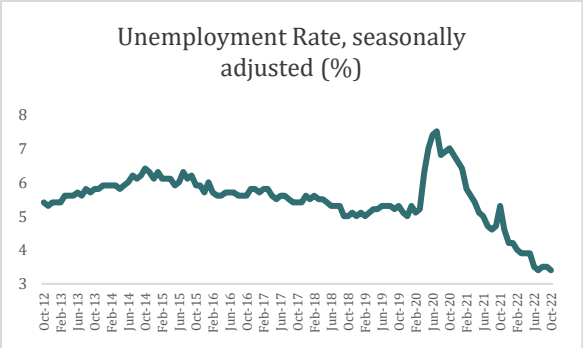
Source: RBA

Figure 5: Differential between Australia and US 10y Government Bond Yields (%)



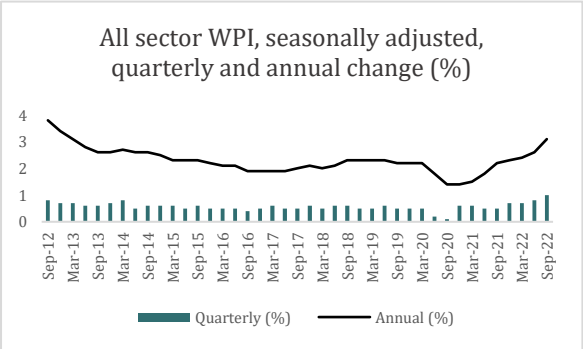
Source: RBA

Figure 6: Unemployment Rate (%)



Source: ABS

Figure 7: Wages Growth (%)



Source: ABS

RBA's Key Measures

Relatively Weaker Rate Hikes

In a global rate hiking environment, RBA (Reserve Bank of Australia) announced its first OCR hike on 4 May 2022, raising rates by 25bps. This was followed by 4 more consecutive jumbo hikes of 50bps each until September 2022. This trend was in line with many other central banks such as the Fed which has been hiking rates aggressively by 75bps.

RBA judged that an OCR hike would help bring inflation back to target and create a more sustainable balance of demand and supply in the Australian economy. RBA emphasized that price stability was a prerequisite for a strong economy and a sustained period of full employment. They acknowledged that monetary policy operates with a lag and that interest rates had been increased quite quickly and were getting closer to normal settings. Given the importance of returning inflation to target, the potential damage to the economy from persistent high inflation and the still relatively low level of the cash rate, the Board decided to lift OCR by another 50bps in September.

Contrary to market's expectations, RBA slowed its pace of rate hikes in October by lifting interest rates by a smaller-than-expected 25bps to 2.60%. This was against a backdrop of persistent inflation and an environment where many other central banks were still doing much larger hikes. RBA members noted that the cash rate had been risen significantly in a short period of time and that more time is needed for the full effects to show. With regard to inflationary pressures, members noted that wages growth had not reached levels that would be inconsistent with the inflation target. External inflationary pressures had also eased due to a deteriorating global outlook and the recovery of supply chains. In addition, drawing out policy adjustments would keep the public's attention focused for a longer period on the Board's resolve to return inflation to target. However, RBA did emphasize that more tightening would be required.

AUD sold off 0.8% on the back of the news in October, while interest rate futures jumped as the market priced in a lower peak rate. The news also led to speculation about possible dovish rate hikes from the Fed as well.

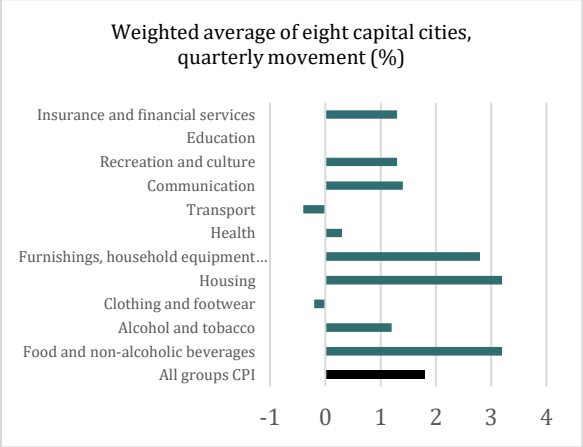
Since their 25bps rate hike in October, RBA has lifted OCR by 25bps in November and another 25bps in their final meeting in December, meeting market's forecasts.

Domestic Developments

Unemployment

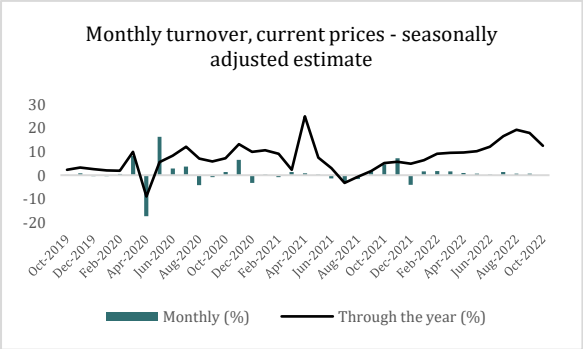
Australia's unemployment rate declined to 3.4% in October, reaching a half century low. Unemployment rate is expected to remain around 3.5% until mid-2023, before increasing to around 4.25% by the end-2024 as economic growth slows. Employment growth had slowed as spare capacity in the labor market declined. Wages growth continue to increase with the seasonally adjusted wage price index increasing by 3.1% YoY in Q3 of 2022, accelerating from a 2.6% gain in Q2, above market forecasts of 3.0%. The tight labor market conditions and higher inflation were expected to push wage growth higher. However, medium term wages growth remains consistent with inflation returning to target.

Figure 8: Main Contributors of Inflation (%)



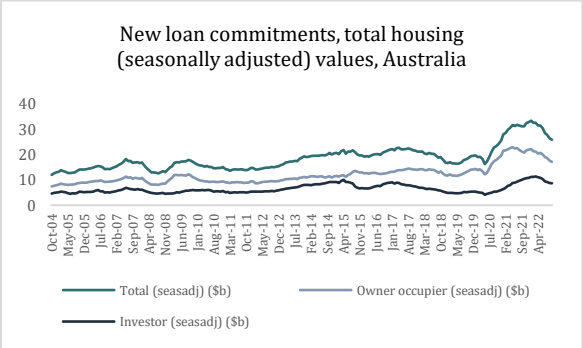
Source: RBA

Figure 9: Total Retail Turnover (%)



Source: ABS

Figure 10: New Housing Loan Commitments



Source: ABS

Inflation

Inflation in Australia climbed to 7.3% in Q3 of 2022 from 6.1% in Q2, above market forecasts of 7.0%, boosted by higher prices for new dwelling construction, food and automotive fuel.

New dwelling purchase by owner occupiers rose 3.7% as builders passed through increased costs for labour, materials, and freight. However, the slowdown in the rate of price growth in Q3 suggests slowing demand and improvements in supply constraints. Fewer grant payments from the Federal Government's HomeBuilder program and similar state-based housing construction grants also contributed to the rise. Utilities rose 4.8%, driven by Gas and other household fuels (+10.9%) and Electricity (+3.2%) Rents rose 1.3%, the largest rise since 2011, reflecting historically low vacancy rates.

Meals out and take away foods rose 3.1% due to rising input costs and labour shortages, and an end to the Dine & Discover NSW program. Fruit and vegetables rose 4.5% due to the effects of heavy rainfall and flooding, higher transport and fertiliser costs. Dairy and related products rose 6.8% due to higher milk prices.

Headline inflation is expected to rise to 8% by the end-2022 and decline to about 3% by the end-2024 and continue declining in 2025. Elevated electricity and gas prices are expected to slow the return of inflation back to target.

Domestic Growth

Household spending broke the upward trend with retail sales data showing a decline for the first time in October 2022. Sales dropped 0.2% from September versus an expected 0.5% gain. The increased cost of living and interest rate rises are starting to weigh on consumer spending. Turnover fell in all industries in October except for food retailing while consumer confidence is at a year low of 78 points.

Resilience of the housing market

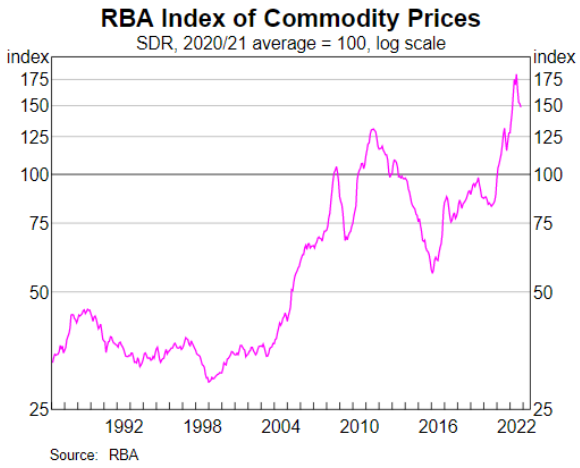
Housing prices have been falling due to monetary policy tightening. Higher rates also meant higher housing mortgage payments, further weakening households' balance sheets on top of high inflation. Housing mortgage payments are expected to rise further to record levels in the period ahead. This included the effect of fixed interest rate loans rolling off over time. Payments into offset and redraw accounts were still high, but less than 2021. Housing loan commitments had decreased further for both owner-occupiers and investors but this is in line with historical responses to increases in the OCR.

International Developments

Commodities

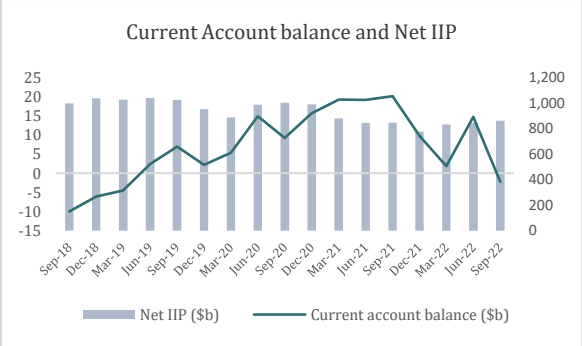
The supply chain disruptions and Chinese's frequent lockdowns has supported commodity prices in 2022. The ongoing Russia-Ukraine war has also contributed to higher energy prices with Russia being a leading oil and natural gas exporter. Political decisions including an announced reduction in supply by OPEC+ countries and expectations of a further tightening in supply when the EU's ban on Russia crude and oil imports take effect in early December would contribute further to the energy crisis and keep commodity prices elevated in the near term. EU's ban on steel and iron imports from Russia also gives Australia significant competitive advantage.

Figure 11: RBA index of Commodity Prices



Source: RBA

Figure 12: Current Account Balance (%)



Source: ABS

Australia, as a large gas and coal exporter, has been benefitting from the higher commodity prices. Australia's trade surplus increased to a three-month high of AUD 12.44 billion in September 2022 versus market forecasts of AUD 8.85 billion. Exports jumped 7.0% from a month earlier to the second highest on record of AUD 60.61 billion, while imports edged up 0.4% to a record figure of AUD 48.17 billion.

While the terms of trade boom have benefitted government and corporate revenues, it contributes to an inflationary spiral where firms pass on higher operational costs to consumers. Household budgets are further squeezed from higher utility and electricity costs.

In the medium term, the disadvantage from high commodity prices may outweigh the advantages. With the deteriorating outlook about an impending recession and continued weakness in China's property sector, demand for energy is expected to fall. Energy prices are projected to decline 11% in 2023. Australia's terms of trade would be negatively affected. However, while energy prices are set to fall, they are still expected to be 75% above their 5-year average.

Uncertainty from developments in the Chinese Economy

With China's status as Australia's largest trading partner, the Chinese economy has huge impacts on the Australian economy. Growth in the Chinese economy has slowed with spending heavily constrained by their zero-covid policy. The outcome from the National Congress of the Chinese Communist Party in October 2022 seems to suggest that this policy approach will continue for the foreseeable future. The weak property sector is also dampening growth, despite accommodative policies to support the sector. Weakness in the residential property sector - which accounts for around 1/5 of Chinese steel demand - will weigh on demand for steel, and so Australian iron ore, directly dampening growth in Australia.

On a positive note, China recently rolled back its tough Covid-19 rules, implementing major shifts such as allowing home quarantine, shorter lockdowns and erasing the need for mass testing. This has sparked optimism for reopening of the Chinese economy that is earlier than expected. Goldman Sachs forecasts a 30% probability of China reopening before Q2 of 2023. A reopening of the Chinese economy will strengthen global demand and benefit Australia's terms of trade.

However, the path to complete reopening remains uncertain with the Mainland China's daily covid infections surging to a record high of 40000 in late November. According to analysts, covid cases may skyrocket upon reopening and linger for a while which may also necessitate a different policy approach from the Chinese authorities. Furthermore, an earlier-than-expected reopening may not be all beneficial as the anticipated surge in covid cases may result in further labour shortage and increased supply chain disruptions.

Figure 13: AUDUSD Daily Chart

Source: TradingView

Trade Idea: Short AUDUSD

The Australian dollar AUD has sold off sharply in 2022 despite relatively strong fundamentals from a resilient trade balance. This is mainly due to the risk-off sentiment and a stronger USD from a hawkish Fed. Furthermore, the divergence in central bank policies also contributed to the widening of interest rate differential and the sell-off, with the Fed still raising rates aggressively versus the RBA slowing the pace of rate hikes since October. Year to date, AUD has traded to a multi-year low of 0.6200.

Catalysts

Major catalysts ahead are expected to continue to be centred around risk sentiment, USD dynamics and the deteriorating growth outlook. I expect to see poorer sentiment in the next 6 months because of several reasons.

Firstly, prior to the CPI data and the FOMC result in December 2022, the market was rather optimistic on the fact that US inflation is likely to have peaked and that the Fed would finally slow down on its rate hikes after consecutive 75bps hikes. Yet, market was unable to break several critical levels. While CPI data came in better than expected (YoY 7.1% actual vs YoY 7.3% expected), and the Fed did slow down on its rate hikes, market continues to fail in breaking those resistance levels across the various risk indices. We believe that the possibility of a Santa rally has now been reduced as market failed to rally beyond critical resistance despite several 'significantly' good news.

