Sucden Financial

Quarterly Metals Report

Q4 — November 2022

Analysis and Forecasts for Base Metals, Precious Metals, Iron Ore & Steel

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Summary	2
Market Overview	3
Aluminium	6
Copper	8
Lead	10
Nickel	12
Tin	14
Zinc	16
Iron Ore & Steel	18
Gold	20
Silver	22
Palladium	24
Platinum	25

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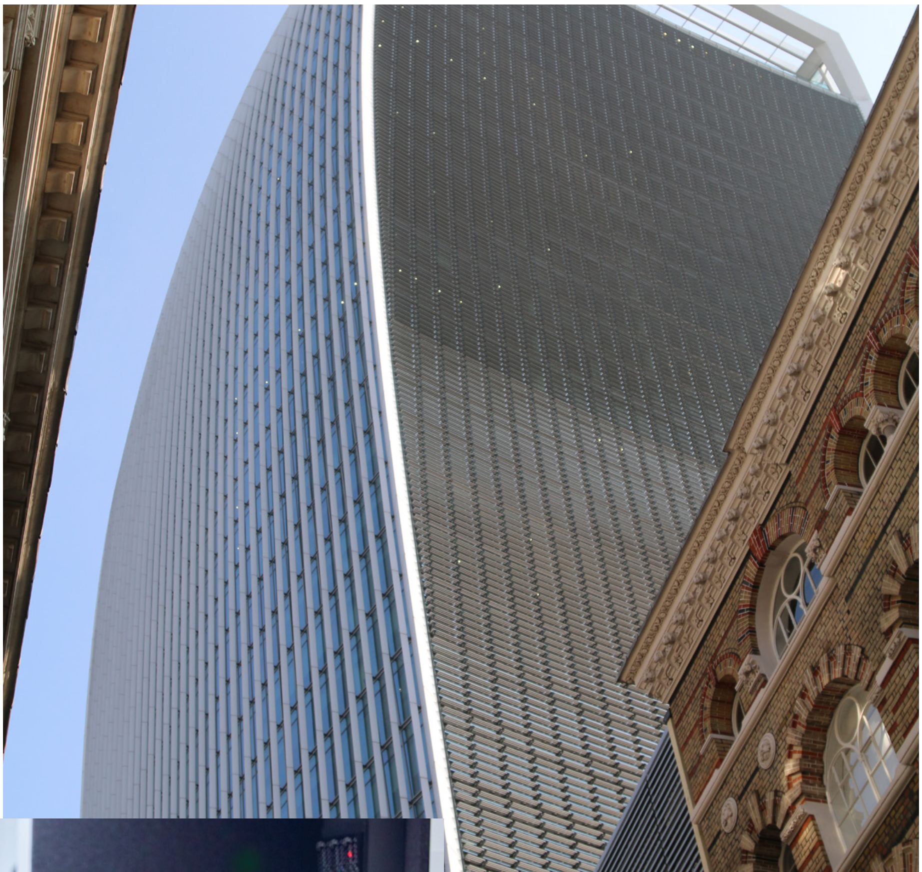

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Summary

The macroeconomic outlook is deteriorating, and in our view, Europe and the UK are in recession already, and the US will be six months behind. Higher interest rates and elevated energy and electricity prices are squeezing households' disposable income. New mortgage rates are considerably higher and are now a fixed cost to the consumer. We expect end-user demand to decline, and this will have an impact across the whole supply chain. However, material availability is poor for metals, with bonded and exchange warehouses low in stock. This will lead to a dislocated market and volatile price action in spreads, while the macro impacts the flat price. The 20th Party Congress has ended, and their COVID policy is here to stay. As a result, sentiment in China has declined, and if the output of refined materials rises, this will put further pressure on prices. The Fed has suggested 125bps of rate rises between now and the end of the year, but investors are looking at where they pivot, and any dovish language will cause a selloff in the dollar, giving rise to metals prices. If Chinese demand returns and the dollar weakens, this could present significant volatility and price rises, compounded inflationary pressures.

Aluminium (Al)
Aluminium, in line with the broad basket of metals, continued to decline in Q3 on the back of continued weakness coming from China. Given aluminium's energy-intensive nature, the metal saw some spikes on the back of energy price volatility, but the overall trend of slowing demand in China and global has prevailed, driving the metal lower. In October, we saw a new bound of volatility following the LME's decision to potentially ban some of the Russian material. The impact of the news has been marginal, as the demand story continues to drive the sentiment. Our range: $2,000-2,500/t.

Copper (Cu)
Low inventories and backwardated spreads have kept prices elevated in recent months, if withdrawn, Russian material in the LME system will accentuate the tightness. Destocking across along the value chain and reduced available material, as shown by the low inventories and higher Chinese premiums. We expect consumption to remain on the back foot in the near term as there was no change in COVID policy from China, the U.S. and Europe will continue to slow. We expect spreads to be volatile, with the dislocated market causing squeezes until more inventory is replenished. Output in China will start to edge higher, presenting a downside to prices. The caveat is if the Fed pivot earlier than we expect, triggering dollar weakness and a rally in risk assets. However, the fundamentals are poor, and the Yuan has weakened 7.3 against the dollar. We maintain our downside target of $6,500/t.

Lead (Pb)
Lead held up better than other metals throughout the quarter, as it remained broadly unchanged. The main reason behind that is lead's response to the looming energy crisis in Europe and subsequent energy price moves. We expect the supply and demand picture to have stabilised slightly on the back of the lift of the power rationing restrictions. However, in the coming months, following the maintenance period during the peak consumption season, lead production should improve, and inventory should decline slightly This should ease the metal balance and we expect the prices to edge to $1,750-2,100/t.

Nickel (Ni)
The collapse of the nickel spread to a contango was triggered by the large supply of class 2 nickel from Indonesia. However, we still expect a class 1 deficit which could keep exchange stocks low, giving an impression of a tight market. Stainless production is significantly higher this year, but stainless-containing nickel has suffered. The forward curve suggests higher prices in the longer run, but we expect output in nickel products and NPI in Indonesia to present downside to the market. China's re-opening would boost stainless demand through autos and properties, offering an upside as speculators re-enter the market before the fundamentals come back into play. We expect further downside to nickel towards $18,000/t but favour adding to a short above $24,000/t if the market rallies off positive news from China.

Tin (Sn)
China's YTD imports of ore from Myanmar rose 22.6% Y/Y, but the quality of the ore has declined. Calendar spreads on the LME have narrowed as macro fears trigger a decline in consumption and semiconductor sales growth slowing. Destocking along the value chain in China and weak downstream sentiment have resulted in lower concentrate demand, but the open arb window has triggered increased refined imports. The increase of export restrictions on semiconductors and advanced chips to 31 new Chinese entities. We expect pressure to remain on spreads as consumption weakens, but power rationing could reduce operating rates are smelters. The $20,000/t level provides key support, but our downside target is $17,795/t and favours selling rallies above $22,330/t unless China's economy re- opens. Then we'd expect a sharp rally before fundamentals set in once again.

Zinc (Zn)
Tightness of material in China has caused backwardations on the SHFE market after maintenance at smelters and previous destocking along the supply chain causes tightness. LME spreads are also tight due to a lack of material, but consumption is weak, and people are deferring delivery. We expect energy prices to rise, capping consumption of the end-user but the market. Chinese production will not increase until November when maintenance finishes and this will keep spreads backwardated, especially if galvanizers increase consumption. TCs are high for imported material, but domestic TCs are catching up, and this boosts profitability and therefore production in the longer run. We expect tightness to continue in the near term. Still, the higher output from China and soft global demand will prompt prices to trend lower towards our downside target of $2,600/t, spikes towards $3,000/t on lower material availability will likely be sold.

Iron Ore & Steel
Steel utilisation rates and average daily output in China ticked higher towards the end of September, but plant and social inventory are low and will fall even further into year-end. However, stocks are at much lower levels than in previous years, leading to material tightness and cap losses. Seaborne iron ore premiums will improve in the coming months, as lump premiums have done as iron ore imports rise ahead of restocking. Steel-intensive industries remain in negative growth, which will stay in the coming months, especially after the no-change to zero covid policy. Domestic mining of iron ore is set to improve in the long run to reduce China's reliance on imported material, soft consumption will lead to lower iron ore prices with a downside target of $80/t in Q4.

Gold (Au)
Gold prices have poorly performed on a YTD basis at -8.3%, considering gold is a traditional hedge against inflation, and the economic and geopolitical uncertainty has failed to act as a tailwind to gold. Dollar strength, in conjunction with a decline in the global negative-yielding debt, has served as a deterrent. While we expect a moderate uptick in physical demand in Q4, the above trends will still work against gold, which remains high historically. ETF holdings declined sharply, but this has been stemmed recently; in our opinion, we will see more outflows into year-end, and gold will continue to fall. Uncertainty surrounding the global economy may prompt a rally and a deep correction in the USD. However, we expect positive bond yields and a dollar funding squeeze to prevent a significant rally.

Silver (Ag)
Silver fluctuated throughout the quarter, but still, the combination of its industrial and precious qualities weighed on overall performance, and the metal closed the quarter down by 10%. In line with gold, much of the Fed-based negativity being priced in, the markets will be watching out for the Fed pivot signs. However, with another 125bps hike promised by the Fed this year, we do not expect this to take place until early next year, which should provide further softness for silver, albeit to a lesser extent than we have seen in recent months. Range: $17.50-20.80/oz.

Palladium (Pd)
Palladium managed to gain marginal ground during the quarter, as global supply chains easing meant that car sales improved in the recent moths. While we expect the vehicle sales to continue to improve slightly month-on-month, as we move into 2023, we expect demand to soften and decelerate. In our opinion, buyers will shift to smaller, more efficient vehicles, which, coupled with improved supply conditions, could create a downside for palladium prices. Our range: $1,700-2,190/oz.

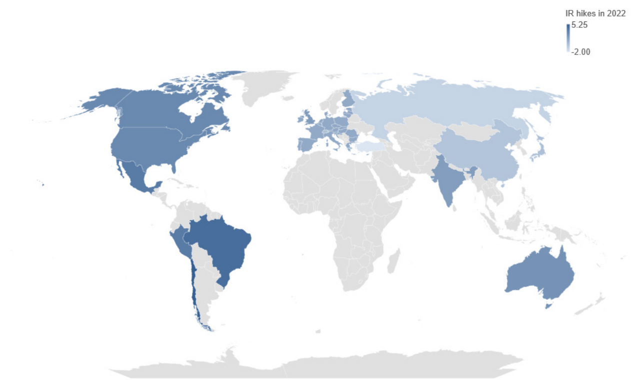
Platinum (Pt)
In line with palladium, platinum felt the relief from the easing supply chain bottlenecks globally. Both the US and China's markets saw a month-on-month improvement in car sales as material shortages eased and demand in these economies remains relatively healthy, although slowing. However, with ample output from the mining side, we expect to see a bigger surplus this year, before easing slightly in 2023. With investors showing little appetite for ETF holdings, this could leave platinum prices subdued for the remainder of the year. The range: $790-980/oz.

Market Overview

Global Outlook: The souring demand outlook has been the driving force behind the weakness we have seen in equities, soft commodities and industrial metals in recent months as central banks continued to hike aggressively. In September alone, central banks across the world hiked the key interest rates by a combined 2000 basis points, with many promising that further tightness is in the pipeline. In response, the global bond yields shot up, and stocks alongside base metals sold off. More so, the dollar remains strong, breaking record highs amid the global sell-off. That carries some benefits for the US, however, makes it harder for everyone else, especially the emerging markets that have to import the inflationary pressures from the US on top of their own. We do expect inflation to remain historically high even as it eases slightly month-on-month and the core part of the overall index to remain persistently high.

Cumulative Interest Rate Increasing so far in 2022

Emerging economies saw the sharpest increase in interest rates so far this year, with Europe and China lagging.



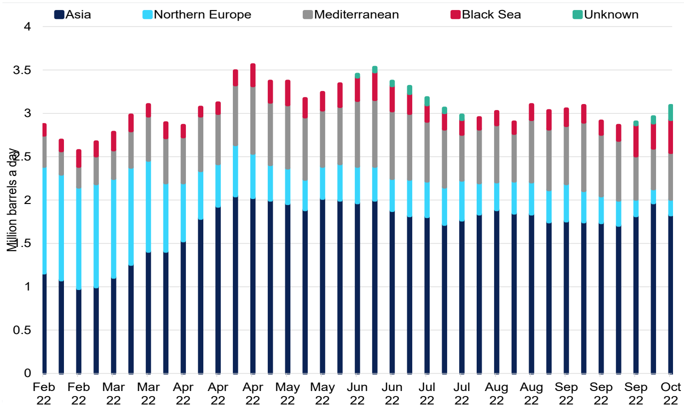
Source: Central Bank data

Elsewhere, we have seen currencies buckle against the dollar, and the central banks that have so far been resilient to hiking interest rates aggressively had to do so to help control the currency. The UK, China, and the EU all saw their local currencies devalued against the dollar, with some falling to record lows. Indeed, more than anything, the loss of confidence in the institutions, including the central banks, in recent weeks has really eroded the potential for a quick recovery, and the liquidity risk is now becoming more prevalent. We believe there is still more downside to the current markets given the outlook that we are not yet in the recession but are approaching it soon. Still, the worst has been priced in, and the subsequent downbeat economic data should be in line with market expectations of softer performance across the world.