Secondly, the Fed's hawkishness has shown to weigh on risk sentiment after the December rate hike announcement of 50bps as the Fed reiterated that rates will be kept higher for longer, without any reductions until 2024 and reminded the market to focus more on the peak rate rather than the speed of rate increases. Their hawkishness dampened much of the optimism or relief that market was expecting given the first 50bps rate hike after several jumbo hikes.

Thirdly, with evidence of slowing growth in a rate hiking environment, it is difficult to be optimistic for AUDUSD in terms of risk sentiment and economic fundamentals. Going into 2023, Australia's terms of trade may decline from reduced economic activity and reduced demand for its exports while inflation may become more entrenched. However, if the Chinese economy does reopen fully, we would expect AUDUSD to be supported but overall, the global bleak outlook would exert much downward pressure on AUDUSD.

Technicals

From figure 13, AUDUSD has been trading in a range near the resistance level 0.67697, still below the 200sma. This price action is in line with other risk indices such as the SP500 as the market is waiting for the FOMC ahead for clearer direction. The downward trend still seems intact with the 200ma above the 150ma and the 150ma above the 50ma. Considering weaker fundamentals ahead, we are bearish on AUD for the next 6 months.

Trade

Entry: 0.68866
Take Profit: 0.65334
Stop Loss: 0.70699
Reward Risk Ratio: 1.93

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Analysts

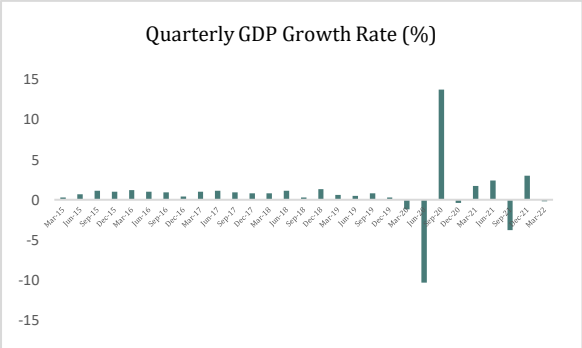
Angie Oh Ler Chee
Global Macro Analyst
(angieoh@u.nus.edu)

Basic Information

Real GDP (US$)	250B
M2 (US$)	240.36B
CPI	1186
PPI	1358
Con Confidence	87.6
Building Permits	3832
Stock Index	NZ50
Currency	NZD

Chart info

Figure 1: GDP Quarterly Growth Rate (%)



Source: Stats NZ

Figure 2: Top Exports in New Zealand (%)

Overview of New Zealand

- New Zealand has a free-market economy that is also rich in natural resources. New Zealand is the 50th largest economy in the world by nominal GDP, a sizeable number for a population of 5million and is well-known for its high level of social welfare, government transparency and economic freedom.

- The main contributors to New Zealand's GDP are the services sector (66%) and the goods-producing sector (20%). The country has a very globalized economy and is heavily dependent on international trade for growth.

- Being a resource rich country, New Zealand mainly exports agricultural commodities such as dairy products, meat, forest products, fruit and vegetables, and wine. Dairy is the lead export commodity – in 2021 New Zealand dairy exports totaled approximately US$12 billion. Bulk of its exports is delivered to China, Australia and US.

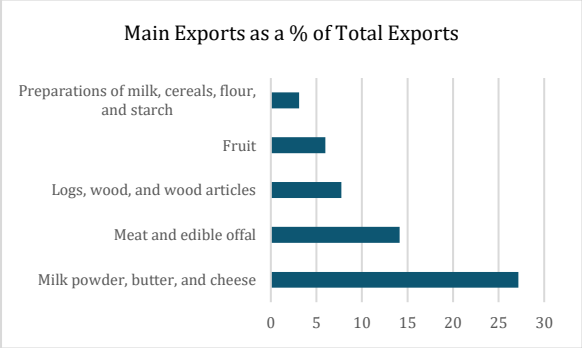
- New Zealand's main imports are vehicles, machinery including computers, electronic machinery and equipment, mineral fuels including oil and plastics. They mainly import from China, Australia and US.

- 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. New Zealand's 1983 Closer Economic Relations agreement with Australia means that the economy aligns closely with that of Australia.

Summary of Events in the Past 6 Months

- RBNZ continues its fight against hot inflation of 7.2% in September through its aggressive tightening of monetary policy. RBNZ started its rate hike cycle early since October 2021 and delivered consecutive 50bps hike since Feb 2022, until November 2022 when it lifted its official cash rate (OCR) by 75bps to 4.25%, meeting market's expectations. This marks the most aggressive monetary policy tightening since 1999.

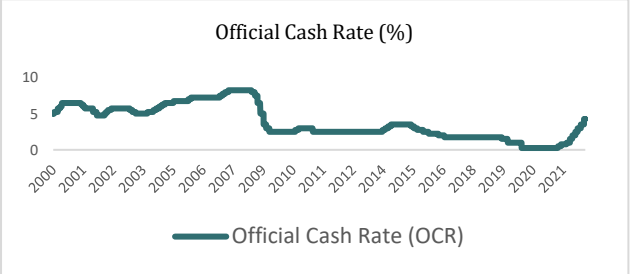
- Annual merchandise trade deficit continues to deteriorate. Demand for its agricultural exports is likely to remain weak as global demand weakens and recession risks rise. At the same time, New Zealand faces strong imported inflation. On a positive note, tourist arrivals have been increasing although its sustainability in the medium term is worrying.



Source: Stats NZ

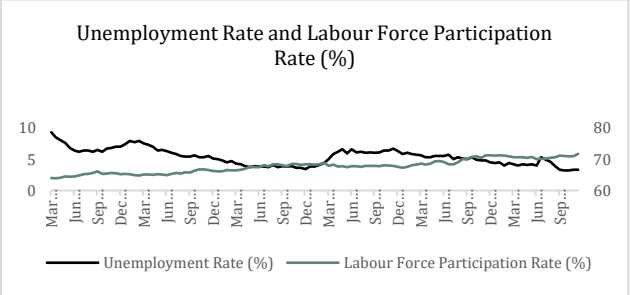
- Labour market remains very tight and domestic demand remains strong against headwinds

Figure 3: Official Cash Rate (%)



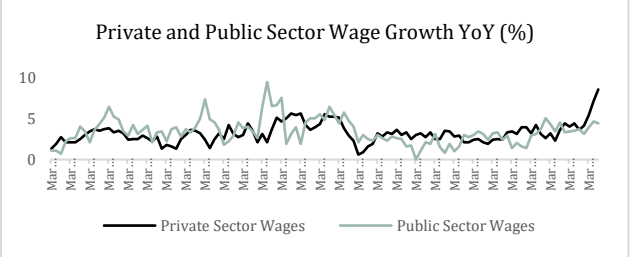
Source: RBNZ

Figure 4: Unemployment Rate (%)



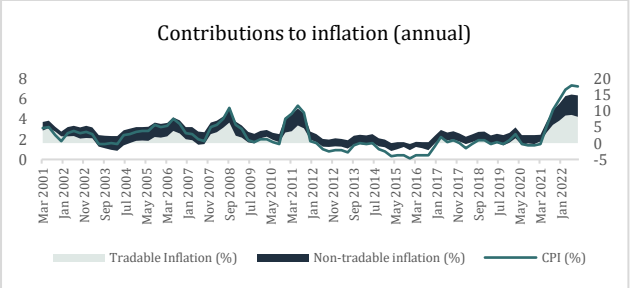
Source: RBNZ

Figure 5: Wages Growth (%)



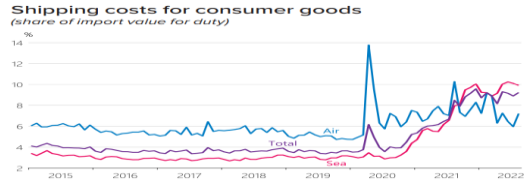
Source: RBNZ

Figure 6: CPI Inflation (%)



Source: RBNZ

Figure 7: Shipping Costs (%)



Source: Stats NZ

RBNZ's Key Measures

Relentless Rate Hikes

RBNZ (Reserve Bank of New Zealand) led the global rate hike cycle first in October 2021, raising its official cash rate by 25bps to 0.50%. The monetary policy committee (MPC) was aware of rising capacity pressures and the possibility that it would feed through into inflation. Employment is expected to remain at around its maximum sustainable level. Members concluded that monetary policy stimulus will need to be reduced to maintain price stability and maximum sustainable employment over the medium term. Going into 2022, RBNZ lifted OCR consistently by 50bps until November 2022 when it delivered its largest rate hike by 75bps.

During the November meeting, members agreed that inflation is currently too high, employment is beyond its maximum sustainable level and near-term inflation expectations had increased. Members agreed that a larger increase in the OCR was appropriate, given the resilience of domestic spending, and the higher and more persistent actual and expected inflation outcomes. The committee indicated more hikes ahead and a higher OCR peak of 5.5% in September 2023. Policymakers projected that the economy will start contracting in Q2 of 2023 and continue declining until Q1 of 2024.

Market participants are revising their OCR forecasts and anticipating another 75bps lift in February 2023

Domestic Developments

Unemployment and Wages

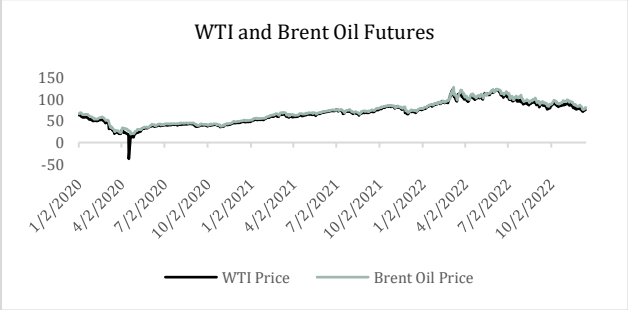
Labour market remains tight. The unemployment rate was steady at 3.3% in the September 2022 as a 1.3% rise in employment was met with a 0.8%-point lift in the participation rate to a record high 71.7%. Tight labour market conditions are following through to higher wage costs with Labour Cost Index inflation rising to 3.7%, led by a 3.9% rise in the private sector index, surpassing its previous high in 2008. Average ordinary time hourly earnings, which better reflects employee compensation, rose to a record high 7.4%, driven by an 8.6% increase in the private sector measure, also a record high. Labour market tightness is also being reflected in higher average weekly hours worked, which are high relative to historical norms. Elevated hours worked, in combination with rapid wages growth and robust gains in employment has resulted in double digit gains in the aggregate wages bill for five of the past six quarters. Overall, tight labour market conditions are supporting households' incomes and purchasing power and worsening inflation.

Over the medium term, employment is expected to decline in line with economic contraction. The slowdown in economic activity coupled with slow growth in the labour force should alleviate the problem of labour shortage. However, labour shortages are expected to persist, putting upward pressure on annual wage inflation to reach a peak of 5.7% in 2023.

Inflation

Price pressures continue to persist from both domestic and global factors with the annual CPI inflation data coming in at 7.2% in September, well above RBNZ's target of 1 – 3%. The tight labour

Figure 8: Oil Prices

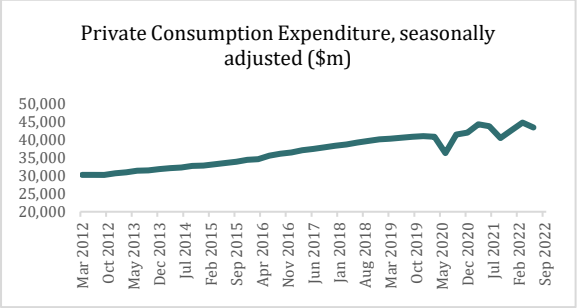


Source: RBNZ

Figure 9: Inflation Expectations (%)

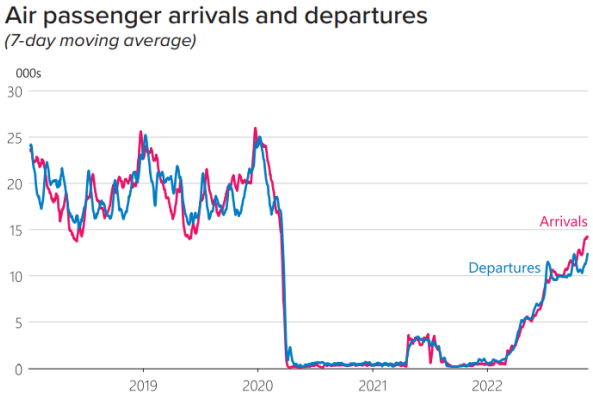
Source: RBNZ

Figure 10: Strong household spending



Source: RBNZ

Figure 11: Air Passenger Arrivals and Departures



Source: New Zealand's Customs Service

market is one domestic driver of inflation as mentioned above. Materials shortages and supply-chain bottlenecks also continue to limit production and increase overall costs. While supply chains have improved, it has yet to translate meaningfully into improved supply conditions or easing cost pressure for New Zealand firms.

Annual non-tradables inflation – which captures price changes for goods and services that are relatively less exposed to international competition – increased further to 6.6% in Q3. Non-tradables inflation continues to be driven by construction, rent and other housing-related price growth.

On the other hand, annual tradables inflation remains elevated as well at 8.1% in September. Increases in food, other commodity and energy prices from the Ukraine war worsened existing inflationary pressure that arose from the pandemic. Although global oil prices have declined from its March 2022 peak, they remain elevated and contribute to high petrol prices. In addition, high global food and fertiliser prices, coupled with poor weather events and rising wage costs, continue to drive high food price inflation. More generally, high inflation globally and a weaker NZD has led to high imported inflation in New Zealand.

Expectations of inflation have been steadily increasing at the same time inflation is becoming more broad-based. This suggests that RBNZ's rate hikes may not be as contractionary as hoped and core inflation is expected to increase higher.

In the medium term, inflation is expected to cool following some near-term strength. With a weakening global demand and growth outlook, it would exert less pressure on inflation and demand For New Zealand's exports. Annual CPI inflation is projected to return to within the 1 – 3% target band in the second half of 2024.