Oil: Oil futures weakened strongly in the last couple of months, falling back to levels not seen since January. With looming global recessionary fears, the demand outlook has outshone the supply concerns, and the oil futures closed the quarter on the back foot for the first time in two years. However, prices have also corrected substantially by now. When adjusted for inflation, Brent crude oil is already back below its 15-year average price. In this context, the current price is not particularly high. Still, the supply picture continues to add volatility to market moves. The OPEC+ countries are benefitting from the high prices of oil and have, on multiple occasions, chosen to cut down on production rather than ease it to help alleviate the market tightness. In the most recent meeting, the cartel decided to cut the supply by 2m bl/d. With the sanctions from the EU to come into effect in December, oil exports from Russia are supposed to take a further hit, falling from 2.96, bl/d as of the time of writing. The long-term structural outlook for the oil market still remains one of tightness, but for now, this is overshadowed by demand hurdles. As long as the macroeconomic conditions continue to decelerate, oil prices will probably continue to linger. Overall, the IEA has upgraded their oil demand outlook for 2022, as they see higher power generation and gas-to-oil switching to boost the number to 99.7m bl/d in 2022 and 101.8m bl/d in 2023.

Russia Crude Shipments

Despite Asia offsetting losses from Northern Europe at the beginning of the year, the overall shipments continue to decline.



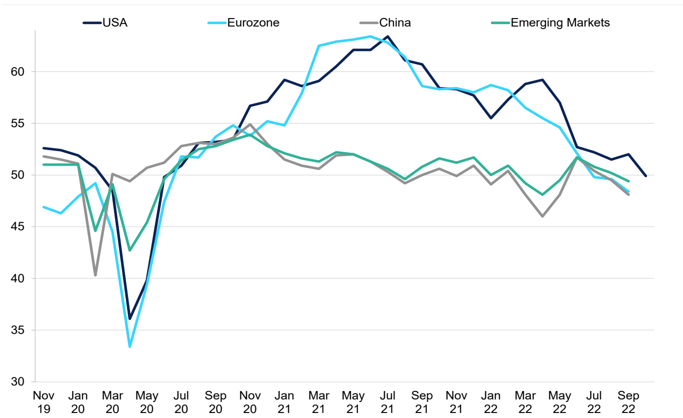
Source: Vessel tracking data monitored by Bloomberg

PMIs: Global manufacturing contracted for the first time since the pandemic as new orders and output declined. The contraction was the sharpest since April when lockdown restrictions in China disrupted global production growth; the latest decline before that was in 2012.

The manufacturing data provides a few silver linings, in particular, in the supply chain bottlenecks, as pressures continue to ease and input prices are easing slightly as price growth decelerated. However, the prevailing trend of falling demand, and, in turn, new orders and exports, is weighing on total output; the inventories continue to swell, further highlighting the looming weakness as the economies slip into a recession. US Manufacturing performance improved month-on-month for the first time in four months in September, increasing to 52.0, up from 51.5 in August.

Global Manufacturing PMIs

Only the US saw a moderate uptick in manufacturing, however, the longer-term trend onthe downside persists.



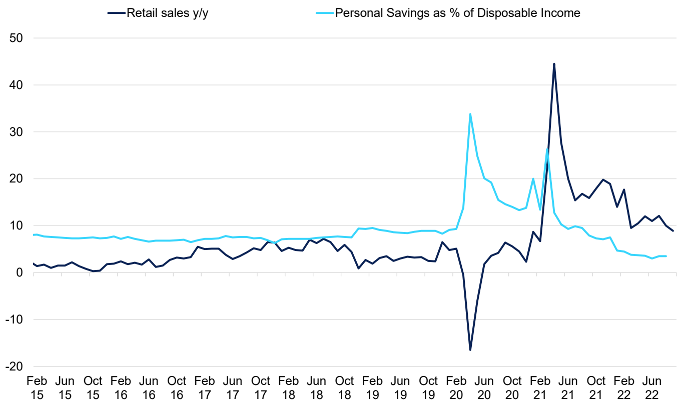
Source: S&P Global

European manufacturing, on the other hand, is seeing contraction accelerate in the manufacturing sector, with the latest reading of 48.4, as both new orders and output deteriorated. In some cases, production volumes were reduced in response to high energy prices, while many cut down on their output to match the demand in the order books. Moreover, there is still more pain to be felt as price pressures show no signs of decelerating and uncertainty surrounding the economic outlook will really nosedive new orders in the coming months. In China, we are continuing to see a modest deceleration in manufacturing performance, with September figures falling to 48.1. Efforts to contain the covid virus weighed on performance once again, with firms trimming their purchasing activity and inventories. In general, the pandemic situation remains severe and complex, and the negative impact of lockdown restrictions is likely to weigh on confidence until the start of next year.

US: In line with our previous report, the US economy remains the most resilient to the impacts of tighter monetary policy conditions. Consumer spending remained positive, and in Q2 2022, exceeded market expectations, growing by 2.0%. This suggests that, while slowing, the overall economic performance remains robust. Retail sales remained broadly unchanged, with the latest reading at 0.0% m/m. Therefore, spending remains positive, and savings as a percentage of disposable income are diminishing, currently at 3.5%, as consumers choose to continue spending. However, with wages not keeping up with the inflationary figures, the pool of available funds is diminishing, and households are cutting down on some of their purchases. Credit and debit data point to a decline in purchases of furniture, electronics and healthcare, but it is still too early to suggest the economy is in a recession. In July, real disposable personal income was up by 0.1% m/m, and the gains are attributed to softer inflation reading rather than higher wages, and nearly 300bps of price increases are still not covered by higher pay. We expect the spending power to further diminish in the coming months and spending to contract consistently month-on-month as incomes deteriorate in the face of elevated inflation. At the same time, we saw data point to softening growth in pricing pressure in September as US CPI showed signs of easing month-on-month, growing by 8.2% y/y and 0.4% month-on-month. Petrol prices fell by 4.9% m/m but was not enough to offset increases in food and shelter. Therefore, inflation is seen shifting away from volatile components such as energy to more core components of living. And while we expect the CPI reading to soften slightly in the coming months, the core index is set to remain historically high as households feel the bite.

US Retail Sales vs Personal Savings

Retail sales should continue to decline as consumers spend less.

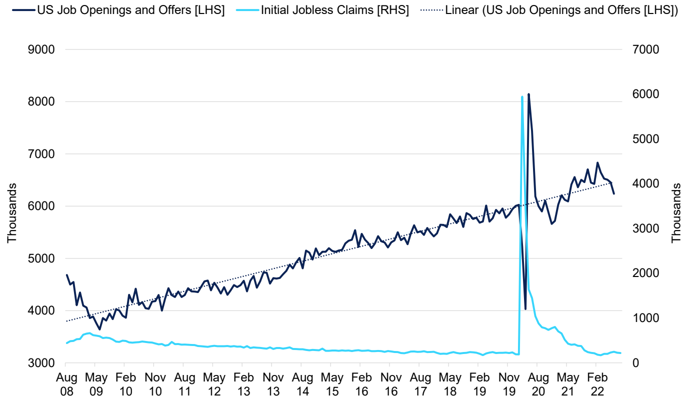


Source: US Census Bureau, Bureau of Economic Analysis

At the latest Fed meeting, Jerome Powell reiterated the Fed's resolve to continue raising rates and hold them at a higher level until the policymakers are confident that inflation is under control. Indeed, the Fed officials suggested that the unemployment rate could reach 5% before the bank lets up on interest rate hikes. That would mean another 1.5m Americans would become unemployed. Anticipation of another 50bps rate hike in December has already been priced into the markets, and now the question is directed towards the probability of a recession in the US next year.

US Hiring vs Unemployment Benefits

US job openings fell below the average for the first time since the pandemic, highlighting slowing labour market.

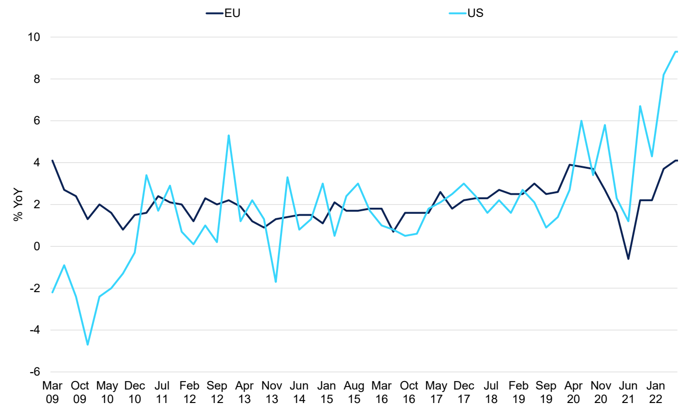


Source: Bureau of Labour Statistics, Department of Labour

With much of the Fed-based negativity being priced in, the likelihood of a soft landing seems less and less unlikely. Indeed, the forward curves show that this might take place in March 2023. The pivot may come earlier if the Fed chooses to implement a 50bps in November instead of the currently anticipated 75bps. But we do not expect this to materialise as of yet, but the market will start paying closer attention to the Fed's rhetoric in the light of new data coming until the year-end. In the meantime, the markets are paying closer attention to the labour market readings to assess the impact the tight monetary policy is having on the real economy. The jobs report points to a robust labour market, however, is not a good indicator of recession as it tends to lag other data. As of now, the Fed seems to be patient with inflation, as it forecasts to see the target 2.0% price growth as far back as 2025.

Labour Costs in the US vs Europe

US wages have soared higher, putting Europe is much more disadvantage.



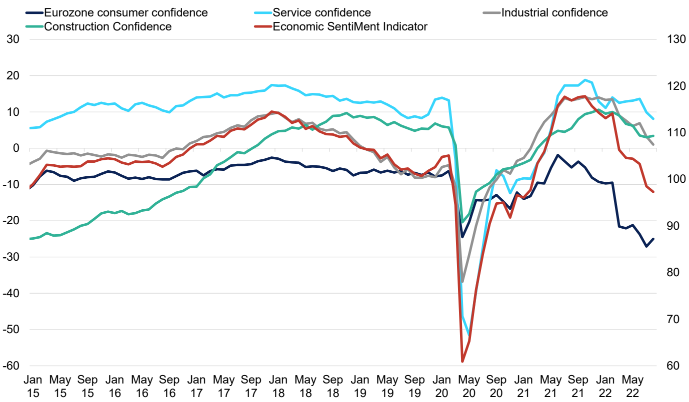
Source: Bureau of Labour Statistics, Eurostat

Europe: As a result of the escalating energy crisis, coupled with factors such as inflation and the start of tighter monetary policy from the ECB, the outlook for Europe has continued to deteriorate rapidly. In Q3, as tourism appetite diminishes, a multitude of factors are set to slow economic growth significantly. Continued tightening from the ECB, declining real incomes as inflation exceeds wage gains, and a risk of a cut-off from Russian energy exports are set to continue to curb performance. The risk of a euro-area recession has now reached the highest level since the summer of 2020, with the probability of a technical recession increasing to 80% within the next year, according to the Bloomberg survey.

Meanwhile, Eurozone inflation continued to accelerate in October, growing at 10.7% y/y, another record high. Month on month, the figure grew by 1.5%, and core prices inched up to a fresh high of 5.0%, however, energy and food once again drove the overall performance. The continued inflation increase is still creating more pressure for the ECB to continue hiking monetary policy.

European Confidence Indicators

Consumer confidence rebounded in September following the easing of energy price pressures.

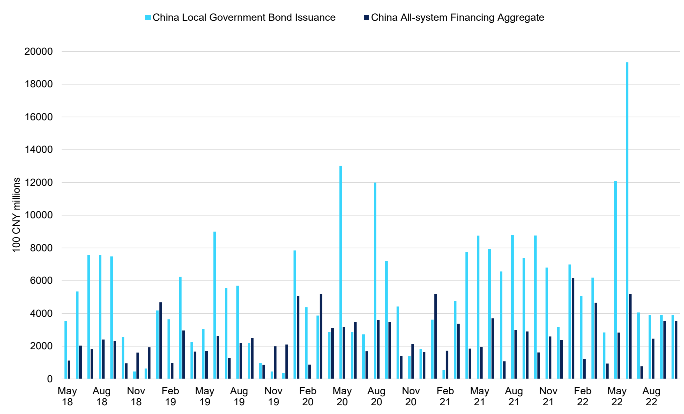


Source: European Commission

Ultimately, European inflation is of a different nature to the US - one that is mostly imported through high commodity prices rather than driven by robust consumer spending. That distinction has major consequences for policymakers on how to address inflation without damaging too much of the growth, while also trying to import gas from other nations. With that in mind, the impact of rate hikes alone will be limited on the real economy, and the EU has already begun introducing different measures to support the consumers. These include fiscal spending and oil price caps to limit the impact of high energy prices on household utilities. Moreover, the pace of European wage growth has been much slower than American ones, another indication that inflation is having a bigger impact on the living standards in Europe, and the demand is set to diminish rapidly. As a result, in October, in line with market expectations, the ECB raised interest rates by 75bps as inflation continued to surge. The markets are now pricing in a 65bps hike in its next meeting in December.

China Local Government Bond Issuance vs All-System Financing

Local government issuance remained high in recent months as they try to support the softening economy.



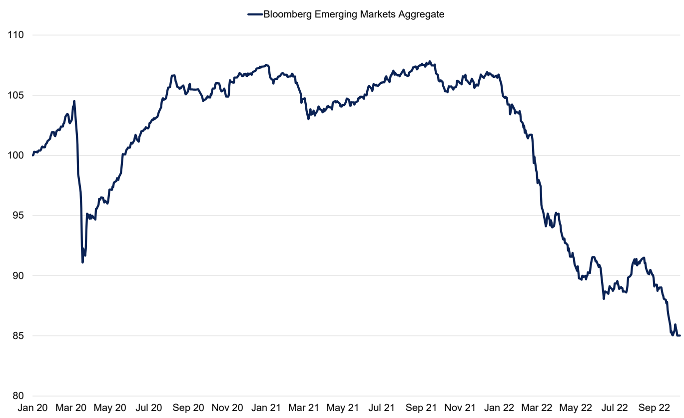
Source: Ministry of Finance of the People's Republic of China, The People's Bank of China

China: China's zero-covid policy keeps the economy fragile, and in the last quarter, we have seen the high-frequency indicators point to no abating pressures on consumers. Major indicators such as retail sales and industrial production grew in September, at 2.5% and 6.3% y/y, respectively, with the former declining month-on-month. Exports grew by 5.7% in September in dollar terms, marking the slowest growth since April – the peak of the latest lockdown restrictions. Moreover, much of the growth is now due to rising prices rather than the actual growth of exported goods. As a result, growth projections continue to decline. In March, the economy disclosed a growth target of 5.5%, however, the Bloomberg survey anticipates a growth level of 3.5%, making it the second weakest reading in more than four decades. A combination of zero-covid policy, subsequent lockdowns, property market collapse, drought, and weak demand both at home and abroad have undercut growth potential significantly. With the property sector contributing more than 20% to the country's GDP, the contraction in the housing market should further dampen the recovery. Home sales continue to decline, falling for the seventh straight month in August. Likewise, the prices of new homes have contracted for 11 consecutive months, with the deepest declines happening in the smaller and regional cities where the majority of people live.

Liquidity injections at gradual increments signal that authorities also want to avoid flooding the banking system with cash and weakening the currency further. Indeed, from the monetary policy side, the PBOC continued to hold back from lowering a key policy rate as it sought to ease pressure on the yuan from outflows that slid to the weakest level against the dollar since 2008. However, the widening interest rate differential with other economies should continue to weigh on the yuan. With the Communist Party Congress now underway, the markets were disappointed to see a lack of economic support from the policymakers. At the same time, with the shift away from the zero-covid policy unlikely in the near term, the support is unlikely to stimulate the property market and liquidity. With the markets anticipating lockdown restrictions to be lifted no earlier than the end of Q1 2023, we do not expect to see a strong rebound in demand conditions in the meantime.

Emerging Markets Dollar-Denominated Debt

Bloomberg's debt indexes show the index finding support in recent weeks.



Source: Bloomberg

Emerging Markets: In the last decade, emerging countries have accumulated a significant amount of debt, with a lot of countries now seeing levels exceeding those of the GDP. With the global economic outlook facing the looming threat of recession, and the developed economies' central banks set to continue tightening monetary policy until the start of next year, the focus has shifted back to emerging markets and the probability of a debt crisis in already-vulnerable economies. Indeed, with the central banks hiking rates, especially in the US, servicing and rolling over that debt became more challenging through stronger dollar and higher bond yields. Risks are rising, with sovereign credit spreads at the widest level not seen in 20 years. Still, while we are likely to see some countries default on their debt, they are unlikely to be big and systemic in their nature.

We have seen political tensions escalate in countries such as Brazil as the country geared up for elections this month; the economic performance has dominated the national debate. Lula struggled to gain the majority, meaning the runoff would take place by the end of the month. As a result, the gap between the two candidates should further narrow as cash continues to be distributed to poor households following Bolsonaro's reform, boosting his approval rating. However, double-digit inflation and borrowing costs are dampening the outlook for Latin America's largest economy. At the same time, additional social spending is elevating inflation expectations above the target rate through 2024. The central bank estimates inflation to increase by 5.38% in 2023 and 3.41% in 2024. More emphasis will be placed on 2024 figures as recent tax cuts, and fiscal stimulus has likely dampened the inflation figure in the near term.

Aluminium

LME Aluminium 3MO ($)

Source: Bloomberg, 26.10.2022

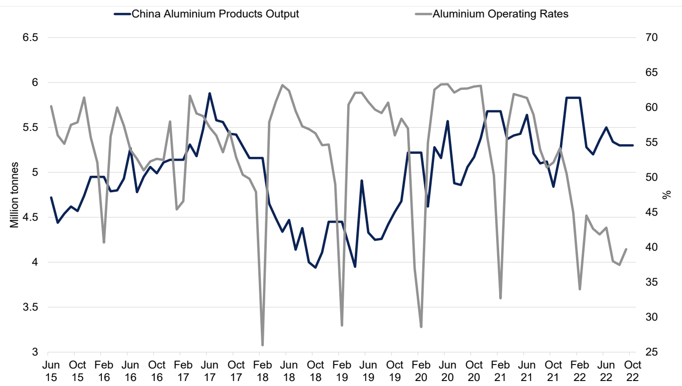
Sentiment

Supply Risk in Q4	China's Demand	China's Production	Chinese Property Market

Q3 Review: Aluminium continued to weaken in Q3 2022 on the back of further weakness from China. The metal managed to find support at $2,110/t, and in October, the metal is seen approaching this level once again. The price now stands at $2,320/t. Given aluminium's energy-intensive composition, the news regarding the rising energy costs and drought in August saw aluminium prices spike sharply. Additionally, the closure of refining facilities across the world added some upside to price performance, and while the market initially took on bullish positions on the back of consecutive cuts of production, the demand sentiment in China really drove the decline. Indeed, the aluminium price declined by 11% during the quarter, vs the 8% decline seen on the LMEX.

China Aluminium Products Output vs Operating Rates

Aluminium products output remains stable despite low operating rates in China.

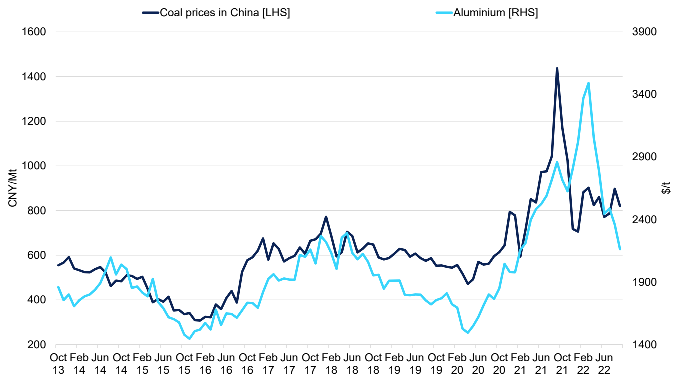


Source: National Bureau of Statistics, SMM Information and Technology

Outlook: Aluminium, amongst other metals, is feeling the energy pricing pressure the most. This pressure has been most acute in Europe, where the region is feeling the impact of energy shortage directly. Indeed, electricity as a proportion of aluminium costs has become disproportionally expensive thanks to the recent spike in energy prices. As a result, the bloc saw the highest number of smelter closures than anywhere else in the world so far this year. Aluminium Dunkerque, one of the biggest aluminium smelters in Europe, decided to cut its production by 22% from 290,000 tonnes. More so, many producers do not foresee natural gas prices falling to acceptable levels in the near future, urging them to curtail production for an extended period of time. According to the European Aluminium Industry, European aluminium smelters are estimated to have cut 800-900k tonnes per annum of production this year due to the rise in energy prices. Many worry that with this winter seeing exacerbated shortages of energy, this number could almost double as many continue to struggle with diminishing profit margins. More so, the prices have now trickled down to downstream producers, and aluminium extrusion operations and scrap that require a steady and dependable supply of natural gas to continue operations are set to struggle further. As a result, even with demand diminishing, the sector in Europe might still struggle to supply enough material for necessary construction and could see increased imports of final aluminium products into the economy as a result. Because of this, we have seen aluminium imports rise, with China filling in the gap. The value of EU imports of aluminium from China has almost doubled since last year, while their volume increased on average by 20.0% y/y in February-June, with the latest reading at 5.9m tonnes, according to Eurostat.

Aluminium vs Energy Prices

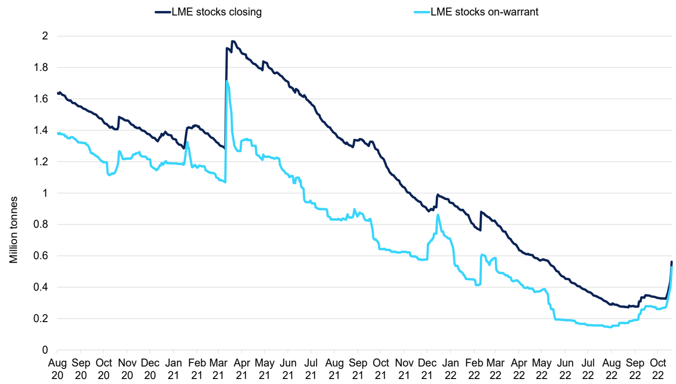
Despite coal prices in China remaining elevated, aluminium prices continue to decline on the back of deteriorating macroeconomic outlook.



Source: Bloomberg, LME

LME Aluminium Stocks

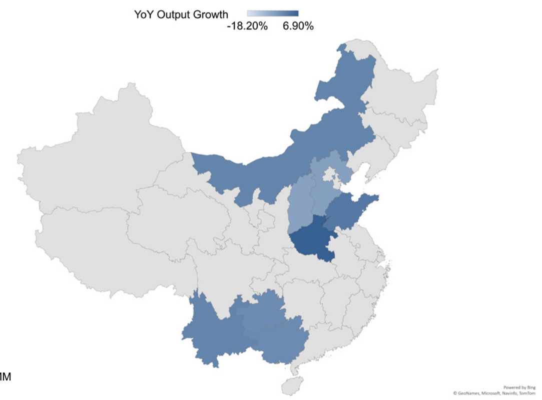
Both the closing and on-warrant stocks edged higher in recent week, stoking fears of potential oversupply.



Source: LME

In China, a similar impact has been felt by some aluminium smelters, and, in addition to the drought seen in August, the areas, especially in the Sichuan province, really took a hit. The output there fell by about 920,000 mt. At present, the power shortages eased, and the smelters resumed production, but it will take 2-3 months to bring it up to the level seen before the shutdown. In Yunnan, due to insufficient water storage, the power supply may be tight. Regardless, in August, output from smelters continued to rise thanks in part to subsidies from Beijing. China produced 6.84m mt of metallurgical-grade alumina; whilst slightly down month-on-month, year-on-year, it increased by 11.2%. The high year-on-year value is a result of the power restriction placed upon aluminium smelters this time last year. The operating capacity of alumina was 80.6m mt, and the domestic average operating rate stood at 85%. Overall, supply in China equates to a tightly balanced supply and demand, with the September figure now expected to equate to 6.7m mt of alumina, slightly lower month-on-month with national holidays and the Congress likely stalling the pace of output as global demand continues to decline.