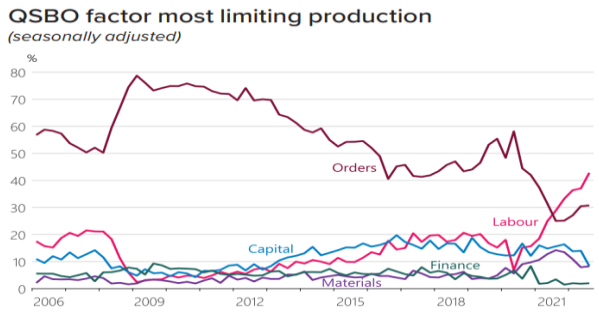
Domestic Growth

Demand remains resilient despite global and domestic headwinds. GDP increased 1.7% in Q2 and remains strong. Despite high inflation, rising interest rates, falling house and other asset prices, and increased global uncertainty, household spending remains strong with real consumption per person sitting above pre-pandemic levels Recent household spending has been supported by rising incomes, from high employment, increasing wages, and the Government's Cost of Living Payment. Savings accumulated, most notably during the lockdowns, have also strengthened household balance sheets.

On the tourism front, the industry has been recovering faster than anticipated since its reopening. New Zealand has been seeing increasing tourist arrivals, notably from Australia. Forward bookings are strong, with increasing bookings being made by traditionally higher-spending travellers from the US, Canada and the UK. The recovery in the tourism sector is expected to boost economic growth over the upcoming summer.

However, while demand remains strong, it is not matched with sufficient supply and fuels inflation. In the medium term, an economic contraction is likely due in large part to labour shortages, hot inflation, tight monetary policy and slowing global

Figure 12: QSBO Factors most limiting production (%)

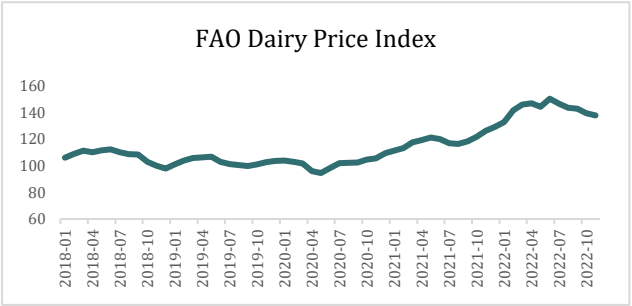


Source: NZIER, RBNZ estimates.

Figure 13: Terms of Trade, Export and Price indices

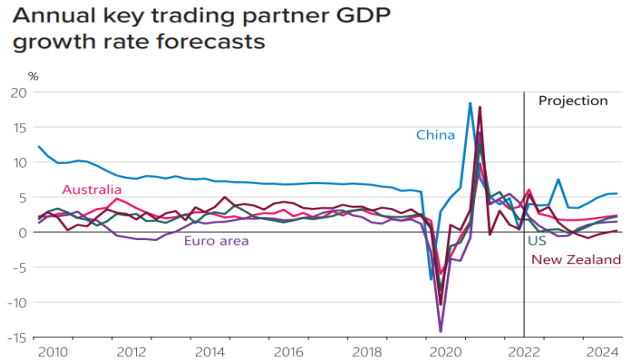
Source: RBNZ

Figure 14: FAO Dairy Price Index



Source: FAO

Figure 15: Key trading partner GDP growth rate forecasts (%)



Source: Haver Analytics, Consensus Economics, RBNZ estimates

growth. The peak to trough decline in GDP is expected to be about 1%. Employment may fall below its maximum sustainable level in the medium term.

International Developments

Weak Demand for soft commodities

New Zealand's terms of trade have been hit hard due to falling export revenue and severe imported inflation. Prices of key export commodities in New Zealand peaked in Q1 2022 and have gradually fallen since then. However, New Zealand's commodity export prices are still high compared to historical levels. Quarterly goods export prices are expected to fall by another 10% with a softening global demand. Export goods volumes are expected to grow below their long-term trend.

Weakness in the Chinese Economy

With China's status as New Zealand's largest trading partner, the Chinese economy has huge impacts on New Zealand's economy. Growth in the Chinese economy has slowed with spending heavily constrained by their zero-covid policy. The outcome from the National Congress of the Chinese Communist Party in October 2022 seems to suggest that this policy approach will continue for the foreseeable future. The weak property sector is also dampening growth in the Chinese economy, despite accommodative policies to support the sector.

On a positive note, China recently rolled back its tough Covid-19 rules, implementing major shifts such as allowing home quarantine, shorter lockdowns and erasing the need for mass testing. This has sparked optimism for reopening of the Chinese economy that is earlier than expected. Goldman Sachs forecasts a 30% probability of China reopening before Q2 of 2023. A reopening of the Chinese economy will strengthen global demand and may benefit New Zealand's terms of trade.

However, the path to complete reopening remains uncertain with the Mainland China's daily covid infections surging to a record high of 40000 in late November. According to analysts, covid cases may skyrocket upon reopening and linger for a while which may also necessitate a different policy approach from the Chinese authorities. Furthermore, an earlier-than-expected reopening may not be all beneficial as the anticipated surge in covid cases may result in further labour shortage and increased supply chain disruptions.

Figure 16: NZDUSD Daily Chart

Source: TradingView

Trade Idea: Short NZDUSD

The New Zealand dollar NZD has sold off sharply in 2022. The fundamentals in New Zealand have not been attractive with a trade balance deficit, high inflation, and very negative real rates. In addition, NZD is a risk sensitive currency that suffered from a dominant risk-off sentiment and a stronger USD in 2022.

Catalysts

Major catalysts ahead are expected to continue to be centred around risk sentiment, USD dynamics and the deteriorating growth outlook. I expect to see poorer sentiment in the next 6 months because of several reasons.

Firstly, prior to the CPI data and the FOMC result in December 2022, the market was rather optimistic on the fact that US inflation is likely to have peaked and that the Fed would finally slow down on its rate hikes after consecutive 75bps hikes. Yet, market was unable to break several critical levels. While CPI data came in better than expected (YoY 7.1% actual vs YoY 7.3% expected), and the Fed did slow down on its rate hikes, market continues to fail in breaking those resistance levels across the various risk indices. We believe that the possibility of a Santa rally has now been reduced as market failed to rally beyond critical resistance despite several 'significantly' good news.

Secondly, the Fed's hawkishness has shown to weigh on risk sentiment after the December rate hike announcement of 50bps as the Fed reiterated that rates will be kept higher for longer, without any reductions until 2024 and reminded the market to focus more on the peak rate rather than the speed of rate increases. Their hawkishness dampened much of the optimism or relief that market was expecting given the first 50bps rate hike after several jumbo hikes.

Thirdly, with evidence of slowing growth in a rate hiking environment, it is difficult to be optimistic for NZDUSD in terms of risk sentiment and economic fundamentals. On top of global slowing growth, given the high sticky inflation, acute labor shortages and an extremely hawkish RBNZ in New Zealand, an economic contraction is highly likely as economic activity declines from elevated levels. However, if the Chinese economy does reopen fully, we would expect NZDUSD to be supported but overall, the global bleak outlook would exert much downward pressure on NZDUSD.

Technicals

As shown in Figure 16, NZDUSD is currently at the Fibonacci resistance level 0.64397, in line with other risk indexes like the SP500 that are also facing strong resistance. Its current level is above the 200sma. However, the downward trend still looks to be intact with the 200sma above the 150sma and the 150sma above the 50sma. The MACD indicator is also suggesting that NZDUSD might be overbought at its current level. Considering weaker fundamentals ahead, we are bearish on NZD for the next 6 months.

Trade

Entry: 0.64397
Take Profit: 0.59855
Stop Loss: 0.66427
Reward Risk Ratio: 2.24

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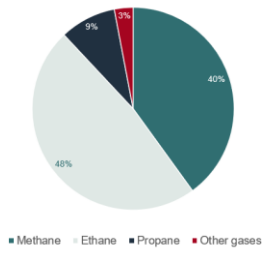
Analyst
Marcus Loo Wei Siang
Global Macro Analyst

marcus.loo@u.nus.edu

Chart info

Figure 1: Composition of NG



Source: Refinitiv Data

Figure 2: Henry Hub Gas Front-Month Futures

Source: TradingView

Figure 3: Dutch TTF Front-Month Futures

Overview of Sector

- Natural Gas (NG) trumps coal and oil as the cleanest-burning hydrocarbon to date and the world has seen rapidly growing adoption of gas usage amidst a transition towards application of green energy. NG is abundant and versatile: it is often cooled to liquid for easy shipping and storage.

- NG exists as an odourless, colourless and non-toxic gas and is produced associated and non-associated reserves (where oil is the main produce drilled and NG is a by-product of drilling). Condensate wells produce both raw and liquified gas. While providing warmth for cooking and heating, NG also fuels power stations as a fuel for electricity generation. This powers many industrial processes, that produce materials and goods. NG is also the largest factor input in the production of fertilisers and as such, possess price points of high correlation.

- Natural gases are subdivided based on number of carbon chains, with Methane Gas (C1) being the main type of natural gas burnt for energy due to higher energy released per unit of mass burnt. Methane is liquified to generated Liquified Natural Gas (LNG) by reducing its temperature to minus 260 degrees Fahrenheit to produce LNG for safety and ease of storage, before being heated back into gaseous state at pipeline distribution stations. Natural gases with a higher carbon chain count are classified as Natural Gas Liquids (NGLs) and are primarily used in the production of chemicals like plastics, aerosols and refrigerants. Compressed Natural Gas (CNG) is used in traditional combustion engines, while Renewable Natural Gas (RNG) is created via methane generated from the breakdown of organic waste. For the purposes of this report, **LNG** will be the choice of gas analysed.

- The most significant consumers of LNG today are the United States (U.S.), Russia and China, who make up for approximately 39% of the world's share. Consequently, the U.S., Russia and Iran stand as leaders of natural gas production, although the war in Ukraine may affect this – Russia has significantly cut exports to Europe, which previously relied on the country for 40% of supply, resulting in skyrocketing LNG prices and a scramble for alternative production sources.

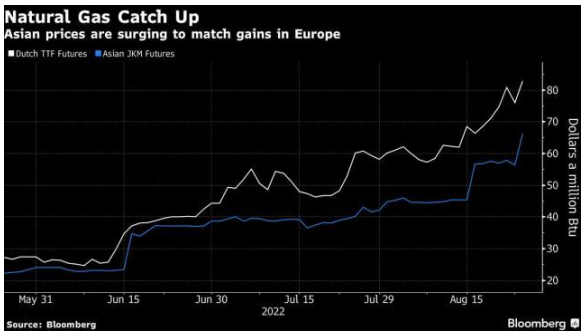
- Key benchmarks in the gas industry include Henry Hub for the U.S., the Dutch Tile Transfer Facility (TTF) for Europe and the Japan-Korea Marker (JKM) for Asia. While all three major markets operate relatively independently with different demand, supply and geopolitical factors, they are interconnected in a sense where arbitrage opportunities still exist between lower and higher priced markets after considering freight costs.

Source: TradingView

Figure 4: JKM Gas Front-Month Futures

Source: TradingView

Figure 5: Dutch TTF/JKM Futures (May-Aug'22)



Source: Bloomberg Intelligence

Figure 6: Current gas storage reserves in Europe, per country

Summary of events in the past 6 months

Bidding war provides strong price supports for LNG

- The invasion of Ukraine by Russia on 24 February triggered a major energy crisis, spilling over into the global economy and adding further pressure and uncertainty to an already tight natural gas market. European gas prices spiked to all-time-highs early September, becoming the premium market and attracting massive LNG flows to compensate for sharp declines in Russian pipeline deliveries. This competition for flexible LNG cargoes pushed Asian spot prices to a record high: price volatilities reached record levels due to unprecedented uncertainty (Figure 4). Developments in the energy crisis continue to dominate gas market movements as they have over the last 6 months and are slated to be as impactful until reliance on affected production sources can be found, or until winter ends in March 2023.

Cooling Off: Growing Focus on Energy Independency

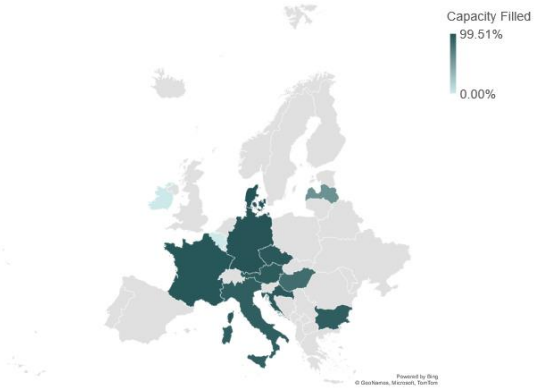
- A prolonged and aggravated war in Ukraine has seen gas exports from Russia falling 60% YoY, as gas lines grow increasingly unreliable due to "leaks" and lengthy service checks from Russian inspectors. Russian pipeline flows of gas to Europe are now a fraction of what they used to be-the Nord Stream 1 pipeline, which runs from Russia to Germany has since been stopped indefinitely over technical issues.

- As market players strive to achieve greater energy independency amidst import sanctions on Russia-produced oil, we observe an abrupt transitioning of trade flows: Europe (via the REPowerEU plan) has proposed to replace 100 bcm^3 of Russian gas with alternative supplies by the end of the year. U.S. is also committed to providing Europe with an additional 15 bcm^3 of LNG by end-2022, with export terminals operating at 95% capacity. These actions have been fruitful in cooling down prices, as inventory levels in Europe reached peak levels to meet high demand during winter. To date, 92.1% of Europe's gas storage has been filled-filling continues despite reaching target levels, to avoid industry shutdowns and power rationing (Figure 5). Fuller-than-normal stockpiles have given Europe a much-needed reprieve from the energy crisis and allowed alleviated demand pressure in an intense struggle for gas with Asian markets.

Calm before the Potential Storm

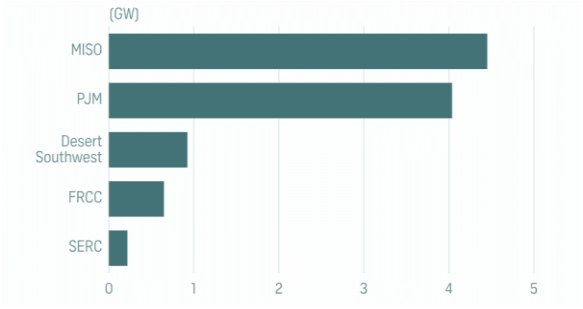
- Other contributing factors include warmer-than-expected winter, slowdowns in economic activity especially in the industrial production sectors as well as the construction of new gas pipelines have contributed to the cooling-off of gas prices towards year-end.