Alumina Production Growth by Region



Source: SMM

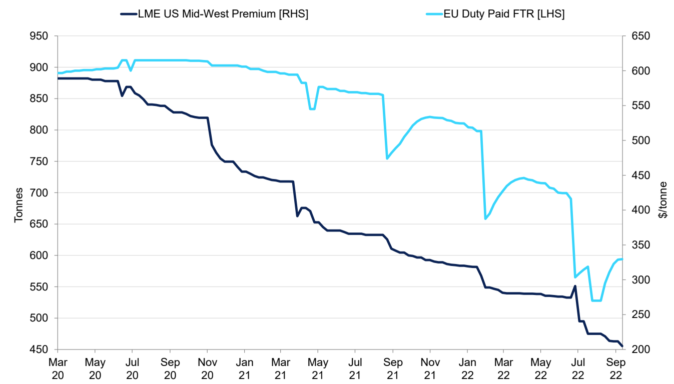
Inventory levels have been declining steadily since early 2021, with the most recent level reaching 17-year lows of 328,000 mt. However, both LME and SHFE stocks improved in recent weeks, and many markets asked themselves a question of whether this could be a sign of oversupply. A jump in inventories is adding to the evidence of weakening demand as consumption continues to suffer which could, in turn, lead to bigger inflows into the LME. A shift to oversupply would represent a reversal for the global market, which has faced acute shortages as a construction boom boosted demand while the energy crisis in Europe cut production capabilities. So far, we have seen more supply losses than demand destruction. However, as we move into Q4, this could shift as China continues to produce at a decent pace and global demand decelerates. We expect the market tightness to ease, but it is unlikely that the market will be oversupplied, at least in the meantime.

China's demand picture has driven the decline in aluminium prices in recent months, and with the US and Europe seeing a contraction in demand accelerate, global demand is set to continue to struggle. The premiums, as a result, continue to decline, with LME US mid-west premium at 2021 lows of $474/t and EU continuing the long-term trend on the downside.

China's home prices continued to fall, as demand in the property sector takes a big hit despite the fiscal stimulus introduced by the Chinese government. However, the widening interest rate differential with other economies should continue to weigh on the yuan. With the Communist Party Congress in mid-October, we expect a slew of economic support and reforms, especially for the property market. However, with the shift away from the zero-covid policy unlikely in the near term, the support is unlikely to stimulate the property market and liquidity.

LME US Mid-West and EU Premiums

Both premiums continue to decline sharply as demand in these economies continues to decelerate and we see destocking along the supply chain.



Source: Bloomberg, Platts

In October, we saw a new bound of volatility following the LME's decision to potentially ban some of the Russian material. The impact of the news has been marginal, as the demand story continues to drive the sentiment. If this materialises, supply taken out of the market will add volatility in the short-term but will help to balance out the market. With global demand slowly declining and the Chinese pace of production remaining stable, we expect to see the market transition from an environment of supply shortages into an equal balance between supply and demand in the near term. Still, tightening from global central banks will drive the demand narrative for the remainder of the year, adding further downside to aluminium, although marginal, as the worst is being priced in.

Copper

LME Copper 3MO ($)

Source: Bloomberg, 26.10.2022

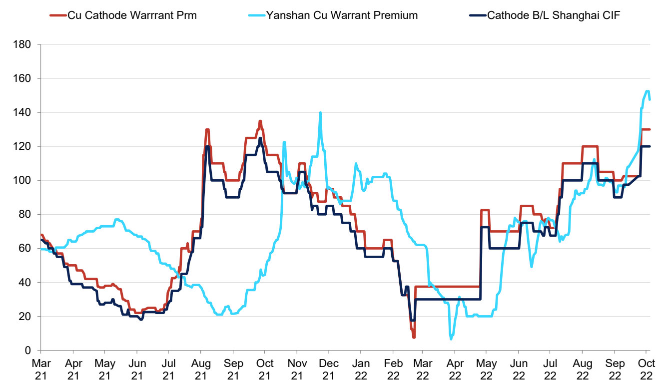
Sentiment

Softer Dollar	Dovish Fed	China's Zero-COVID	Restocking
↑	↑	↓	↓

Q3 Review: Copper prices declined by 8.08% in Q3 to $7,566/t as macro fears reduced investor ap- petite for copper, inflation increased, and global GDP was downgraded. The Chinese economy has failed to grow even though the rise in all-systems financing and the increased bond issuances from local governments failed to take effect. Copper consumption is falling, but the low inventories have kept tight, leading to higher prices. There was destocking along the value chain, but consumption was not strong. We anticipate copper output to improve and restocking. However, LME inventory is being withdrawn and put into SHFE warehouses as the tightness in the market is causing SHFE spreads to backwardated and short traders to scramble for the material.

Cu Concentrate TCs 25% CIF vs Yangshan Copper Warrant Premium vs Cathode B/L Yangshan CIF

Premiums have rallied as destocking has occurred along the value chain, as low demand from smelters causes TCs to rise.

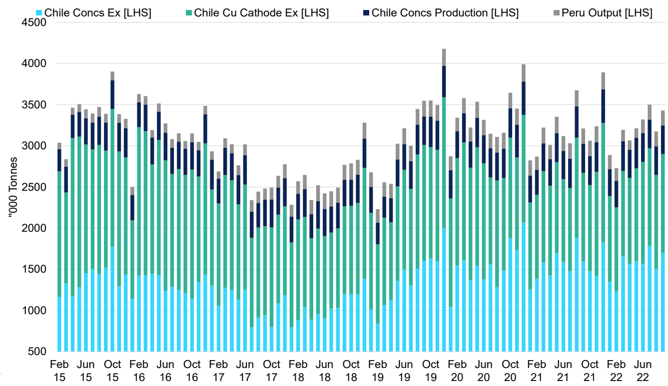


Source: SMM, Bloomberg

Outlook: Mine supply in Chile has been falling, and according to the National Institute of Statistics in Chile, production was 422,900 tonnes in August, down from 430,000 tonnes in July. Data from May was the highest so far in 2022 at 480,200 tonnes, which remains below 2021 levels when production peaked in December at 503,600 tonnes. Confidence in the mining industries has been hit by the government's plan to amend royalties and tax; investment in Chile continues to be attractive. However, ore grades are declining as other regions attract investment due to their higher ore grades. Chile pro-duces around 28% of the world's copper; it used to be 36%. Aims to produce 9m tonnes of copper by 2030 could mean increasing the discount rate for firms. Changes to royalties, environmental laws, government policy, and higher inflation and interest rates could see miners in Chile increase the dis-count rate. Smaller miners could have a higher discount rate as the risk to the project is higher, the higher the discount rate, the faster the extraction in the near term. Peruvian production is also under pressure due to blockades, reducing mining activities. The S&D balance shows a balanced year, but mine production is forecast to rise to 23.3 - 23.5m tonnes due to an increase in supply from Zambia, DRC, Peru, and Chile. Many sites are coming online, cumulatively 1.2m tonnes of capacity between brownfield and greenfield sites.

Chile Concentrate Exports vs Cathode Exports vs Concentrate Production vs Peru Output

Chile copper cathode exports are still elevated, but Peruvian output continues to struggle.



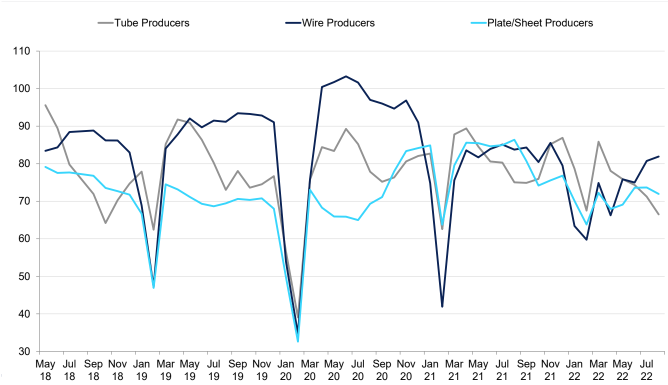
Source: Banco Central de Chile, Banco Cenrtal de Reserva del P

Copper concentrate imports into China have been rising to a record level of 2.270m tonnes as of Au-gust 2022, up from 1.9m tonnes. Port inventory of copper concentrate as of October 14th, metal content was 796,000 tonnes. Despite the import losses, imports of refined material have increased to 332,168 tonnes. China's imports of unwrought copper products stood at 498,000 tonnes in August 2022, marginally higher than the previous months. Transactions on the spot are weak as appetite from smelters is low; concentrate TCs 25% CIF were $85.5/t as of October 20th; TCs have been trading in a similar range for the last six months. Clean concentrates have been quoted at $90/t, while sellers were accordingly at $81-85/tonnes. Demand from smelters has been poor as the supply chain has destocked local supply. The destocking has caused premiums to increase, with the Yanghan copper premium rising to $152.5/t and the copper cathode warrant premium reaching $130/t. Bill of lading in Shanghai for cathodes CIF has also increased; however, none of these increases means more robust consumption. Profitability at smelters is low despite the abundant concentrates, but the price of sulphuric acid has also been weaker.

We expect operating rates in China to improve and stocks to be replenished along the supply chain. In recent sessions, LME inventories have declined while SHFE stocks have increased. This is material being moved within China to alleviate the backwardations in the SHFE spread; this trend has been compounded by destocking, evidenced by the higher premiums and low bonded warehouses stocks.

Operating Rates for Tube, Wire, and Plate/Sheet Producers in China

Wire producers' output is rising, as demand from the electrification industry improves.

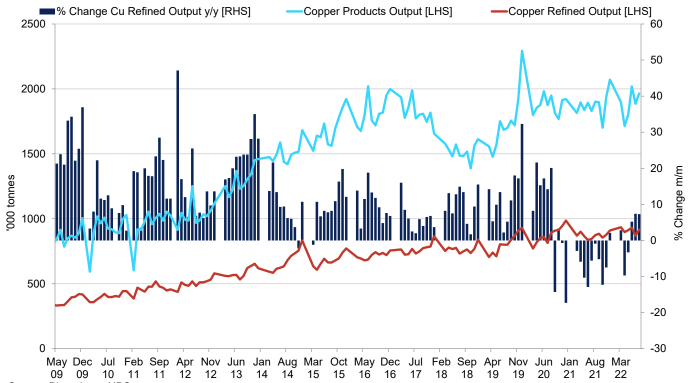


Source: SMM, Bloomberg

The lack of credit and financing continues to be an issue. Limited funding is available in China, which has caused less material to be held in bonded warehouses. The low inventory levels have triggered backwardations in China as traders who are short scramble for material. The lack of financing and credit in China reduced material in the system, and volumes have declined due to weak end-user consumption. The lack of carrying also reduces the propensity for traders to hold material in warehouses. The lower production level in China has diminished traders' ability to restock. Still, we expect output to increase in the coming months, not to facilitate higher consumption but due to better availability of materials and minerals. The stronger output will help the supply chain restock, and while credit and financing are set to remain low, we could see more surplus material in warehouses. This could see material replace Russian material in anticipation of a ban from the LME or European producers not using Russian material. The zero-COVID policy in China will continue, capping the flow of material, and the market will be dislocated. SHFE deliverable stocks have increased to 89,566 tonnes. However, on-warrant stocks declined by 2,801 tonnes; bonded warehouse stocks fell in the week of October 21st to 34,500 tonnes.

China Refined Copper Output vs Copper Products Output vs Percentage Change Copper Output

We are starting to see copper output improve on a year-on-year basis.

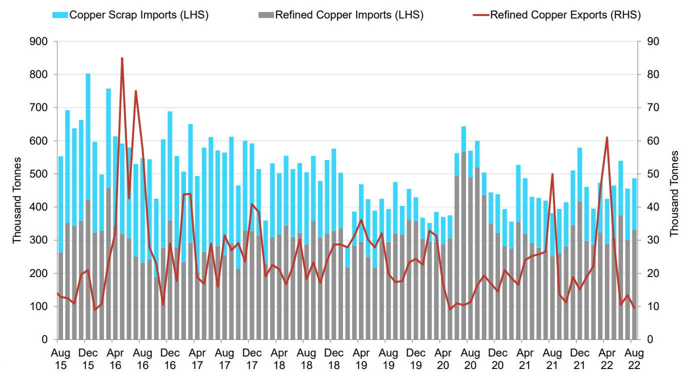


Source: Bloomberg, NBS

Global stocks are low at a few days of consumption. because of the market's dislocated nature, we expect shortages across the globe, which increases the chance of producers struggling to procure material in certain regions, indicating spikes in spreads. Import profits are more marginal than in previous weeks, but we still expect replacement material from LME warehouses in SHFE warehouses. Traders looking at fundamentals will point to the Fed, expected to pivot in December or Q1, which will present weakness to the USD, giving rise to commodity prices exemplified on October 21st. However, consumption will continue to weaken in Europe and the U.S., with little upside in China in the next six months due to the COVID policy and stimulus struggling to filter into the economy. When demand does return, the low inventories cause a sharp rally in copper prices. We expect further downside to the 3-month continuation, but spreads will remain volatile and in backwardation for longer due to the dislocated market and low inventories, increasing the probability of squeezes.

China Copper Scrap Imports vs Refined Copper Imports vs Exports

The large decline in exports suggests a weak external market, but the low inventories show a tight physical market.