- Henry Hub prices reached a low of US$4.969, down 48.66% from an August high of US$9.680, due to increased levels of production to support growing global demand. As we approach year end however, one can observe a far more robust increase in price for Henry Hub gas futures, compared to other benchmarks. The continued retirement of coal-fired power across the U.S. as we cruise into year-end 2022 is promising to make generators more reliant on natural gas throughout winter. In 2022, U.S. power generators have already shuttered nearly 10.3 GW (gigawatts) of



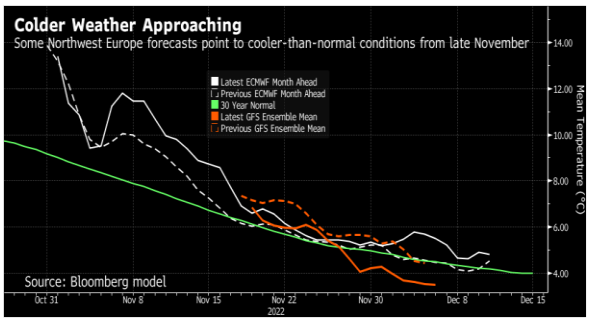
Source: Viborc Statistics

Figure 7: U.S. Coal Capacity Retirements by ISO/Region



Source: S&P Global Commodity Insights

Figure 8: A Cooler-Than-Expected EU Winter



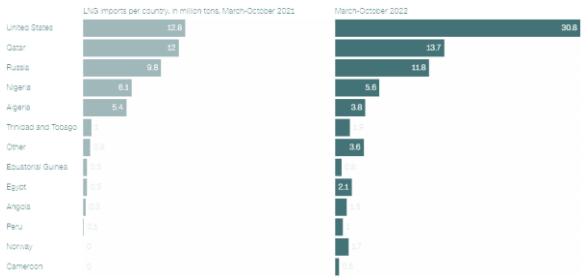
Source: Bloomberg Intelligence

coal-fired generating capacity, with another 3.3 GW of coal capacity scheduled for retirement (Figure 6)

- While the situation in Europe appears slightly more optimistic, with the Dutch TTF benchmark experiencing lesser price pressures, having achieved inventory quotas ahead of time-the threat of a shortage persists. By achieving short-term inventories quotas, Europe has spared no expense: it is no question that such expenditure is unsustainable in the long-term. European countries have also begun relying more on internal LNG terminals as routes for gas flows, although such flows are of marginally smaller volumes compared to that of gas flows from Russia. Under growing price pressures from a colder impending winter as well as unplanned capacity reductions from Norwegian producers, Europe nations strive for long-term, sustainable energy independence come 2023.

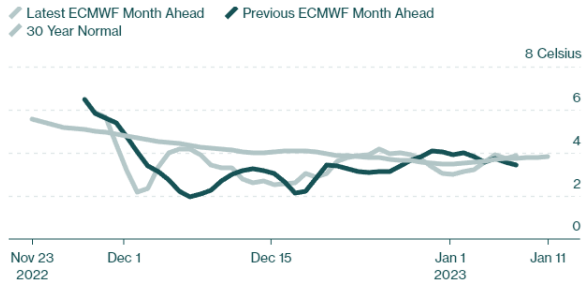
- Without Europe gunning neck and neck for gas flows, Asian LNG prices have cooled off after hitting record highs at the zenith of the energy crisis. Resurgence of COVID-19 cases and the resumption of city-lockdowns amidst sluggish economic growth in China have crushed industrial demand for coal: State-owned oil and gas giant PetroChina has forecasted that China's natural gas demand growth in 2022 may be the lowest annual rate record. Increased supply from higher gas production and piped gas imports via the Power of Siberia are contributing factors that continue to deflate price pressures. In addition, increased supply of coal and renewable generation will further discourage gas use in power-China has seen a 15% YoY decrease in gas-fired power generation during H1 2022. Other significant events which potentially affect natural gas markets include a pursuit towards sustainable green energy and a shift in China's zero-COVID policy, which will be discussed in detail in the next section.

Figure 9: Europe ramped up imports of Russian LNG in 2022



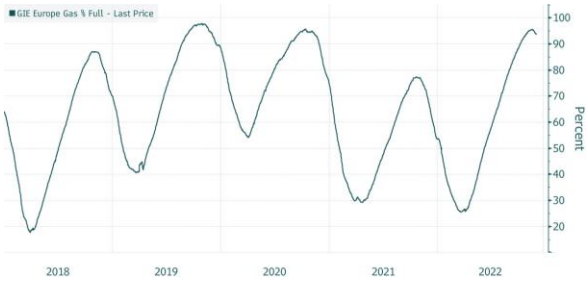
Source: Rystad Energy

Figure 10: European weather to drop below seasonal norms



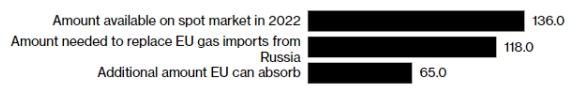
Source: ECMWF

Figure 11: Europe has begun drawing from gas storages



Source: Gas Infrastructure Europe

Figure 12: An uphill battle as EU tries to wean itself off Russian energy



Source: Bloomberg Intelligence

Europe's Chronic Energy Crisis

Following Russia's invasion of Ukraine, the European Commission's REPowerEU Communication has outlined a 10-Point Plan to reduce the Europe's reliance on Russian produced gas, which identified the expiry of long-term Russian contracts as a clear near-term opportunity to significantly diversify gas supplies. Several EU member states are already moving ahead with phasing out Russian gas: Lithuania ceased Russian gas imports in April, while Bulgaria, the Netherlands and Poland all announced that they do not intend to renew long-term contacts with Gazprom, slated to expire end-2022. Yet while Russian energy exports have fallen starkly since Moscow's invasion of Ukraine in late February-Europe remains heavily reliant on imports of Russian LNG. LNG is a prized resource because it can be moved relatively cheaply by land via pipelines, to fixed points where it can be loaded aboard refrigerated ships and sent across the globe-it is dynamic, cost-saving and inventory-friendly. Russian LNG flows into Europe and the United Kingdom (UK) rose by nearly 20% March and October 2022 compared to similar periods in 2021. While a full inventory back in October appeared to many as saving grace, Europe and her various gas-hungry economies are far from being out of the woods: reflected by a trend reversal observed in TTF benchmark prices as they have spiked from a 6-month record low.

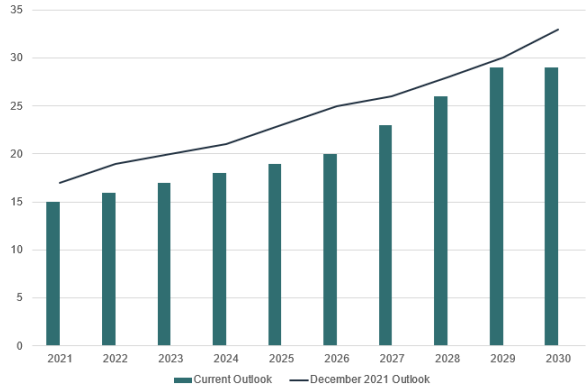
Temperatures across Europe are likely to plummet in December after a relatively warmer November. Cooler conditions expected in Europe are due to an asymmetric, weaker polar vortex and an ongoing split of the vortex at lower levels. This would yield increased demand for LNG especially in Central and Northern Europe, assuming Arctic blocking remains strong-signalling a long and persistent winter. A milder-than-normal autumn allowed European utilities time to refill gas tanks, but winter's cold spell will stress that storage. TTF Contracts in December are trading four times higher YoY, leaving industry and households facing soaring costs. Cold weather's reach has touched not only Europe but even places like Mongolia, with temperatures as low as -47 Degrees Celsius. Combined cold fronts in both Asia and Europe could increase competition for LNG as nations clamber to replace Russian gas flows, reflected as both the TTF and JKM benchmark prices move in tandem on an uptrend.

Global LNG production, led by the U.S., Qatar and Australia is expected to total 455 million tons in 2022, with roughly 70% of cargoes on ships in transit reserved for customers holding long-term contracts, while the remaining 30% are sold on the global spot market. This roughly translates to 136 million tons of LNG open to trade-which covers Europe's gas imports from Russia, the equivalent of 118 million tons of LNG. However, Europe's 24 import terminals only possess enough storage capacity to take in half this amount. With Asia hungry to snap up any excess LNG, it is a race against time: EU nations scramble to construct even more LNG import facilities, despite arduous legal and financing processes. LNG supply is ostensibly inelastic, since the process of approving and financing a plant takes years. In June 2022, a fire at a Texas LNG plant temporarily knocked out 20% of U.S. exports in June and plans of reconstruction were delayed until November, underscoring the global supply shortage.

Asia: Saving For A Rainy Day

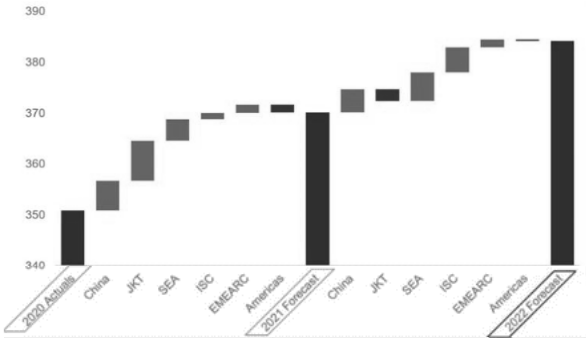
Asia, much like her European counterpart, has ailed from a protracted supply crunch. Asian LNG demand has experienced robust growth

Figure 13: Southeast Asia LNG demand



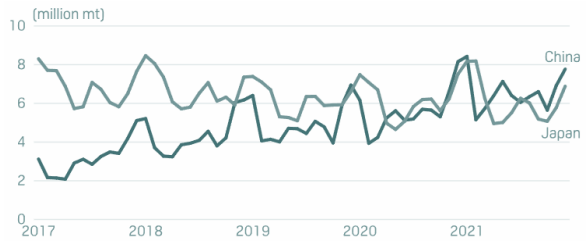
Source: S&P Global Commodity Insights

Figure 14: Asia driving global LNG demand growth (in million tons)



Source: Wood Mackenzie LNG Demand Tracker

Figure 15: China stands as the world's largest LNG importer



Source: S&P Global Platts Analytics

compared to pre-pandemic levels, bolstered by economic resilience and pro-gas policies as developing nations switch from pollutive fuels to gases and other forms of clean, renewable energy. Forecasts by Wood Mackenzie indicate that Asian demand will drive global LNG demand, doubling by 2050. JKM benchmark prices jumped 20% in October, with European competition giving rise to an extremely tight market. Key North Asian economies such as Japan and China are stockpiling fuel, diversifying sources and conserving power to ensure economies possess adequate resources to tide through winter. Given the substantially high LNG prices, a sudden cold snap could quickly deplete inventories and nations would be slapped with hefty premiums. LNG prices are also being pushed higher by Shell PLC, the largest LNG trader in the world, which has been bidding to secure spot shipments for delivery to China in January.

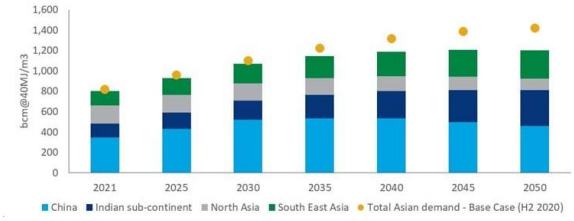
Chinese authorities accelerated a shift towards reopening the economy, with Shanghai and Hangzhou easing COVID-19 restrictions after rigorous protests towards the nation's stringent policies late November. Both states look to scrap mandatory PCR testing and re-open public venues and rides-while this may place greater strain on LNG reserves, the impact of the global energy crisis may not wreak as much havoc on Chinese soil: despite re-openings China's macroeconomic backdrop remains weak compared to pre-COVID levels and a high spot LNG pricing environment continues to curtail price sensitive industrial demand. China has also bolstered her position as the world's largest importer in H1 2022 and can add as much as 21.5 million MT/year of LNG receiving capacity, up from the 14 million MT/year in 2021. This comprises eight new LNG terminal projects and two additional expansions projects that will take China's total LNG receiving capacity to over 127 million MT/year in 2022. China continues to pump gas domestically and will be fuelled by Russian supplies, by pipeline and LNG shipments. Countries in Southeast Asia (SEA), on the other hand, have ambitious plans to expand the use of gas, with 138 gigawatts of gas power plants in the pipeline, increasing the gas-fired operating capacity more than twofold. Vietnam takes point on the region's planned expansion with 56.3 gigawatts in the pipeline and 29.9 gigawatts from the Philippines. Data from Wood Mackenzie indicates that Asian gas demand would only peak after 2045, when the last import terminal project, "AET-2", is completed. LNG has become a popular fuel option especially in developing Asian countries that seek to improve energy sufficiency while avoiding further exposure to coal investment risks.

The above are factors that potentially lead to future and longer-term gas shortages in Asia, primarily via SEA-driven demand in the near term and China, once her economy has recovered from COVID-19 drawbacks. Asia approaches the New Year with caution: countries like Japan and South Korea have already begun campaigns to cut energy usage, incentivising households and businesses to reduce energy consumption. With the threat of La Niña – cooler-than-expected temperatures in the Northern Hemisphere – Asia must remain resilient in the face of an impending gas shortage.

Supply-Chain Issues in the U.S.