Source: Bloomberg,Customs General

Lead

LME Lead 3MO ($)

Source: Bloomberg, 26.10.2022

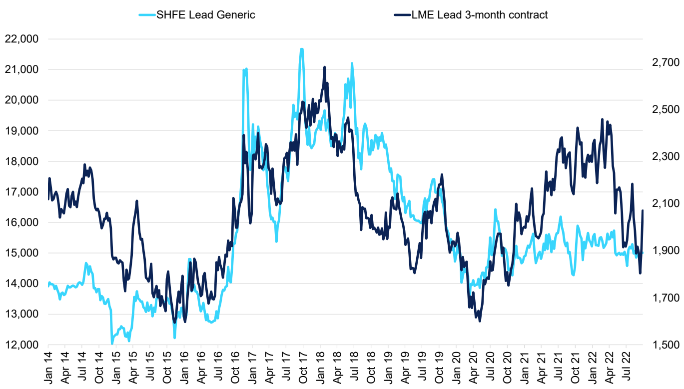
Sentiment

Auto Demand	Replacement Battery Demand	Economic Data	Lead Output

Q3 Review: Lead prices fluctuated this quarter between the highs of $2,215/t and lows of $1,750/t; by the end of September, the metal remained broadly unchanged, falling by 4.8%. The spike in August was due to the growing energy crisis in Europe but then was dragged down by concerns over the global economic recession. Likewise, power rationing in China pushed up the SHFE lead prices to CNY15,480/mt. The prices later fell below $1,800/t as supply recovered slightly after power rationing was lifted; however, the demand outlook continued to deteriorate, leading to an uptick of inventories in both markets in recent weeks. In September, the macro picture took hold of the markets. With the tighter monetary policy action anticipated from most developed economies' central banks in the last quarter of the year, the global economic demand and, in turn, outlook soured. As a result, the US dollar became the best alternative to other investments and rallied to 20-year highs, and most of the industrial metals took a hit.

LME Lead vs SHFE 1st Generic Lead

LME price moves have been more volatile than seen on the SHFE exchange.



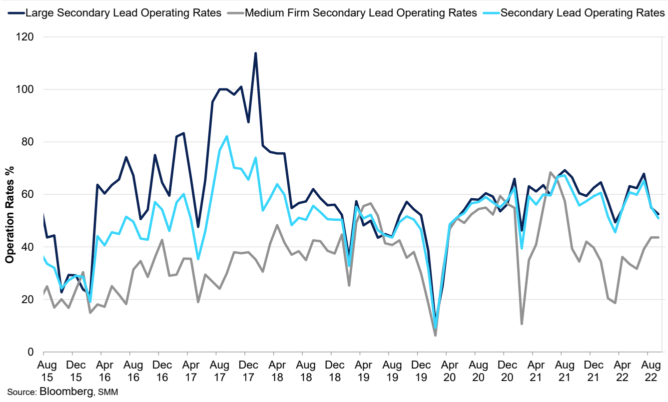
Source: LME, SHFE

Outlook: World refined production in H1 2022 from both primary and secondary sources was 8,384.3 kt, up 2.1% y/y, according to WBMS. Chinese demand was estimated at 4,168.0kt, mostly unchanged y/y, representing about 49% of the global total. For the USA, demand has decreased by 23 kt y/y. In line with aluminium, many provinces in China saw power rationing restrictions in August and were asked to adopt a staggered production scheme. Still, China produced 268,300 tonnes of refined lead in August, up 3.2% y/y. As weather conditions cooled, we saw smelters resume production, causing production to increase in late August. Operating rates in primary lead rose as smelters recovered from maintenance, up to 61.3%. From the export side, the refined lead level has sold off sharply in recent months and now stands at 1,703mt vs 35,747mt two months ago, according to CGA. Imports, however, have seen an uptick after being flat for the majority of this year. This has now reached 984mt, given the open arbitrage window with the LME.

Lead TCs have increased slightly but have been flat over the summer amid the falling SHFE/LME price ratio. Regionally, the TCs in Yunnan are quoted at 1,000-1,300 yuan/mt in metal content. The increase in TCs of lead concentrate provided support for the output increase of refined lead in September. We expect the TCs to improve slightly following the maintenance works at the beginning of this month as material availability improves. The LME stocks have been mostly flat and only just began to decline once again in August, dropping to 32,750t on the back of a partial resumption of activity in China. SHFE data shows that Chinese inventories continued to decline, falling to the March 2021 lows of 53,862kt in September, given restrictions on power rationing were lifted. Cash to 3-month spreads have also flipped back into contango as market tightness eased slightly.

Secondary Lead Operating Rates by Size

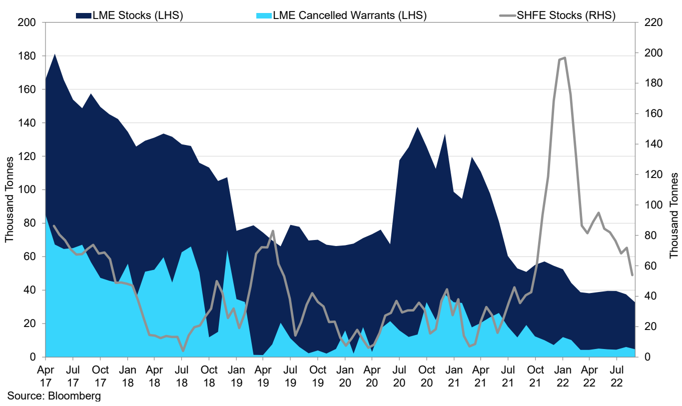
Medium-sized firms saw improvements in the operating rates, as it converges with large- sized firms.



In terms of secondary lead, the situation differs from the primary lead. At the beginning of the month, secondary lead smelters suffered great losses on the back of falling lead prices and strong quotes offered by battery scrap sellers that led to higher costs, urging the production to be reduced. Indeed, China's start-type battery scrap prices have once again rallied in October, jumping to CNY8,025/mt, the highs not seen since mid-August. China produced 303,300mt in August, down 10.4% m/m and down 21.2% y/y, mainly because the output of smelters in Anhui, and Jiangsu, with the latter declining by about 23,000mt amid the power rationing. At the start of September, operating rates improved; however, they remain low, at about 40%, further tightening the secondary lead production. Finished products inventory continued to fall as end consumers had still to purchase material even with a lack of production directly from smelters. From the demand side, however, this should be beneficial for end users as they are more willing to purchase more at lower prices. Therefore, we might see higher stocks of end-user material, but with demand continuing to diminish, we expect it to sit in warehouses.

LME and SHFE Lead Stocks

LME stocks have seen some drawdowns in recent weeks on the back of China lifting power restrictions.

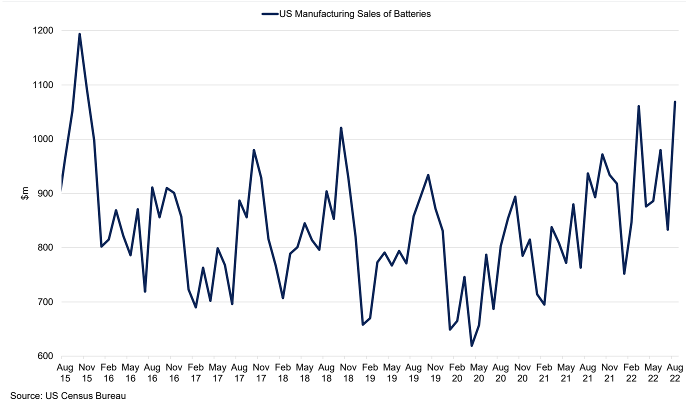


Both the supply and demand of secondary lead were disrupted by the power rationing in August, while the downstream consumption remained weak at the same time. With maintenance due to take place in the first week of October, given the mid-Autumn Festival, we expect the output to decline. Meanwhile, lead consumption is in the peak season. After the holiday season, some smelters will resume production, and attention will shift back to battery shortages and the pace of supply easing, which will play a key role in determining the consumption of lead in October. Still, Jiangsu and Zhejiang, major secondary lead consumption provinces, are feeling the bite from the continuation of regional lockdowns that should weigh on consumption in those regions for longer.

From the demand side, for 2022, thanks to easing supply chain disruptions, the auto sector has seen marginal improvements on the upside in recent months. Indeed, according to J.D Power-LMC, light vehicle sales are set to record their best September performance in the US. As a result, a similar trend followed suit in industrial battery production, with the US seeing a growth of 13% y/y in August to $1,069m in shipment. In China, battery companies in Jiangsu and Anhui reported falling operating rates, and the average dropped to 72.48%. However, we expect the operating rates to improve in September, given the lift-off power restrictions and the seasonal peak for the lead-acid market.

US Manufacturing Sales of Batteries

US battery shipments improved in August, jumping to the highest level not seen since 2015.



We expect the supply and demand picture to have stabilised slightly in September on the back of the lift of the power rationing restrictions, however, this will do little to alter the longer-term sentiment. This should create further downside momentum for lead in the immediate turn. In the coming months, given the improvement of lead production following the maintenance period during the peak consumption season, lead ingot inventory may continue to decline slightly. With the intensifying energy crisis in Europe, high short-term costs should continue to prop up the metal performance. As a result, we expect the global macro picture to drive prices lower in Q4. And while we do expect Chinese demand to recover, this will not materialise until early 2023.

In the coming months, given the improvement of lead production following the maintenance period during the peak consumption season, lead ingot inventory may continue to decline slightly.

Nickel

LME Nickel 3MO ($)

Sentiment

Evs/Battery Demand	Macroeconomic Woes	Reduced 300 Series	Class 2 Ni Supply
↑	↓	↓	↓

Q3 Review: Nickel prices consolidated in Q3 as prices failed into $25,000/t and closed the quarter down 5.05% at $21,107/t. We saw a disconnect between the spreads and the 3-month contract when the flat price rallied to $25,000/t, and the spread was still in contango. SHFE prices rallied in Q3, with the 1st generic contract gaining 6.6% to CNY189,000/t; we expect this is due to material tightness and reduced availability as the economy has been performing badly, with the IMF forecasting growth at 2.8% for 2022. The dollar continues to be a headwind for the commodity sector, but nickel has consolidated. We saw Indonesia's NPI increase flows into China as it was cheaper to import as losses for domestic plants widened.

LME Open interest vs 3-month Price vs Volumes

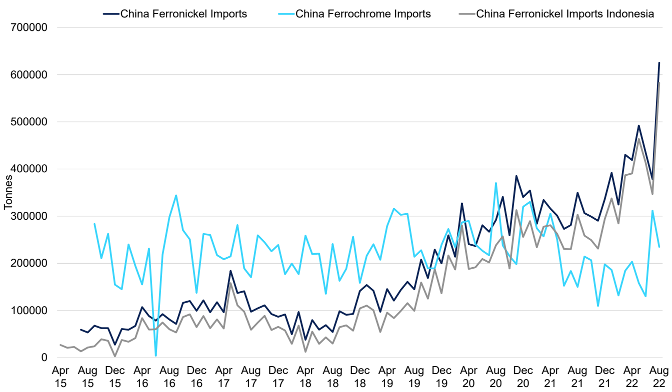
Volumes are low but we have seen a marginal increase in open interest.

Source: Bloomberg

Outlook: NPI production in China was softer going into the holiday, but stainless mills were restocking NPI; some mills purchased raw materials in October in anticipation of higher stainless production. Since returning, transactions have been higher, with the market anticipating more activity in Q4. Higher prices have improved profitability, causing production to rise with NPI 8-12% at CNY1,340/t as of October 13th, helped by the decline in finished inventory. Downstream consumption from mills ramping up production will keep NPI operating rates higher in the coming months, although there is a lack of material which caps output. Operating rates for China's NPI have increased to 50%. There is additional capacity on the upside; according to SMM, production of NPI in September was lower due to the holiday and power rationing. Domestic NPI decreased 25.2% M/M to 30,100 tonnes, high-grade NPI fell 25.25% to 24,800 tonnes in metal content, and low-grade NPI was 5,400 tonnes, down 25.25%. With Guangdong, Jiangsu, and Shandong cutting output, Guangxi was impacted by power rationing. Looking ahead, we expect power rationing to remain a threat to production, and SMM indicates that high-grade NPI will reach 24,700 tonnes, with low-grade NPI at 5,300 tonnes. Nickel ferroalloy production in Indonesia is forecast to reach 739,000 tonnes in 2022 and increase by another 180,000 tonnes in 2023. According to the International Nickel Study Group, YTD production was 814,000 tonnes, representing 47% of global output. The lower NPI output in China has been largely offset by high imports of NPI at 583,000 for August, a record high..

China Ferronickel Imports vs Ferrochrome imports vs Ferronickel Imports from Indonesia

Ferronickel imports increase as Chinese NPI and nickel availability declines.

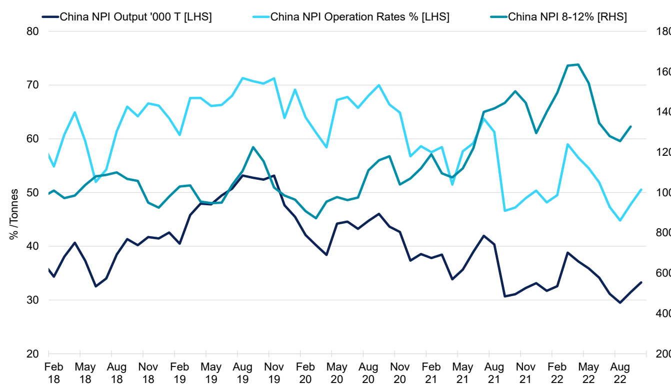


Source: Customs General Administration

The rise in imports of NPI also offsets the lower level of nickel ore imports from the Philippines; in August, China imported 4.34m tonnes of nickel ore, a similar amount to the previous month's 4.371m tonnes. These were considerably lower than last year's figures at 5.77m tonnes and 5.18m tonnes for August and July, respectively. As a result, Ni ore CIF has been increasing across all grades. The rainy seasons will now cap nickel ore imports, keeping prices on the front foot, but freight rates between the Philippines and Chinese ports Lianyungang Port and Tianjin Port have been rising, standing at CNY124.43/t and CNY117.32/t in the week to October 13th. Although the lower imports from the Philippines, nickel ore inventories in ports in China have been increasing, reaching 761,000 tonnes. The lower imports will keep prices supported in China and will likely reduce the production of high nickel stainless in favour of chrome, a trend we have already highlighted. Imported nickel has a premium of CNY4,150/t as of October 2022; Russian nickel premium stands between CNY10,900-12,000/t and has an average of CNY11,450/t up CNY550 on the week.

China NPI Output vs NPI Operating Rates vs Prices 8-12%

The long-term trend remains to the downside for China's NPI output.

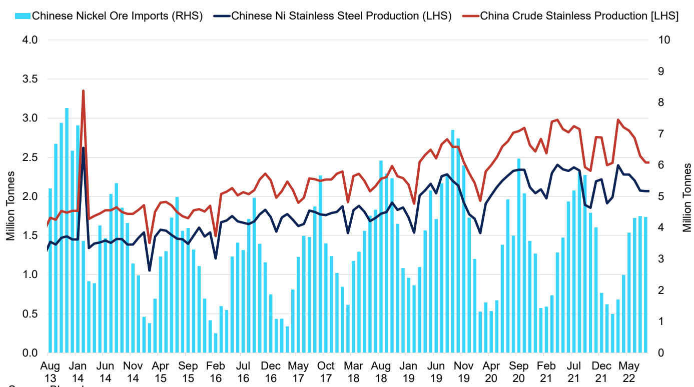


Source: Bloomberg, SMM

Stainless steel production in China was 2.2mn tonnes in September, down 590,000 tonnes, 20.97% M/M and 19.75% Y/Y. Chinese output for 2022 has reached 24.78m tonnes through to the end of September, up 17.1% Y/Y. Power rationing capped production in Guangdong and Jiangsu for operating rates and has upside capacity. The 200 series output declined by 258,200 to 575,000 in the month, and the 300 series fell by 295,000 tonnes. The 400 series output has declined marginally by 37,300 to 471,000 tonnes. There is a downside to production in the near term as power rationing reduces output; 400 series will continue to decline less than the others, with 200 series at 593,000 tonnes. Stainless scrap imports into China reached 14,582.6 tonnes of scrap in August, up 102% M/M and 272% Y/Y. Imports of stainless were 309,900 tonnes, up 73.69% M/M and 8.25% Y/Y, with YTD imports reaching 2.17m tonnes. Although inventories of 200 and 300 series stainless declined, standing at 294,3000 and 516,000 tonnes, respectively, we anticipate this trend to be reversed in October. 304/no1 coil stainless prices have declined over the last month due to lack of demand, with 304/no.1 coil Wuxi at CNY16,400/t, but 304/2B coil-EM in Foshan has rebounded towards the end of the month at CNY17,300/t. 316 2B stainless prices have been firming, and with typical uses in autos and food processes as it is smooth and has very high corrosion resistance, this could indicate a resumption of demand from the auto sector; the Foshan price reached CNY27,850/t. 316L/No.1 coil has also been bid, traditionally for building materials, kitchen utensils, and pipe for industrial uses. This could indicate strong consumption from these sectors in China as the stimulus was aimed at the property sector, and projects are restarted.

China Nickel Ore Imports vs Stainless Production in China

Ore imports have been lower and the stainless output for 2022 is stronger than previous years.



Source: Bloomberg

Open interest continues to dwindle as appetite from traders is low, falling to 150,000 contracts, significantly below the high of 300,000 contracts in 2019. The lack of confidence in the Chinese economy, and there was no pre-market or overnight session on the LME until recently. Volumes are down, and liquidity remains low; the lack of involvement from funds has triggered less volatility. The funds now have a net flat position on the LME, there is a significant capacity to add exposure, but there may be a reluctance to go short. The fundamentals indicate lower prices as NPI capacity rises sharply in China; demand from the stainless market has been strong and could rebound in 2023 as China's economy grows, boosting stainless demand in autos and the property sectors; however, this is likely to be in Q2 2023. The forward curve suggests higher prices in the next few years with spreads in contango. However, the large amounts of class 2 nickel will keep the stainless market well supplied for the 200 series, but we still expect less market share for the 300 series in the long run as class 1 nickel will be used for batteries.

Tin

LME Tin 3MO ($)

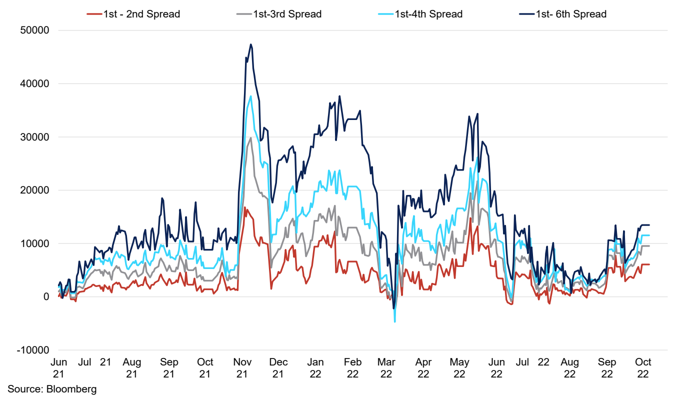
Sentiment

China's Low Tin Supply	Tech Sentiment in China	Semiconductor Sales	Business Optimism
↑	↓	↓	↓

Q3 Review: Tin prices declined 20% in Q3 2022 to close at $20,634/t; prices broke through our downside target of $21,285/t. SHFE futures have mirrored LME, but the market declined by only 6.65%. Demand for material has softened in 2022, which has played out in the flat price, and the resumption of supply projects has caused spreads to weaken to a narrower backwardation at $44/t back as of October 4th compared to $465/t on June 24th. Sentiment has been compounded by the strong dollar and dislocated economic sentiment across the globe. Higher energy costs will squeeze margins for companies. As capital costs have risen, technology stocks have declined as share prices were overinflated and speculative bets declined amid a higher yield environment.

SHFE Calendar Spreads

Tightness in China has caused the spreads to backwardated, but we expect this to dissipate as we move through into 2023.

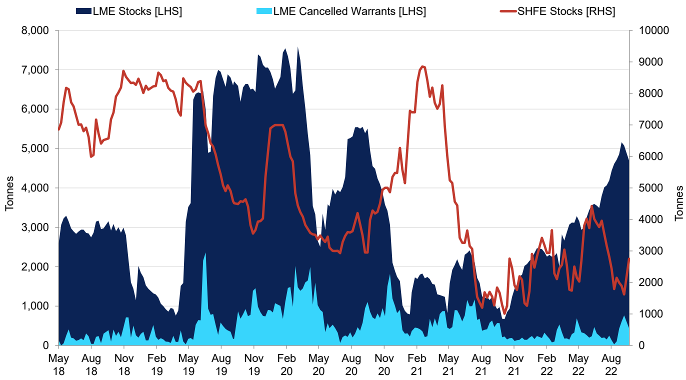


Outlook: Tin spreads on the LME have weakened as exchange inventories increase, with demand prospects waning. LME spreads have weakened with cash to 3 months, standing at $44/t back, and volumes are low, which is expected to remain the case soon. There was a moderate in September as traders returned to the market. We expect pressure to continue the LME spreads similarly to SHFE calendar spreads. SHFE calendar spreads have tightened in the last few weeks of September, which could be attributed to a moderate fall in inventory, as social stock of tin ingots fell to 3,530 tonnes, a 3-month low. Cash has held its value compared to contracts further down the curve, as destocking and lower material availability at smelters have elevated the 1st generic price. The spread or the 1st to 2nd spread stands at CNY6,070/t, with the 1st to 3rd at CNY9,530/t back. Tin open interest for the top 20 firms on the SHFE for the 1st contract shows a decline in short open interest from 29,565 to 2,809 as of September 30th; however, as the contract rolls open interest declines, the long interest followed a similar pattern, closing the month at 2,782 contracts. Pre-market volumes on the LME are low despite the open arb window between LME and SHFE. The investment funds on the LME now hold a moderate net short, confirming the above sentiment on tin prices; unsurprisingly, the commercial short has declined as hedges were closed out as prices moved lower. Commercials currently hold the lowest short since the new LME reports started in 2018.

Mine production data from the WBMS suggests that output for the first seven months was down considerably in 2021, at 186,900 tonnes compared to 217,400 tonnes last year. Much of this shortfall came from China, where output decreased from 101,300 tonnes to 63,900 tonnes. However, according to the USGS data China has the largest reserves. Reserves are non-renewable resources, and there have been no new deposits of tin discovered in recent years. While technology efficiencies can reduce waste and improve output, mine production under construction will peak in 2025, according to SMM. Secondary availability has declined due to e-waste restrictions, and while this is necessary, we need to see more secondary capacity online. According to the ITA, Alphamin accumulated inventory over Q3 when consumption was limited; an uptick in the Chinese economy could trigger a drawdown on the stock. Holding back sales will hurt the company's profitability, especially with higher costs. Concentrate prices consolidated toward the end of September and fell as China returned from holiday.

LME Stocks vs SHFE Stocks

Destocking in China has caused tightness, but the LME inventory levels are low.

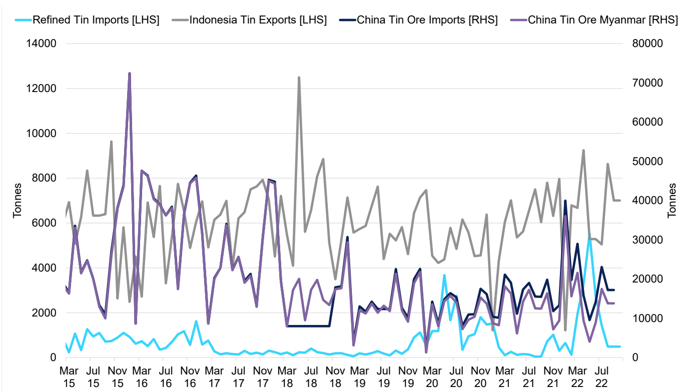


Source: Bloomberg

Tin concentrate in Yunnan, Guangxi, Jiangxi, and Hunan declined by CNY3,000/t. Downstream demand will continue to wane as soldering companies' forward optimism declines. Inventory levels at solder operators are low because demand remains weak and hand-to-mouth as downstream consumption is soft. As a result, we could see restocking demand prompt consumption of concentrate and prices to the firm. TCs for 40% tin concentrate in Yunnan declined sharply during the Chinese holiday and now stands at CNY20,000/t, and 60% concentrate from Guangxi, Jiangxi, and Hunan is at CNY16,000/t. Power rationing due to low water levels has limited production marginally, but the arbitrage window is open, and this has triggered a more substantial inflow of material into the market.

Refined Tin Imports vs Indonesia Tin Exports vs China Tin Ore Imports

The arbitrage window caused an inflow of material into China, but stocks have remained low.

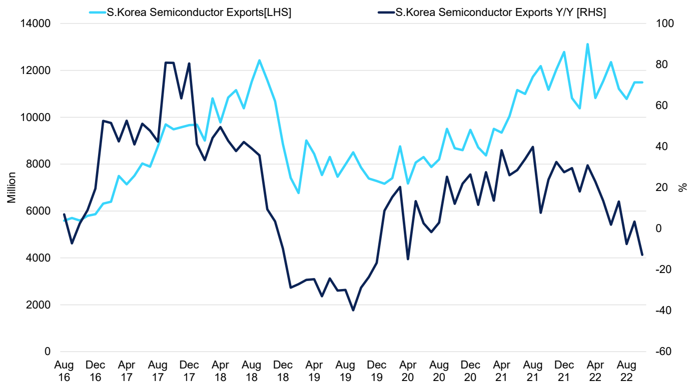


Source: Customs General Administration, Ministry of Trade of Republic

Indonesia exports have strengthened ahead of the ban, with 8,633.05 tonnes of tin ingots and solder bars exported in August, up 15.5%Y/Y. Data suggests that Indonesia has shipped 51,174 tonnes this year; we expect this trend to continue in the coming months as China and Singapore restock ahead of the material ban. Imports of tin ore and concentrate have started to weaken due to the weaker arbitrage window and slower output from smelters in China. While imports remain elevated at a historic level of 17,227 tonnes, downstream demand and lower prices have impacted tin prices and production in China. The sell-off in share prices of semiconductor producers will continue to hit sentiment further. The import arbitrage is open, which could prompt more material to be shipped in conjunction with the Indonesian export ban.