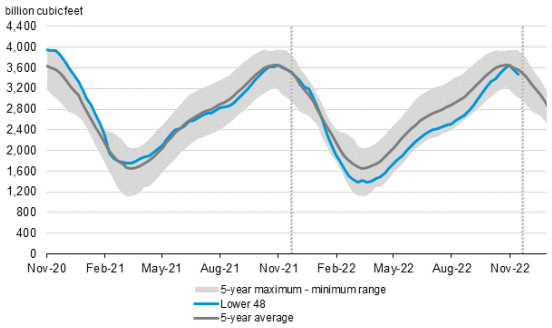
The energy situation in U.S. is no different to that of Europe and Asia, although it appears to be less severe. In June, Freeport LNG, operator of one of the largest U.S. export plants producing LNG shut down for three weeks following an explosion at its Texas Gulf Coast facility,

Figure 16: Projections of Asian Natural Gas Demand



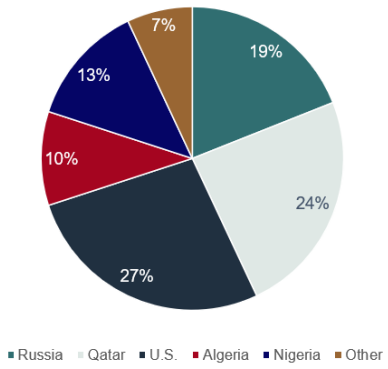
Source: Data from Wood Mackenzie

Figure 17: U.S. 2021-2022 Natural Gas Inventories (in bcf)



Source: U.S. EIA

Figure 18: Key LNG suppliers to EU in 2022



Source: ICIS LNG Edge

raising the risk of shortages especially in Europe. Henry Hub prices fell mid-June as traders anticipated that this outage would lower domestic demand, while increasing the supply of LNG domestically, deadlocked due to Freeport's destruction. The Freeport plant can process up to 2.1 billion cf of LNG per day, and at full capacity can export 15 million tonnes per annum (MTPA) of liquid gas. Data from the Independent Commodities Intelligence Services (ICIS) shows that 68% of Freeport LNG exports in the months of March, April and June 2022 went to the EU and Britain. Repairs were slated to complete in three weeks, but Freeport only resumed duties late November 2022, causing widespread market impact that drove European gas prices up to a fifth higher, further stressing an already tight market. Domestic production is projected to increase from 98.07 billion cubic feet per day (bcfd) in 2022 to a record 94.57 bcfd as we cruise into 2023. Average Henry Hub spot prices have dropped precipitously as inventories swelled in Fall – with prices falling from US$8.80 on average in August to US$5.66 in October.

In the short run, it can be expected that there are more bearish sentiments on Henry Hub futures benchmarks as we welcome the new year: with domestic production slated to increase, U.S. appears poised to take the forefront of international LNG production.

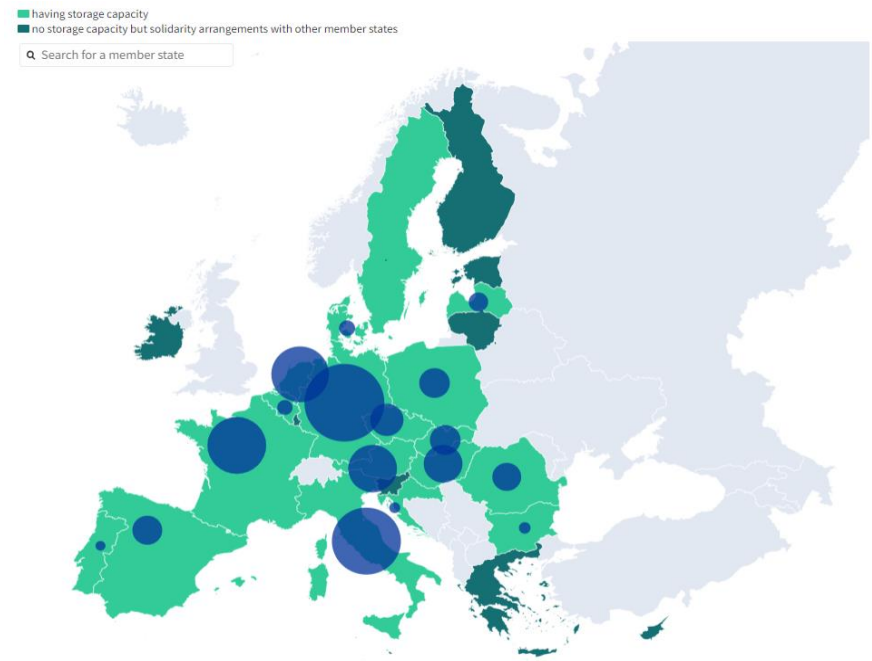
The Endemic, At Long Last

After three years of a "Zero-COVID" policy and outbursts of raucous protests, Chinese authorities have loosened their Draconian stance on strict COVID-19 measures come year-end, slashing testing, quarantine and lockdown requirements. China once stood as the top importer of LNG pre-COVID and is poised to reclaim this position. JKM spot LNG prices have risen in December 2022 on positive sentiment after China eased COVID-19 restrictions, as well as large ticket purchases from major market players, such as Shell and Exxon. Currently, the average LNG price for January delivery into Northeast Asia (LNG-AS) is US$37/mmbtu, up $2 (5.7%) from late November 2022. Analysts have seen a strong demand case moving forward but weakness in oil and European prices, on top of favourable temperatures, has kept pricing relatively flat despite the good news. The global LNG market continues to eye the prospect of reinstation of COVID-19 controls – but a consensus has begun to emerge that spot LNG delivered cargo prices must fall substantially so as to spur significant increases in demand from Chinese industrial and power sectors. While fossil fuel markets are pricing in uncertainty and reduced global demand with selloffs, markets can move in either direction in the upcoming weeks depending on updates released on the relaxation of measures, which will ultimately affect expectations of global energy demand. We will be keenly observing updates on restrictions to determine impacts on gas markets.

Figure 19: Dutch TTF – Henry Hub Natural Gas Futures (TTF1! – NG1!) Front Month Contract

Source: TradingView

Figure 20: EU Gas Storage Capacity and Filling Level in Member States (Updated 21 November 2022)



Source: Data from Gas Infrastructure Europe (GIE)

Trade Idea: Long TTF Front Month Contract, Short NG Front Month Contract

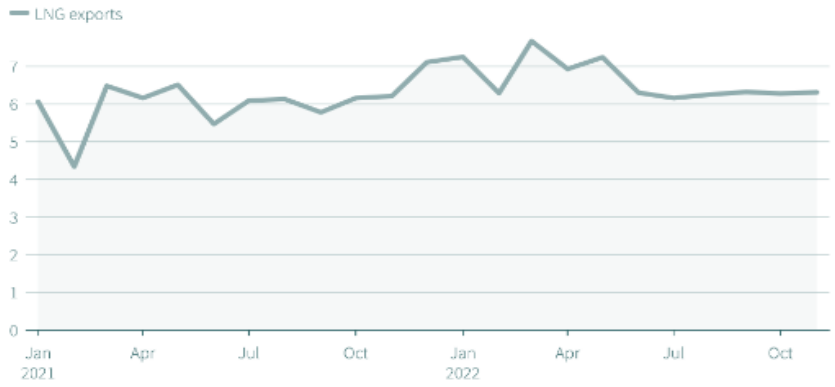
Europe is still not out of the woods from the energy crisis yet, as her nations remain scrambling to find sustainable, long-term alternatives to replace Russian produced energy. At the same time, a colder-than-expected winter is about to hit Europe with cooler temperatures expected in many areas, thereby increasing demand for heating. An increase in Dutch TTF price pressures on European LNG futures in the coming months as well as competition against Asian markets are the cornerstones that allow us to take a long trade on the TTF front month contract.

Conversely, natural gas inventory levels are increasing in the U.S. despite cooler weather as domestic production ramps up. With U.S. export terminals already operating at maximum capacity, there will likely be continued downward pressure on Henry Hub futures prices as we approach the new year. With bullish prices on Dutch TTF gas futures contracts and bearish price pressures on Henry Hub ones we are able to assume a long position on the TTF front month contract while assuming a short position on the NG front month contract concurrently. This spread is likely to widen if China decides to fully commit to abolishing her Zero-COVID policies and resume business as usual – European and Asian markets would once again enter a purchasing race for NG contracts, driving the spread between Dutch TTF and Henry Hub contracts.

While some may see the widening spread as an arbitrage opportunity – where cheaper gas produced in the U.S. can be liquefied and transported to Europe for sale, liquefaction and export capacity in the U.S. is currently at a maximum. Moreover, NG exports from the U.S. to Europe are unlikely to significantly increase as a cold winter is forcing many companies to store natural gas. This ensures that any increasing spread between two contracts can be sustained until winter blows over.

Technically, there is an ascending channel pattern with both the lower and upper trendlines both being tested more than 4 times. This represents a bullish pattern – combined with conclusions from previous

Figure 21: U.S. LNG Exports To Remain Flat as Domestic Demand Increases



Source: Refinitiv Eikon

fundamental analysis we are able to derive that the spread between the two contracts is likely to widen. We also can observe bullish divergence on the Relative Strength Index (RSI), which may hint at further spread deviation. The spread appears to meet resistance at the 0.382 Fibonacci retracement level of 187.245. The trade mentioned above can be entered if the spread continues to decrease and reaches the 97.705 level, which is the lower line of the ascending channel. The stop loss can be set at 73.725, which is a support level tested numerous times previously, while the take profit level can be at the 0.5 Fibonacci retracement level at 219.510. We derive a conservative risk-to-reward ratio of 1.50.

Entry: 97.705
Take Profit: 187.245
Stop Loss: 73.725
Risk Reward Ratio: 1.50

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Analyst

Marcus Loo Wei Siang
Global Macro Analyst

marcus.loo@u.nus.edu

Chart info

Figure 1: Newcastle Coal Futures – Front Month

Source: TradingView

Figure 2: Rotterdam Coal Futures – Front Month

Source: TradingView

Figure 3: Global Coal Consumption 2010-2026

Overview of Sector

- Coal stands as one of the oldest fossil fuels used as a source of heat and energy. Despite its significance in powering economies throughout history, demand for coal continues to dwindle especially n OECD countries due to its highly pollutive, carbon-intensive nature. Nations are opting for cleaner, renewable energy sources such as nuclear, solar, wind, geothermal and hydroelectricity, with many pledging net Carbon-Zero initiatives in the upcoming decades. Oil and natural gas are two key fossil fuels that are significant substitutes to coal, while being "cleaner" at the same time, given lower concentrations of carbon.

- Coal can either be classified as thermal or coking coal: thermal coal is used for electricity generation and for heating processes, while coking coal is used to produce metallurgical compounds such as steel and iron. Coking coal possesses greater amounts of carbon and lesser moisture and ash than thermal coal, making it a suitable choice for long-lasting burning that generates elevated temperatures. It can further be subdivided based on different grades like hard coking, semi-hard coking as well as Pulverised Coal for Injection (PCI).

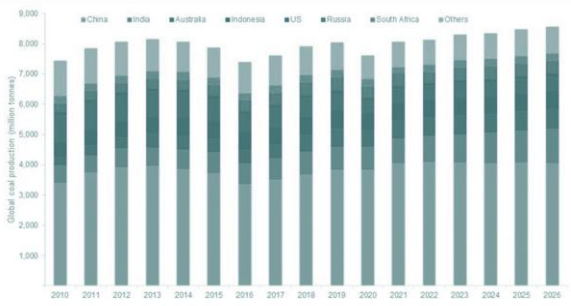
- The largest producers of coal today are China (3,969 mt/year), India (829 mt/year) and Indonesia (592 mt/year). As we cruise further away from the pandemic, the world's coal output has expanded by 5.7%, just above the 2019 pre-COVID levels following a rebound in global demand. China and India stand as major consumers of coal by a large margin and constitute more than 60% of global demand for coal in 2022.

- Key benchmarks for global coal markets comprise the Newcastle coal futures benchmark, which denotes the common benchmark for coal spot prices in Asia, as well as the Rotterdam coal futures, which denote coal prices in Europe. The Newcastle coal futures benchmark measures prices of high-quality thermal coal produced in Australia, exported to Asian nations that reply on this supply heavily. The Rotterdam coal futures measures coal prices traded in the Rotterdam Exchange in Netherlands and s the primary price reference for coal traded in Europe.

Summary of events in the past 6 months

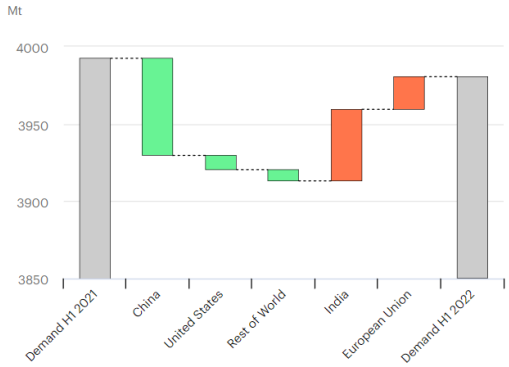
- U.S. rail strikes continue to bolster coal prices, as supply shocks rock the market. Widespread unrest is prevalent among railroad workers due to unsatisfactory pay and tough work conditions – railroad disruptions and wage hikes threaten to develop an extremely illiquid market. Nevertheless, a legislation signed by the Biden Administration in early December may have averted this, sparing the economy some of the commodity price impacts that were expected if a strike had occurred.

- China has increased coal output to record levels, with production surging 13% in the first 8 months of 2022 compared to the same



Source: Data from Mining Technology

Figure 4: Changes in Global Coal Consumption



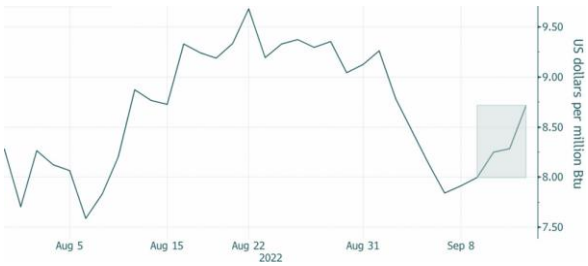
Source: Data from IEA

period in 2021, up 22% compared with 2019. Production has increased as the Chinese government strives to achieve production independency, cutting reliance on imports while indigenising supplies of critical energy sources.

- Across the ocean, Indian coal imports have increased drastically, by 25% - despite high outputs of coal from domestic produces. This has also occurred despite global coal benchmarks crossing all-time soaring prices averaging around US$320/tonne in the second half of 2022. This increase in Indian imports is driven by demand growth from non-coking coal, which forms more than 65% of India's coal import, due to cooler weather and increasing air-conditioning demand.

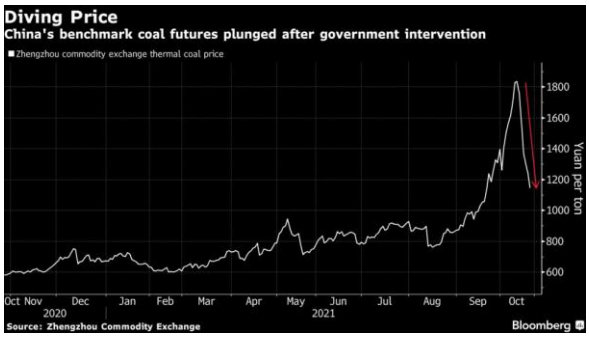
- At the World Coal Leader's Network held from 23rd to 25th October 2022, counties have pledged towards carbon net-Zero policies, yet these goals are idealistic to many: the worst of the energy crisis has yet to pass, and countries are finding it harder than ever to switch to cleaner energy sources given their exorbitant prices.

Figure 5: U.S. Rail Strike Shakes Up Commodity Markets



Source: Bloomberg Intelligence

Figure 5: Spot Coal Prices Plunge in China After Government Intervention



Source: Zhengzhou Commodity Exchange

Close Shave for The U.S.

U.S. President Biden signed into law on 2nd December 2022 a legislation that averted a nationwide rail strike following a months-long dispute between railroad companies and unions. A rail strike would have interrupted coal deliveries to power plant and placed immense upwards pressure on natural gas and electricity prices in an already tight market. The bill effectively forces the adoption of the terms of a tentative deal struck between unions and railroad in September that was facilitated by Biden but rejected by unions – with it comes a 24% wage increase over a five-year period between 2020 and 2024, with a 14.1% wage increase effective immediately. The Association of American Railroads (AAR) projected that a strike could cost the U.S. at least US$2 billion a day in overall lost economic output and that a two-week national rail closure could result in the loss of more than 750,000 obs. The coal industry in the U.S. has long been plagued with logistical problems, with railroad employment down 20.% since November 2018, placing a cap on railroads' abilities to ramp up shipments even as the U.S. coal sector experiences a brief resurgence in response to higher energy prices.

China Clamps Hard On Coal

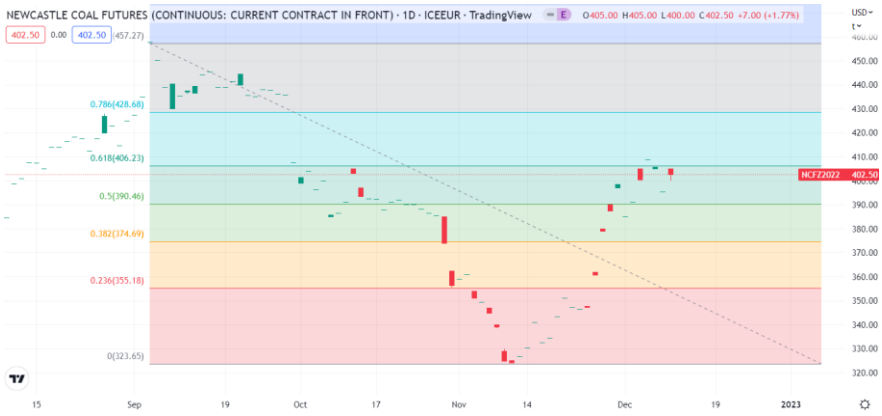
China has set a benchmark price of US$92.76 per tonne of coal and is looking to expand her use of coal to help stabilise prices in the long term and ensure market supply. China's long-term thermal coal supply contracts for 2023 cover all coal mining companies, coal-fired power and heating plants. Since widespread electricity curbs in 2021, Beijing has been pressuring coal miners to meet power producers' needs under long-term contracts and prices that are far lower than spot market rates – The National Development and Reform Commission (NDRC China, responsible for coordinating synergies between energy and national development planning) requires coal mines to sell at least 80% of their overall production capacity and 75% of thermal coal production under long-term contracts. If coal miners fail to meet deliveries, they will be ordered to supply three times the initial coal volume as compensation to their original customer. Through this regime, China will be able to effectively secure a supply of coal and ensure storage levels are above water. In the near term, this would signal and proportionately large injection of coal into the market. However, we expect price pressures on coal to pick up cruising into 2023, due to growing demands from Asian markets.

A Step Further From Net Carbon Zero

Over in Europe, the German government is beginning to open up 5.9 gigawatts of mothballed coal units in order to save gas, as the nation expects greater energy demand due to a cooler-than-expected impending winter. Power balance has also worsened due to nuclear closures amounting to 4.1 gigawatts of energy. Data retrieved from Energy Quantified suggests that the net increase of coal-fired capacity next winter (Q1 2023) will be about 4.3 gigawatts – this net number was derived from a combination of plants that are re-started, plants that remained online despite exit plans as well as plants that are following the ordinary coal-exit plan. The gross added capacity due to the government plan is estimated at 6.1 gigawatts. With German infrastructure poised for widescale storage and production of coal, the nation's goal of net-zero by 2050 appears to be a far cry, a tall and expensive order.

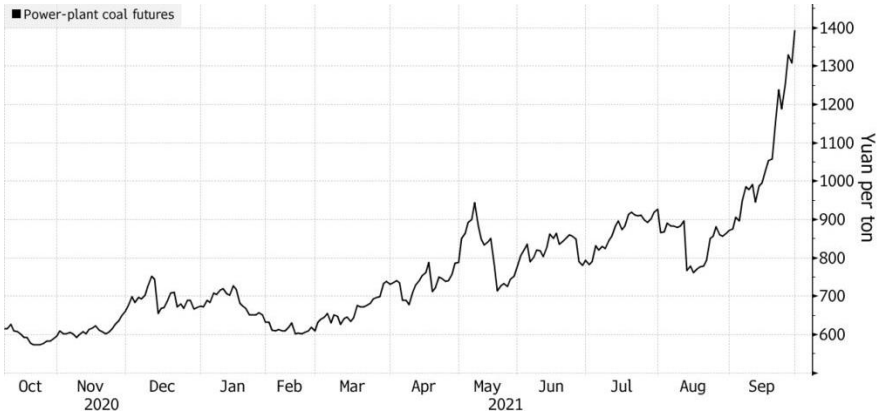
Billions of euros in aid given to coal regions in the EU have failed to spearhead an effective climate transition, boding poorly for the future further complicated by the Ukraine War. Some $12.55 billion euros were disbursed to seven coal-producing regions in Germany, Poland, Romania, the Czech Republic and Spain between 2014-2020. The funds in question were used more for related development upgrades ranging from health to transport infrastructure, among other broad quality of life products but ultimately provided little to no impetus on the transition to “green” energy.

Figure 6: Newcastle Coal Futures (NCF1!) – Front Month Contract



Source: TradingView

Figure 7: Zhengzhou Commodity Exchange Thermal Coal Futures



Source: Zhengzhou Commodity Exchange

Trade Idea: Short NCF Front Month Contract

Various countries in Asia, especially India and China, have been increasing imports and production of coal aggressively to ensure supplies are maintained at safe levels. As such, countries' coal inventories would maintain at secure levels and are likely to increase, to cope with the energy crisis. This increase in domestic supply over the upcoming months will weaken prices in Asian coal markets including Newcastle thermal coal, since these nations would rely lesser on imports. While ZCE coal futures prices have spiked in September, what follows is a dip back down to levels of normalcy around the 800-950 yuan/tonne region, denoting downward pressure on foreign produced coal.

The possibility of a worsening energy crisis resulting in insufficient inventory of coal amidst peak demand is a threat to this trading strategy, although this is highly unlikely as inventory levels remain high.

Technically, the current price chart resembles a bearish flag, which is a bearish pattern. We can enter a short trade should prices hit the 0.5 Fibonacci retracement level of 390.46, while placing our stop loss at the 0.618 Fibonacci retracement level of 406.23. Take profit would be at 357.3, which is a level of resistance that has been tested twice previously. This represents a risk-reward ratio of 2.10

Entry: 390.46
Take Profit: 357.3
Stop Loss: 406.23
Risk Reward Ratio: 2.10

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Analysts
Salov Aleksandr
Global Macro Analyst
e0908205@u.nus.edu

Chart info

Figure 1: XAUUSD – Gold Spot Price

Source: TradingView

Figure 2: DXY – Dollar Strength Index

Source: TradingView

Gold: The Historical Safe Haven

- Gold has historically been used by investors as a safe haven asset that serves as a protection against fluctuations in the economy. The precious metal has been considered a reliable store of value for three main reasons; a component in decorative jewellery, the metal's ability to be used as a unit of exchange and as an investment.

- Uncertainty in economic and political conditions may cause a variety of asset classes, such as equity, to underperform, as investors foresee an unstable environment for future business activity of companies. Instead, investors tend to place a higher value on Bullion, which is believed to have a more stable performance, and consequently generate consistent returns throughout these unpredictable times. Similarly, due to the metal's qualities described above, it has also historically been used as an asset to hedge inflation, primarily because investors seek to retain their purchasing power by investing in an asset with stable returns that can outperform cash and other assets.

- The year 2022 has been one that included both inflationary pressures and fluctuations in economic and political conditions, making the metal's performance an interesting topic of analysis.

Summary of events in the past 6 months

- Global inflation has soared in 2022, predominantly influenced by the explosion of post-pandemic demand and the underprepared supply chains that are yet to recover from COVID-19 lockdowns. A variety of legislations like the $1.9tn stimulus package released by President Biden in the US have increased consumer demand. When combined together with ongoing supply-chain bottlenecks, inflation is likely to occur as demand for goods greatly exceeds supply. The conflict in Eastern Europe further exacerbates inflation by causing supply chain issues in the food and energy markets, causing prices for the given items to soar.

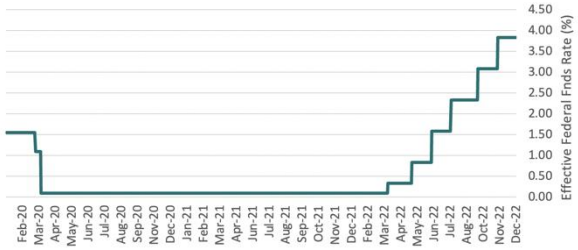
- To combat the inflation, the Fed took on a hawkish approach by announcing four consecutive 75bp interest rate hikes. This has sparked fears amongst investors that the quantitative tightening will lead to a recession, causing equities to enter bear market territories soon after the first rate hikes in June 2022.

- The US Dollar Strength reached a 20-year high as the Fed hiked rates at a higher pace than other central banks, making the dollar a more attractive investment that yields higher returns.

- Investor demand for gold has been falling in 2022. Global gold ETFs saw net outflows for six consecutive months since June 2022. Nonetheless, physical demand for gold in Asian countries has picked up greatly. Lower gold prices have stimulated physical

purchases of gold in the form of jewellery. Central Bank demand is also on the rise, as the banks try to diversify their reserves by taking advantage of lower prices.

Figure 3: Effective Federal Funds Rate

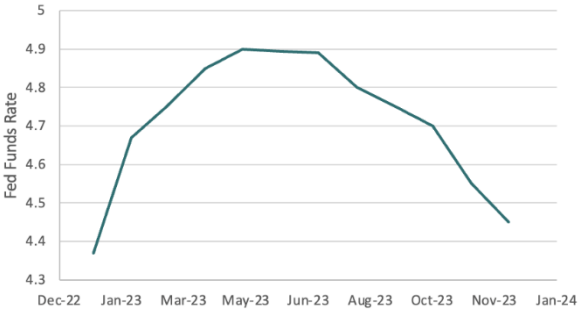


Source: Statista

Figure 4: US Quarterly Unemployment Rate

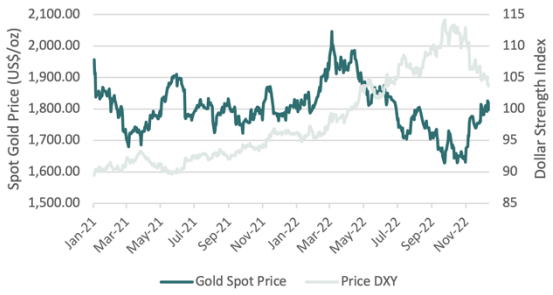
Source: U.S. Bureau of Labour Statistics

Figure 5: Fed Funds Futures Curve and Fed Median Projection in 2023



Source: World Gold Council

Figure 6: Spot Gold vs. Dollar Spot Index



Source: Bloomberg

Fed's Rate Hikes

Consecutive Rate Hikes to Battle Inflation

Higher interest rates are one of main factors that have been influencing gold prices in 2022. Higher interest rates make gold investments less attractive because it is a non-yielding asset. Gold tends to underperform in high interest rate environments, as investments in treasury bonds yield comparatively higher returns.

The Fed initially started their 'jumbo-hikes' in June 2022, announcing a 75bp hike. However, inflation did not subside in the coming months of July and August, with job reports and consumer confidence remaining strong, leading to three more consecutive hikes. In theory, gold is predicted to perform poorly in these, which is in fact reflected by the 14% drop in prices to the year's bottom in October of US$1614.

As of December 2022, unemployment remained at 3.7%, near 50-year lows and the US job market added 263,000 jobs in November, with no predictions of slowing down. The Fed previously indicated that strong job numbers will lead to more rate hikes. Taking the sticky supply-side nature of current inflation into account suggests that rates are likely to continue rising over the next few months, reaching above the initially predicted 4%. A continuation of such hikes would lead to further downward price-pressure for the Bullion.

Light at the End of the Tunnel

On the contrary, recessionary fears are likely to positively affect gold's prices due to the metal's status as a safe haven asset and expectations that the Fed would slow down the rate hikes. Inflation cooled down in November to 7.7% and the US reported a mere 2.9% GDP growth in the third quarter of 2022, after previously reporting two consecutive quarters of negative growth. Additionally, dovish comments made by the Fed further support the idea of smaller future rate hikes of 50bp rather than 75bp. A recession is likely to force the Fed to decrease their rate hikes. Gold prices rose to above US$1800 for the first time since August 2022 and are likely to climb higher if the narrative of smaller hikes and an oncoming recession continues.