S. Korea Semiconductor Exports

Exports in volumes terms are still high but the Y/Y figures suggest otherwise.

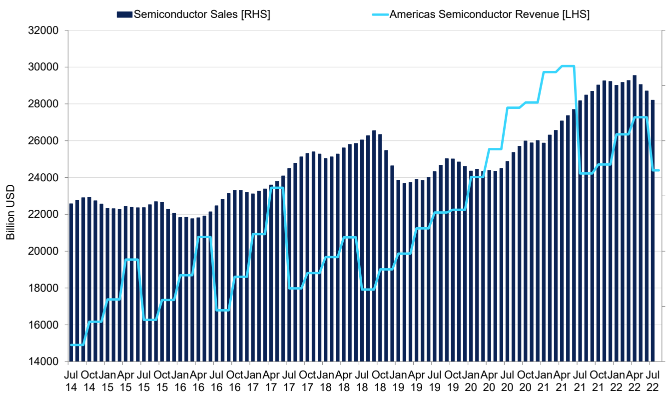


Source: Ministry of Trade, Industry and Energy

Semiconductor sales growth has slowed, with sales only 0.1% year-on-year in August. The month-on-month data shows a substantial decline of 3.4%; August sales data was $47.3bn compared to $49bn in July. Compared to the rest of the economy, Europe posted strong sales figures that were up month-on-month at 1.5% and 14.9% year-on-year. Revenue has fallen sharply in America as costs as higher costs have filtered into margins. We expect this to continue as consumer sentiment and spending weigh on electronics demand in 2023. IC Insights estimates that CAPEX from semiconductor firms will be lower than previously expected, down to $185bn from $190bn. This presents a 21% growth in CAPEX from 2021. Integrated device manufacturer utilisation rates remain above trend, at 90%. IDMs and foundries continue to spend on new capacity, supporting demand in the long run, especially as solar panel investment rises. However, we do not see considerable sales growth from semiconductors in the near term. This will keep CAPEX lower for 2023 due to high costs and lower end-user demand. We expect this to weigh on tin prices in 2023; solder prices have responded. LF solder prices have softened marginally in the week to September 30th, closing at CNY193,750/t, but prices were still higher on the month. Solder bar prices weakened to $17,359/t in the week to September 30th, and we could see demand improve as we head into the restocking period in Q4. This could be compounded by the lower availability of materials in China

Semiconductor Sales vs Americas Semiconductor Revenue

Revenues have been declining for months, as M/M sales also fall but remain higher on the year.



Source: Bloomberg

Zinc

LME Zinc 3MO ($)

Source: Bloomberg, 26.10.2022

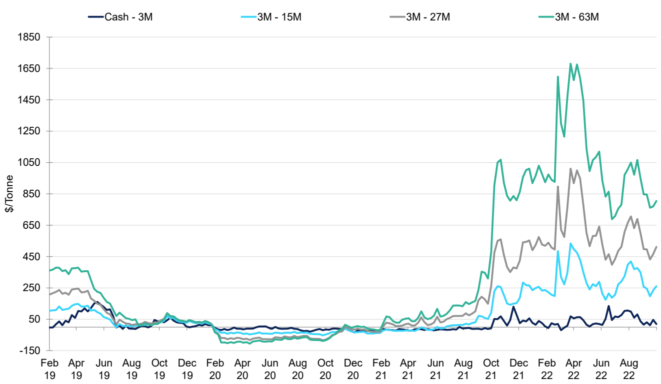
Sentiment

Low Inventories	Disclocated Market	Weak End-User Demand	Ore/Concentrate Supply
↑	↑	↓	↑

Q3 Review: Zinc prices declined by 5.69%; however, prices were very headline sensitive as prices rallied to $3,819/t due to the energy costs in Europe and smelter capacity being cut. The output cut initially caused prices to rally; however, consumption is so poor that the production outages will not impact the balances. The strong dollar will continue to compound the issue, which will continue as the U.S. economy remains comparatively resilient. End-user demand and consumption along the supply chain have declined, which is expected to continue despite the moderate backwardation in cash to a 3-month spread. LME inventories are still falling, and the on-warrant stocks are 41,575 tonnes, with only 25 tonnes in Europe.

LME Calendar Spreads

The backwardations indicate lower prices in the long run due to low demand and more positive news on supply once we are through the initial tightness due to energy costs.

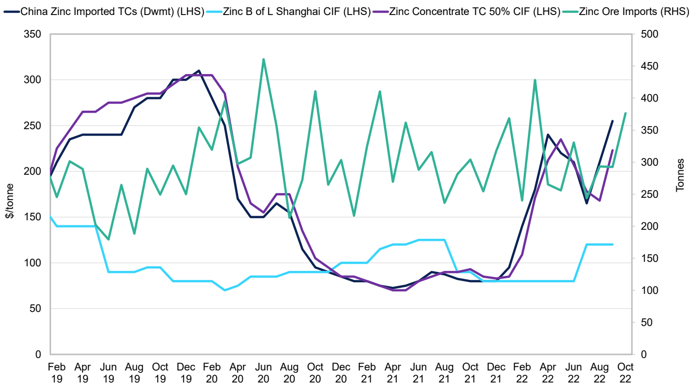


Source: Bloomberg

Outlook: Zinc production in Peru has been volatile this year and stands at 99,471 tonnes as of July 2022; however, local communities have significant conflicts as they increase their demands. This trend has been compounded since Pedro Castillo was in office. There have been an increasing number of protests this year; unrest at Las Bambas cost the economy $10m a day in lost royalties and export revenues, but protestors continue to feel that promises have been broken. In addition, the government presented a bill to incorporate rural communities as shareholders of 10% of mining companies, reducing the attractiveness of miners investing in Peru. There has been an increase in local communities' power, which is due to environmental concerns and standards. This will continue to delay projects, not just in Peru but South America, likely increasing costs of extraction and there for mining economics. WBMS data indicates that Peru's production through to July 2022 is 439,600 tonnes; this is compared to 420,200 tonnes in the same period last year. Chinese output at zinc mines was more robust in 2022 at 2.73m tonnes, compared to 2.72m tonnes. Global mine zinc pro-duction has declined through the first 7 months of the year, reaching 7.65m tonnes, down from 7.799m tonnes in 2021. This indicates that zinc ore and concentrate availability is ample, and TCs have continued to rise.

China Zinc ore Imports vs Zinc B of L Shanghai vs Zinc Ore Imports vs Zinc Concs 50% CIF

Profitability for imported concentrate has been high, but smelter output has been limited by maintenance.



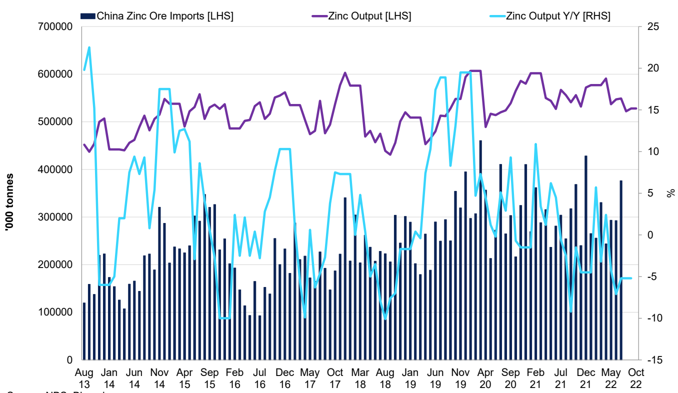
Source: SMM Information and Technology,Guojin Reasources Limited, Asian Metal Inc, Customs General Administration

Chinese smelters have recently re-stocked their inventory, and zinc ore imports have surged higher in recent months, reaching 376,372 tonnes in August. This is due to the high profitability of importing material, causing smelters to prefer this material. According to SMM, the treatment charge for im-ported concentrate has reached $260/dwmt, up from $165 in July; the zinc TC 50% CIF was $245/t as of October 19th. Due to smelters preferring imported material, domestic TCs have also risen sharply, standing at CNY4,350/t as of October 2022 compared to CNY3,400/t in June 2022. Profitability will boost the supply of zinc in China; however, maintenance in the near term will cap production in the near term. This maintenance will end in November, and this will increase the availability of material. Tightness in China has caused a steep backwardation in SHFE and the propensity for another squeeze. Significant destocking along the supply chain has reduced zinc ingot inventories, and stocks stood at 84,700 tonnes during the holiday, which increased to 88,700 tonnes across important regions, significantly below the previous years. The higher premiums are due to destocking and low appetite from downstream stakeholders to purchase materials.

In Europe, Glencore's Nordenham smelter in Germany is closed until November due to higher energy costs. Higher energy costs have curtailed approximately 830,000 tonnes of zinc. Glencore's owned sources of zinc production was 480,700 tonnes in H1 2022 compared to 581,800 tonnes for the same period in 2021, down 17%. The current guidance is at 1,010 tonnes, and there is a stronger weighting on H2 2022.

China Zinc Output

We expect zinc output to rise from November onwards.

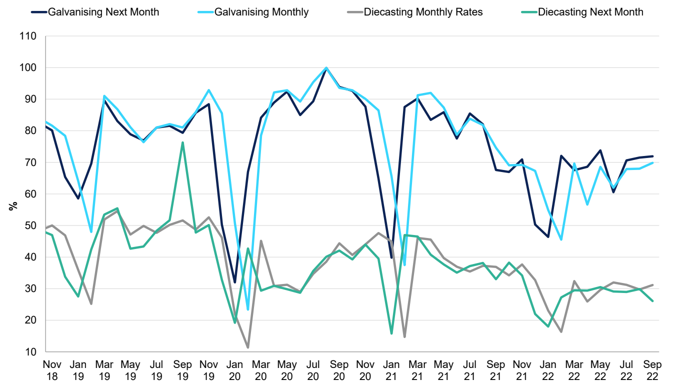


Source: NBS, Bloomberg

Zinc output has been lower on a year-on-year basis in China and was 528,000 tonnes in September, and there is little upside in October due to the maintenance. October production levels will remain around 520,000 tonnes, but we expect November data to be higher as maintenance stops. Operating rates at die-casting and galvanizing plants give a mixed outlook. The average operating rates for October are expected to be higher than September, 72% compared to 69.83%. According to SMM, in-stalled capacity reached 39m tonnes in September, with output at 2.1m tonnes. We have seen moderate improvements to scaffolding orders which could suggest higher construction activity in the coming months; orders of PV, guardrails, and highways are steady. We expect an uptick in galvanized product consumption in the coming months, but the low inventory levels could cause steep backwardations as traders look to secure products on the spot. Mid- sized producers added 5.49% on the month to 52.99%, and this was higher due to projects coming back online. Large galvanizing plants have risen as profitability increases.

Operating Rates at Diecasting and Galvanising Plants in China

Galvanising rates are rising and this will boost zinc consumption.



Source: SMM, Bloomberg

From a consumption perspective, key end-user sections are struggling for growth globally. Sales figures in China have been more robust than in other areas of the globe; sales in the first nine months of 2022 have averaged 244,335 units, compared with 304,323 units in 2022. Second-hand vehicle sales have been strong, which is closely linked to the CPI in the U.S., with second-hand sales contributing heavily to CPI. However, higher costs of credit and financing for vehicles could slow purchases as consumers have lower disposable income. In China, sales through the first nine months reached 16.978m units, averaging 1.886m units a month; this compares to averages of 1.6m units per month last year and a total figure of 12.8m units. Production figures in China have also been increasing, reaching 2.41m units in September, considerably higher than the April figure of 996,000 units. Open interest on the LME has been falling. Still, the 1st generic contract on SHFE has a large genuine interest of around 125,000 contracts; the spread between the 1st generic and the 2nd generic con-tract was CNY775/t, which is lower than the recent high CNY1,795/t.