Greenback Strength

Dollar Hot Money Flows

The hawkishness of the Fed described in the previous section has led to a consistent climb in the US Dollar strength against other currencies (fig.2), having risen more than 10% since the start of the rate hikes. An increase in currency strength occurs when a particular central bank hikes their interest rates at a faster pace than other countries, making that currency more attractive to foreign investors and consequently raising the currency's demand. Up until October, the Fed's hikes were a lot more aggressive than those of other banks, such as the ECB, the BOJ and the BOE. The strength of the dollar is considered to be negatively correlated with gold prices. Most commodities are traded in the USD, which means that a stronger dollar makes the Bullion more expensive for foreign investors. However, as inflation in the European Union started to pick up, reaching above 10% in some regions, ECB's pace of rate hikes increased as well. With the Fed's policy potentially facing a pivot in 2023, the greenback strength is likely to be undermined. Alternatively, the Fed's continued hawkishness to battle inflation is likely to further prop up the USD. This makes the Fed's

continued aggressiveness and dollar strength the two leading factors that are negatively influencing gold prices in 2022.

Instability of Foreign Currencies

The instability of the British Pound and the Japanese Yen have also caused important price fluctuations in the strength of the US dollar, which has affected the precious metal's prices.

Figure 7: GBPUSD – British Pound / U.S. Dollar

Source: TradingView

In September 2022, former Prime Minister of the UK, Lizz Truss, announced major tax cuts to boost the economy, a legislation that did not sit well with investors due to an already raging inflation in the region. This caused the GBP to plummet by over 9% (fig.6) from mid to end September. The event further added to the strength of the USD, creating additional downward price-pressure in gold markets.

Figure 8: JPYUSD – Japanese Yen / U.S. Dollar

Source: TradingView

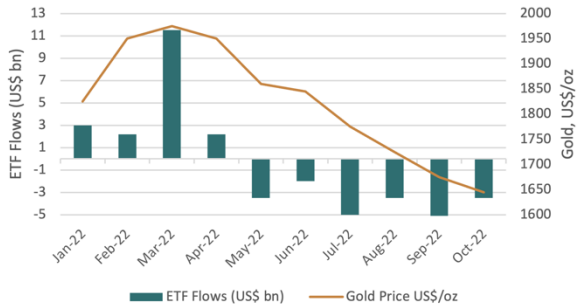
The Bank of Japan has spent over ¥9tn in September and October 2022 to prop up the Yen against the greenback after the Yen fell to a dangerously low territory against the USD. The Japanese currency has been climbing against the USD over the last few months, partially caused by the slowed down US CPI inflation reading in October. Continuous strengthening of the Yen is likely to undermine the USD and have a positive impact on gold prices, especially if the Fed's policy pivot does take place in 2023.

Gold Demand: Investors Out, Consumers In

A Decline in Investor Demand

Gold officially entered a bear market after falling by 23% as of November 2022. The price has recovered slightly, but the Bullion is still down 12% from the year's high of US$2050/oz. The drop in prices can be attributed to the money outflows from gold-backed ETFs, as investors see lower value in gold when interest rates go up. Instead, investors prefer credit-bearing assets. Recession fears that appeared in the second quarter of 2022 have also increased the demand for the USD, a safe haven currency, diminishing the demand for gold as it becomes comparatively more expensive to foreign investors.

Figure 9: Global Gold-Backed ETF Flows

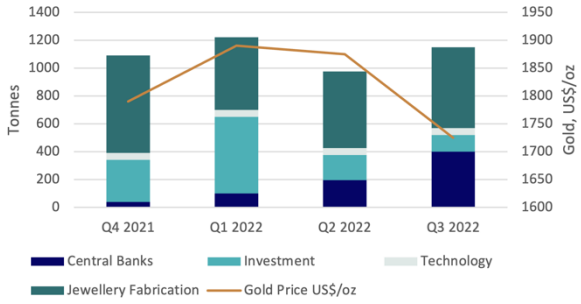


Source: GoldHub

A Rise in Consumer and Central Bank Demand

Lower gold prices in 2022 have stimulated increased consumer and central bank purchases of the metal. Consumer purchases of gold in Asian countries, specifically China and India have contributed to the 10% year-on-year increase in global jewellery purchases. Meanwhile, gold purchases by central banks in Qatar, India and Turkey to diversify their reserves set a new record for yearly gold purchases, overcoming the previous record by 400 tonnes. Overall, global gold demand grew by 28% to 1,181 tonnes.

Figure 10: Composition of Global Gold Demand



Source: GoldHub

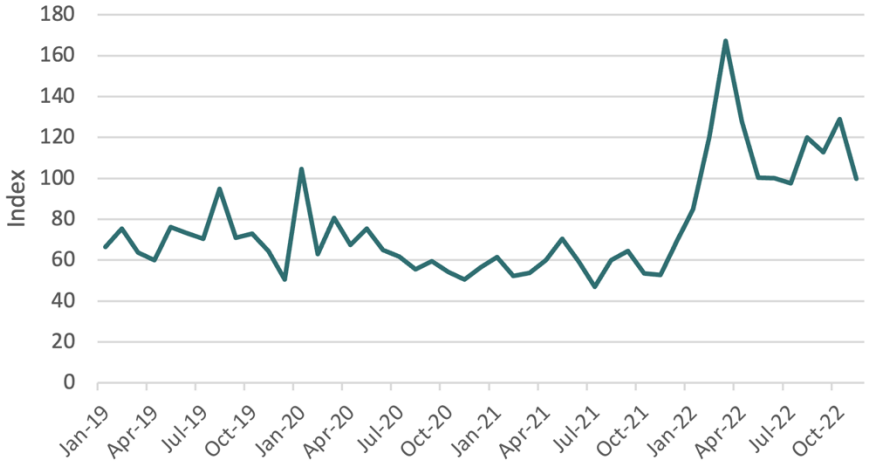
Consensus on Investor and Physical Demand

Despite an increase in physical demand, investor demand for the Bullion is down 47% on the year, reflecting the weak sentiment about the metal. Referring to (fig.10), jewellery fabrication and central bank demand rose in 2022, however prices still declined over the same period. This can be attributed by the fall in investment demand, represented by the dark blue column. A conclusion can be made that investor demand plays a much greater role in influencing the metal's prices. Although rising physical demand for gold helps support the price, it is a much less significant factor in the Bullion market.

Figure 11: XAUUSD: Gold Spot Daily Chart

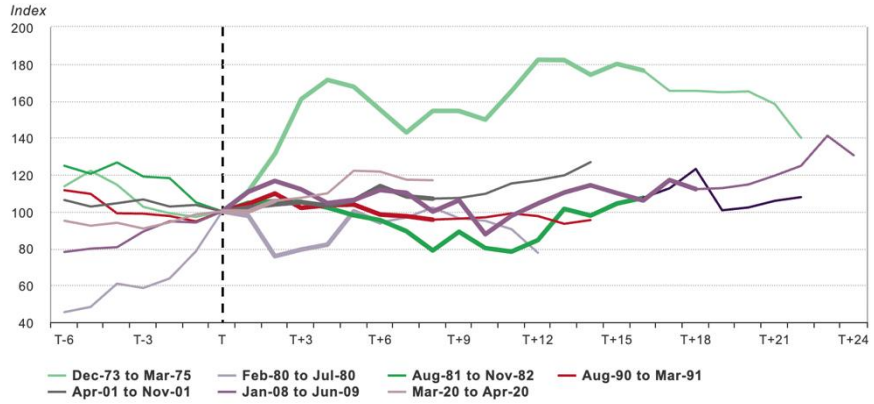
Source: TradingView

Figure 12: Chart of Geopolitical Threat Index



Source: World Gold Council

Figure 13: Historical Gold Performance in Recessions



Source: ICE Benchmark Administration

Trade Idea: Long Spot Gold

Narrative:

Gold has experienced downward price-pressure in 2022. The metal entered a bear market but recovered in November due to cooling inflation and discussions of a Fed pivot in the second half of 2023. Inflation is still above the 2% target, meaning that rate hikes will continue. Smaller hikes, however, will undermine greenback's strength, which is likely to prop up investment demand for gold. Slower paced rate hikes, a weaker dollar and persistent inflation, along with recession fears and heightened geopolitical risk (fig.12) provide a conducive environment for gold. Gold performs well as an inflation hedge and a safe haven asset during recessions and geopolitical uncertainty (fig.13).

Catalysts:

The main catalysts that are likely to cause upswings in the precious metal's price are global inflation readings and the consequent actions of the Fed. Reports of slowed inflation will bring positive sentiment in the markets, as large rate hikes will no longer be required. Any dovish comments made by the Fed is also likely to increase gold prices. Additionally, any announcements by other central banks that undermine the US dollar strength, such as a higher pace of rate hikes in the Eurozone, are also likely to positively affect gold prices.

Technical:

A steep upward trend has developed in November after falling CPI Inflation figures and the Fed's dovish comments. The RSI index is currently at 62.19, however is still below the 'overbought' threshold of 70.0. Bullion prices have already crossed the 50-day and 100-day MA, approaching the 200-day MA. Crossing the 200-day MA would imply a bullish trend. Resistance levels exist at US$1800.39 and US$1868.31. Analysts have predicted that upon breaking the resistance, gold prices can enter a bull market and climb to US$2750 by the end of 2023. However, this trade idea incorporates more short-run news that alter the expectations of investors.

Entry: 1796.99
Take Profit: 1932.83
Stop Loss: 1706.99
Risk Reward Ratio: 1.51

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Analysts
Salov Aleksandr
Global Macro Analyst
e0908205@u.nus.edu

Chart info

Figure 1: COPPER– Copper Futures Price

Source: TradingView

Figure 2: China MSCI Stock Price Index and Copper Futures Price

Source: Yardeni Research

Figure 3: Copper Futures Price and US Dollar Strength (DXY)

Copper: The Lifeblood of Manufacturing

- Copper is a soft and malleable metal, known for its properties as a metal that is durable, resistant to corrosion and able to conduct electricity. This makes copper a versatile option for manufacturing and production, including its use in construction, industrial machinery, electricity and wire-making.

- The application of copper in such a wide variety of manufacturing purposes has therefore made it an essential component for manufacturing activity. Since manufacturing is an important component of overall economic activity, copper is a good predictor of economic growth. When demand for copper grows and prices rise, the economy is healthy and is expanding. When demand for copper falls and the metal's prices fall, the economy is likely to be experiencing a slowdown.

- The demand for copper, specifically that of large developing countries like China and India has a strong influence on copper prices. In fact, China consumes close to 50% of global copper. The supply of the metal also plays an important role on market prices. Chile and Peru are the world's two largest producers of the malleable metal, accounting for almost 40% of global production.

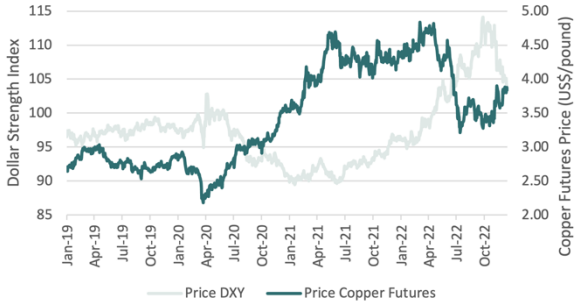
Summary of events in the past 6 months

- Copper prices declined throughout 2022, primarily caused by the constrained Chinese manufacturing activity (fig.2) and tightening economic conditions in Western countries. Purchasing Managers Indices have been falling around the world, accompanied by decreases in the Consumer Confidence Index in the US. The continuous hikes have created a recessionary environment in which it is hard to achieve business expansion. This is further supported by two negative quarters of economic growth in the US. These factors induce downward price-pressure in the copper markets and consequently explain the 35% copper bear market.

- Continuous strengthening of the USD, caused by the Fed's hikes in interest rates is further negatively affecting copper prices (fig.3), as the commodity becomes relatively more expensive to foreign consumers, dampening the demand for the metal.

- Long-term copper demand in the future looks promising, led primarily by China's infrastructure spending and investments into renewable energy, both of which rely heavily on copper for production.

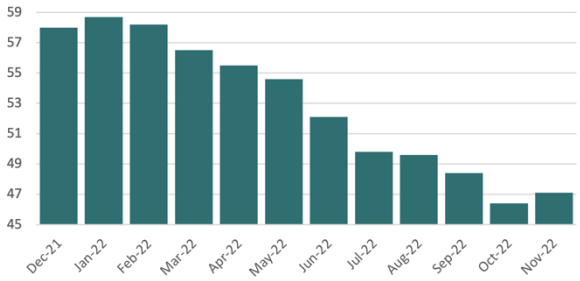
- Despite declines in the metal's price, supply-side factors are providing support to the market prices. Physical copper shortages are occurring as the London Metal Exchange is selling off Russian copper and Shanghai's Metal Exchange's low inventory is creating tighter domestic supply in China. Climate change is further adding



Source: Yardeni Research

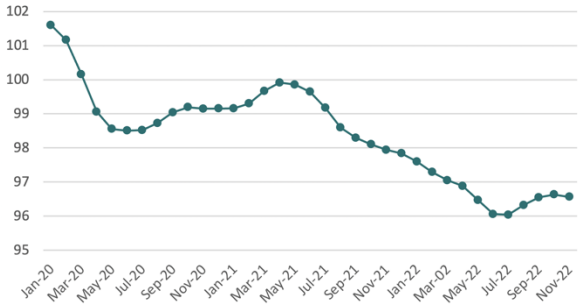
to the tighter global supply, making it harder to discover, set up and maintain new mines. New mine development has been deterred by lower prices, making investments less profitable. Despite a copper surplus being expected in 2023, a mass copper shortage is expected by 2025.

Figure 4: Eurozone Manufacturing PMI



Source: TradingEconomics

Figure 5: US Consumer Confidence Index



Source: The Conference Board

Figure 6: China's Export and Import Growth

Source: China Customs Administration

Figure 7: Shanghai Composite Index Level

Source: Bloomberg

Economic Indicators

Purchasing Manager's Index (PMI)

PMI is a measure of expansion of business activity across a region. A value of above 50.0 indicates that there is an expansion in business activity, hence having a positive effect on copper prices. The manufacturing PMI in Germany, France and Italy has fallen below 48.0, meanwhile the PMI in the US fell to 50.2, the lowest figure in 2.5 years. A falling manufacturing PMI is likely to cause downward price-pressure in copper markets, as investors expect a recession and slowed business activity, during which copper demand is likely to fall.

Consumer Confidence

Despite aggressive rate hikes, consumer confidence in the US remained strong until October 2022, falling for the first time in three months to 107.8 from 112.5. The number continued to fall in November, falling to 102.2. A combination of inflation and raising interest rates is likely to continue affecting consumers and their purchases, weighing down on their spending. This is likely to lead to decreased goods demand and consequently reduced economic activity, further reducing the versatile metal's demand. Steep increases in interest rates have been a primary cause of uncertain economic conditions, as investors are awaiting for the economy to most likely enter a recession.

Job Reports Statistics

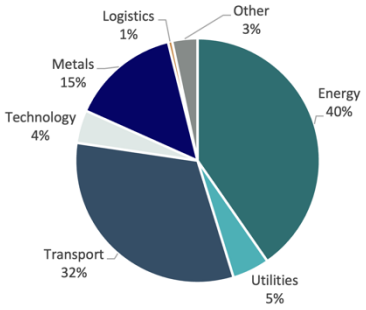
Over the last two quarters, job and unemployment statistics have remained strong, with unemployment staying at 3.7% for the last three months. Wages and job openings have grown steadily in 2022 as well. Strong employment figures suggest the robustness of the economy, which may be able to avoid a recession. However, strong job reports also suggest that inflationary pressures are likely to persist, requiring further interest rate hikes to combat the inflation, eventually pushing the economy into a recession, consequently weighing on copper prices.

The Great Lockdown of China

The Chinese government has placed severe restrictions on the economy, as part of its zero-COVID policy. Restrictions are causing slower economic growth in the country. In fact, Chinese shipments to the US fell by 36% year-on-year, which is visible damage to China's export-led economy. Given China's status as a global manufacturing hub, it is also affecting the country's demand for commodities that are required for production and manufacturing. Since China uses close to half of global copper every year, decreased demand for the metal from China has been affecting copper prices. Investors have been bearish on the metal because of Xi's stringent policies, as there has been uncertainty about the continuation of these strict policies, leading to a lack of manufacturing activity and undermined copper demand.

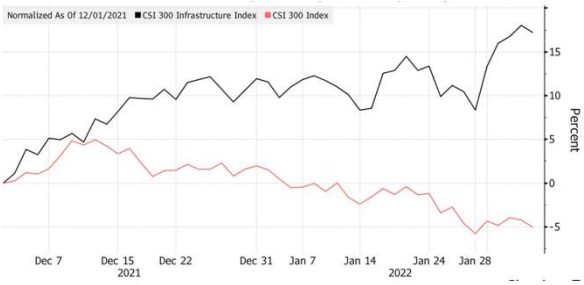
In the past, any rumours of China's reopening have caused rallies in China's and Hong Kong's composite indices (fig.7). Copper prices are likely to follow suit as investors expect rapidly increasing demand from manufacturers. A recent announcement of relaxation of COVID-19 restrictions caused the metal's prices to rise by 7% at the end of November. Despite recession fears in the West, which may cause cyclical metals like copper to underperform, China's removal of lockdowns is likely to generate a bullish attitude towards copper in the near-term.

Figure 8: Composition of China's Investments in the Belt and Road Initiative (by sector)



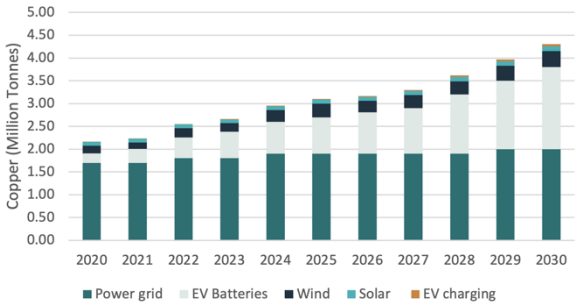
Source: Green BRI Centre

Figure 9: China's CSI 300 Infrastructure Index vs. CSI 300 Index



Source: Bloomberg

Figure 10: Copper Demand for the Renewable Energy Transition



Source: BloombergNEF

Future Demand: Not If, but When

China's Infrastructure Spending

President Xi has been pursuing the Belt and Road initiative, first announced in 2013. The initiative involves constructing infrastructure in developing countries. More specifically, a vast majority of these infrastructure projects include developing energy and transportation projects (fig.8), both of which are heavily reliant on copper. Despite China's underwhelming demand for copper in the last few months, the long-term trend for China's demand for the commodity is positive.

A variety of infrastructure projects within China are also taking place, further boosting copper demand. In September 2022, US$242.8 billion worth of infrastructure projects was announced in Shanghai. This was accompanied by China's copper demand growing by 25.6% year-on-year in September. The CSI 300 Infrastructure Index has also been consistently outperforming the CSI 300 Index (fig.9), indicating investors' optimism in China's infrastructure sector. To support that, the key takeaway from the Politburo meeting at the start of December was that infrastructure, along with consumption should be leveraged to prop up domestic demand. The country's global dominance and economic output are one President Xi's top priorities. Stimuli of the infrastructure sector and investments into foreign infrastructure projects are essential tools to revive China's sluggish economy and assert authority on the global stage, suggesting a very positive outlook on Chinese demand for the metal in the long-term.

Renewable Energy Revolution

Copper is considered to be the best non-precious metal at conducting electricity, making it an essential component for the transition to green energy. The long-term trends for copper include the commitment of governments to ESG and zero-emission goals, as well as the production of electric vehicles (fig.10). Renewable energy technologies require 5 times more copper than their counterparts. This is because renewable energy sources, unlike coal and gas, which run on a centralised power grid, will be run on a smaller and more spread out scale. Currently, renewable energy accounts for 21% of global copper demand. Goldman Sachs predicted that renewable energy sources will drive up copper demand by 600% by 2030.

These long-term trends provide a key structural change that will undoubtedly lead to higher copper demand in the coming decade. The conflict in Eastern Europe and attempts by European countries to reduce their dependence on Russian gas could also act as a catalyst to speed up the renewable energy transition. The long-run trend of transitioning to green energy will soon overcome the current macroeconomic headwinds like recession fears and sluggish Chinese economy, providing a positive outlook for long-term copper prices.

Tight Supply

Despite the bearish outlook on short-term copper demand, the tightness of global copper supply has been able to support the prices during 2022.

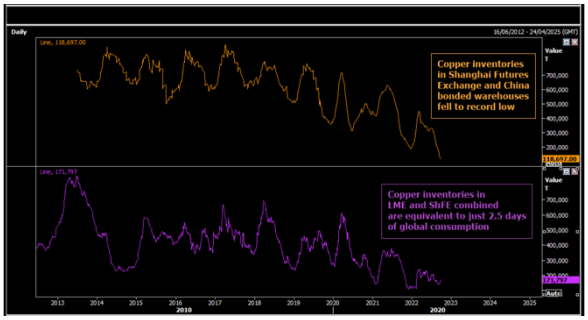
Shortage of Physical Inventories

The outflows from the London Metal Exchange comes primarily from its storage of Russian copper, which the exchange considered banning due to concerns of the war. Although deciding against the ban, some of

the metal has been shipped out to China, leading to a shortage in the West.

The copper stocks in the Shanghai Metal Exchange have also been at their historical lows over November (fig.11), however some copper has been added since then, contributed by increased supply of domestic smelters, as well as arrivals of the bills of lading at bonded zone warehouses. Nonetheless, physical inventories of copper remain low, with analysts pointing to global inventories only having two to four days' worth of supply. This is causing a tighter copper supply, where any sudden uptick in demand, such as the potential upward trajectory of industrial and infrastructure demand in China may cause significant upswings in copper price.

Figure 11: Copper Inventories in Warehouses in London and Shanghai



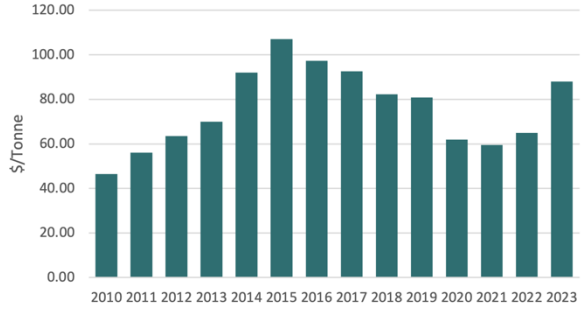
Source: Reuters

<u>Copper Mining Shortages</u>

There are some structural and long-term causes that are leading to a tighter copper mining supply. Copper mines in Chile and Peru, the world's largest producers of unrefined copper, are still recovering from large-scale lockdowns. Chile's output slid 6.7% year-on-year as of September. The world's largest mines, such as Escondida in Chile are depleting and an additional 200 mines globally are expected to run out of copper before 2035. Low copper prices are also deferring future investments into new mines. Given that a copper mine takes upwards of 10 years to construct and become operational, a large-scale copper shortage of 50-million-tonnes is expected by 2025.

Nevertheless, the underproduction in established mines is being compensated with mining output from newer mines. There is a temporary wave of new copper supply as the refining and treatment charge is expected to increase in 2023 (fig.12), incentivising suppliers. For example, two recently developed mines, Kamoa Kakula in Congo and Quellaveco in Peru are simultaneously ramping up production to add to global supply. Despite supply chain concerns and operational headwinds for miners, copper mining supply is actually forecasted to grow by 3.9% year-on-year. Smelting output, however, fell by 2.3% in 2022, affected by rising costs of energy, which elevates the price treatment and smelting charges.

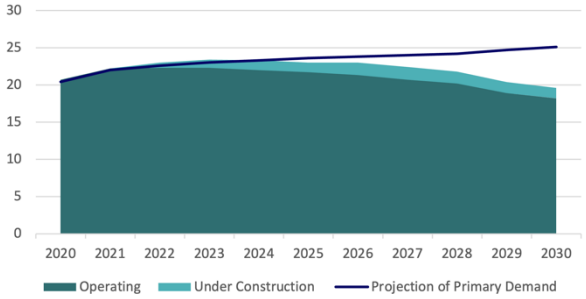
Figure 12: Annual Benchmark Copper Concentrate Smelting Terms



Source: Thomson Reuters

Overall, a slight surplus of copper is expected throughout 2023, as lagging demand and continued short-term ramp-up in the metal's supply continues in the year ahead. However, the extent of the surplus will not be enough to replenish scarce physical inventory, therefore suggesting that tighter supply and low physical inventories will persist in the coming years. This short-lived boost of copper supply is unlikely to keep up with the rapidly rising long-term and structural changes for copper demand.

Figure 13: Committed Mine Production and Primary Copper Demand

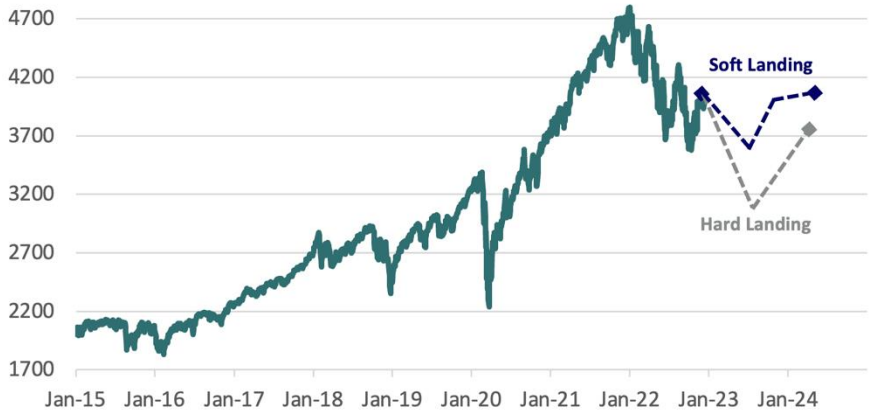


Source: International Energy Agency

Figure 14: Copper Futures Daily Chart

Source: TradingView

Figure 15: S&P500 Soft Landing Vs. Hard Landing Scenarios



Source: Goldman Sachs Global Investment Research

Trade Idea: Short Copper Futures

Narrative:

There is a positive outlook on copper prices in the long-run, influenced by structural changes that will boost the metal's demand. Supply-side shortages are likely to continue providing support for the prices, despite a temporary surplus in 2023. However, the trade idea provided focuses on the short-term outlook for copper demand. I believe that copper will be unable to rally in 2023 due to ongoing tightening conditions around the world and uncertainty that revolves around China's reopening and COVID-19 infections. This leaves investors doubtful about the necessary economic conditions for manufacturing activity to pick up to pre-pandemic levels, consequently undermining copper demand.

Catalysts:

The main catalysts that would drive copper prices come from China's news and rumours related to the lockdown restrictions and the macroeconomic environment in the West.

Following China's announcement of the country's reopening, any negative rumours on China's infection cases picking up or lower vaccination rates is likely to force the government to pull back on the relaxation of the restrictions. This is likely to affect investor confidence in the strength of China's copper demand in the short-run.

In the West, central banks are yet to fully tackle global inflation, meaning that rate hikes, albeit smaller, will continue, further tightening economic conditions. Reports of continued strength in the job market is likely to have a negative effect on copper demand, as further tightening will be expected. Meanwhile, reports of negative economic growth or a recession mean that global manufacturing activity will be impaired, diminishing copper demand. Economic growth is predicted to remain low, if not negative, with the S&P500 expected to fall further in 2023 (fig.15). Combining that with the news of a short-term copper surplus in 2023, there is likely to be downward price-pressure on the metal.

Technical:

A gentle upward trend has been generated since August 2022. The trend includes up and down price swings, mostly fuelled by rumours on China's reopening, GDP, consumer confidence and PMI statistics across the world. The upper trendline provides a natural support, which copper prices may find it hard to break through due to tight macroeconomic conditions and ongoing uncertainty about China. Despite copper prices crossing the 50-day and 100-

day Moving Averages, they are yet to cross the 200-day Moving Average, providing no sound evidence of a rally in the near future. The RSI indicator has also remained elevated with a recent peak at 70.0 in November coinciding with a 10% selloff, suggesting that another slump in prices is ahead.

Entry: 3.8785
Take Profit: 3.4635
Stop Loss: 4.1375
Risk Reward Ratio: 1.60

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