Iron Ore & Steel

1st Generic SGX 62% Fe

Source: Bloomberg, 26.10.2022

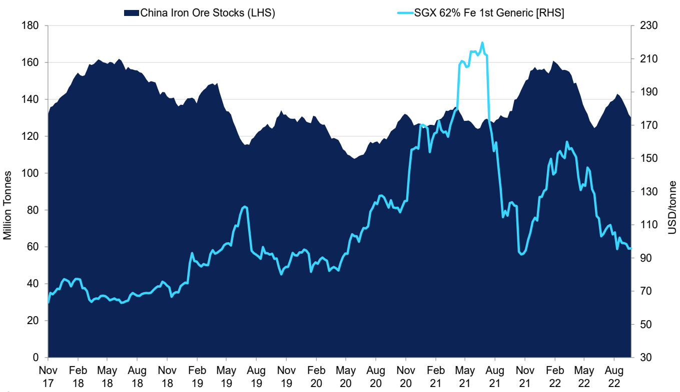
Sentiment

Restocking	Robust Ore Supply	China's Property Sector	Steel Output

Q3 Review: Iron ore came under pressure in Q3 as the global macro continued to weaken, and stimulus in China failed to improve the economy. The IMF have forecast China's economic growth at 2.8% for 2022, and there is little upside in the immediate term unless China changes their zero COVID poli-cy. Despite increased loans, the property market is weak, and Evergrande restarted most of its pro-jects. The lack of certainty surrounding the economy has limited upside potential, and the cuts in lending rates by the PBOC had little impact. Sporadic consumption of iron ore from the steel market and little optimism for future demand triggered a close of the SGX 62% Fe contract in line with our downside target of $92.50 at $94.24/t.

China SGX 62% Fe Iron Ore vs China Iron Ore Inventories

Iron ore prices have been falling in recent months as consumption is weak and global supply is strong.

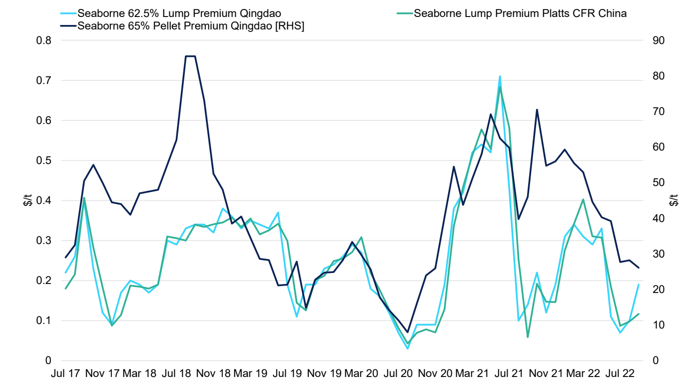


Source: Bloomberg

Outlook: Imports of iron ore into China have started to recover, with Australia reaching 68m tonnes and Brazil at 21m tonnes. According to customs data, total imports for August increased to 96m tonnes, the highest level since January this year. Global port limited data indicates a significant drop off in the last week of August, with imports only at 2.53m tonnes. We saw a sharp improvement at the end of September, with data reaching 17.35m tonnes. A strike in South Africa has capped the inflow of material into China, approximately 120,000 tonnes a day would be disrupted, and 600,000 tonnes of iron ore shipped from South Africa are sent to China. The week to October 2nd shipments were strong at 21.26m tonnes, and China represented 66.6% of global shipments. Australia shipped 15.9m tonnes, and Brazil exported 3.7m tonnes; however, these numbers fell in the subsequent week to 13.27m tonnes and 3.42m tonnes up to October 9th. There was a significant increase in pellets and lump shipped to China, but shipments remain volatile, but arrivals at Zhanjiang, Fangchenggang, Bayuquan, and Qingdao were all higher.

Seaborne Iron ore Premiums

Lump premiums have edged higher, and seasonality suggests we could see higher premiums in the coming months.

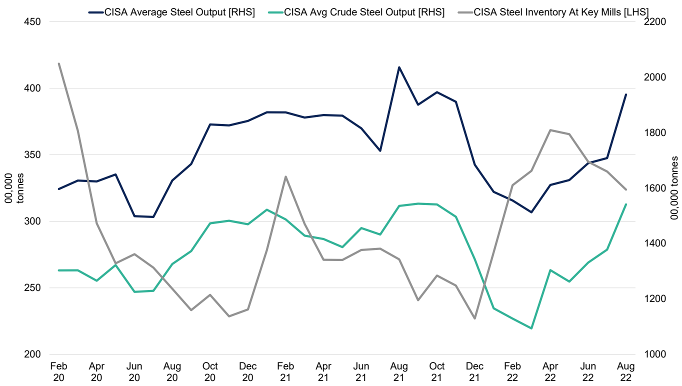


Source: Mysteel, Platts

Steelhome iron ore inventory at ports has been declining since the beginning of September and now stands at 130.20m tonnes, down from 143m tonnes at the beginning of September. This was mostly attributed to the weaker iron ore imports. Seaborne premiums for lump have pushed higher and lump imports were stronger in the last month. However, seasonality indicates that premiums bottom out in August, suggesting premiums will rise as restocking and consumption of seaborne iron ore im-proves. However, steel consumption is still constrained as the economy is weak, and China's zero COVID policy will cap gains, but output started to improve in late September, as shown above. The blast furnace utilisation rate was steady at 89.04% in the week of October 14th, and this kept iron ore demand steady. Domestic mining due to accidents in Qianxi County and Shanxi Province capped the utilisation rates for iron ore mines stood at 55.9% in September, according to SMM, and we expect lower production levels at domestic mines.

Crude Steel Output vs Average Steel Output vs Steel Mill Inventory

Inventory has started to decline but output is rising, this is ahead of restocking but also an indication of activity in China.



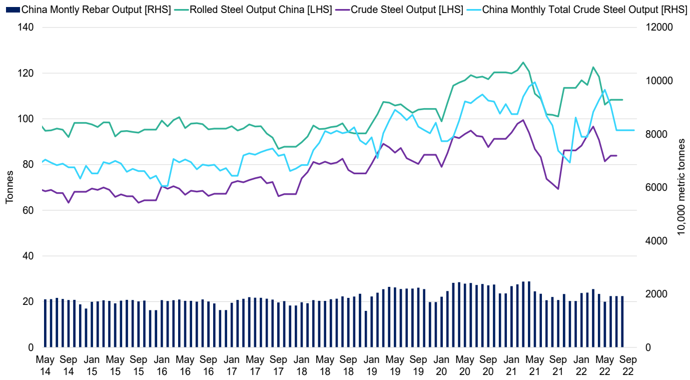
Source: CISA

Crude steel production was 81.42m tonnes in July, significantly lower than the May number of 96m tonnes. August numbers were marginally higher at 83m tonnes, and the utilisation rate of BOF mills in Tangshan was at 74,8%, down from 75.3% the previous week. However, the improving utilisation rates lend themselves to improving economic data, as steel- intensive industries are still in negative growth. An upturn in these sectors would trigger higher steel consumption, but we do not expect significant gains until 2023. According to the CISA, in late September, the daily output of steel was 21.31m tonnes of crude steel, 19.54m of pig iron and 22.21m tonnes of finished steel. The average daily production of crude steel was 2.13m tonnes, lower than the average daily output for the whole month at 2.84m tonnes. According to SMM, the daily production of steel was 3.87m tonnes, up 2.73% M/M, but we also saw a decline in inventory at key mills to 15.88m but are 3.93m tonnes up Y/Y. Prices of rebar and HRC have declined in recent weeks, HRC prices in some regions did edge marginally higher, but CRC fell heavily once again in all regions. Rebar in plant inventory is low at 2.14m tonnes, down 11.2% Y/Y, and we have only seen inventory lower in 2018. The social inventory of rebar is the lowest we have had in recent years, at 4.15m tonnes, a decline of 34.6% Y/Y.

Finished steel inventories will continue to decline as destocking takes place into year-end. However, while demand is limited, the low stock days of consumption and a potential capping of production due to power rationing could limit downside moves. In our opinion, while utilisation rates are steady, steel production is lower, lending itself to lower prices and consumption; however, when demand in China returns, most likely in Q2 2023, we could see a significant supply gap which will cause a period of high volatility and tightness in the front end of the curve.

China Rebar Output vs Total Crude Steel Output vs Rolled Steel Output

Rising steel output will lead to an increase in finished steel stocks which have recently been falling.

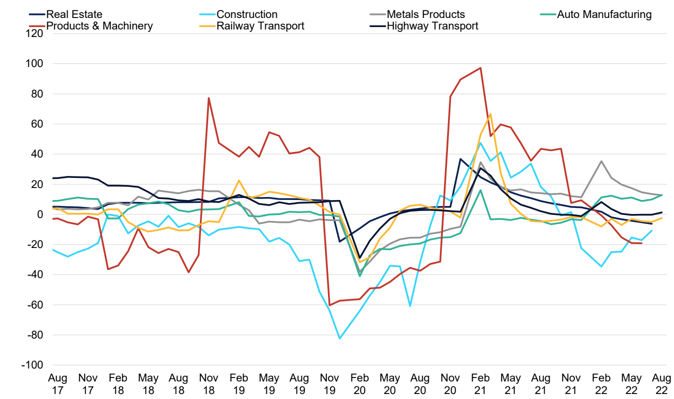


Source: Antaike Information Development, National Bureau of Statistics

Economic data in China has been on the back foot, but infrastructure investment is starting to im-prove, with the 3month average up to 12.97% Y/Y in August but fixed assets new construction at 12.3% Y/Y. We are in peak demand season, but prices have failed to catch a bid; data points suggest a pickup in activity, but data last year was fragile. Fixed asset investments have increased marginally to 8.3% Y/Y, and all-systems financing data has increased, and the time lag of this will be six months. However, there has been little positivity in sentiment or downstream demand. The party congress was key, and we do not expect much upside to the economy until after the Chinese New Year. China have not changed their COVID policy; if this remains the case, then consumption will be weak into 2023. Local bond issuances have declined since April, and while this has kept a lid on borrowing, growth and demand for steel have been weak. Implied steel demand in August was 78m tonnes, down on the YTD peak of 89.6m tonnes. All major steel consumers are in negative Y/Y growth while the indicators are recovering. We do not see demand growing in 2022 and expect demand to decline by 5% or 956m tonnes.

Growth from Steel Intensive Industries

We see negative growth for large number of sectors, reducing demand for steel.



Source: NBS, Sucden Financial

Gold

Spot Gold $/Oz

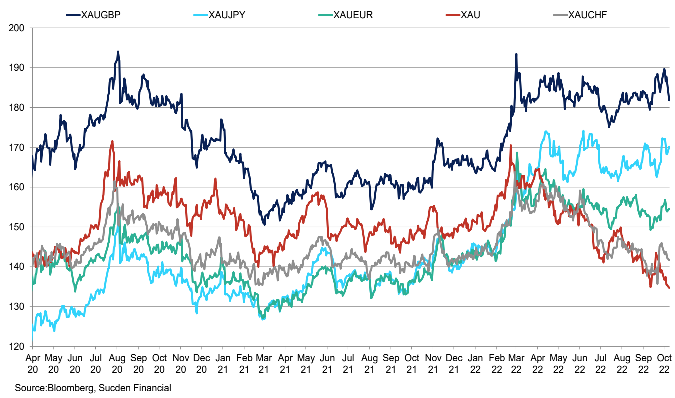
Sentiment

Tighter Monetary Policy	Stronger Dollar	High Inflation	Rebound in Jewellery

Q3 Review: Gold prices failed to catch a bid throughout Q3; rallies were heavily sold, causing prices to close the quarter at $1,660.61/oz. The economic data continued to deteriorate across the globe. Still, this this uncertainty failed to prompt a rally, highlighting that investors are not looking to gold as an inflation hedge or hedge against uncertainty. The USD has continued to rally as confidence in other countries subsides, and the U.S. performs comparatively better. Inflation remains upwardly sticky, even though energy and raw material prices have declined from the highs, elevated mortgage rates, and electricity and power costs keep prices high. Yields have rallied as central banks increase interest rates, and their forward guidance suggests they are not done yet; therefore, gold will continue to suffer as a non- yielding asset.

Gold Priced CHF, GBP, EUR, and USD. Indexed, starting in 2019

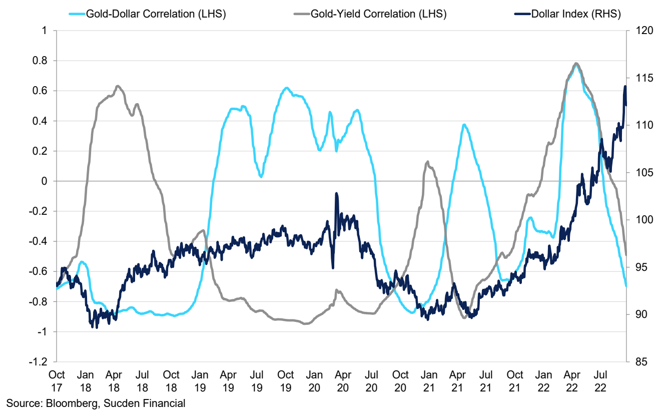
Gold priced in JPY has gained the most ground due to the weak currency, whereas XAUCHF and XAU are highly correlated.



Outlook: Currency risk has dominated markets in the last three months, with the USD rising incessantly as investors hold capital in the U.S. because of more pronounced economic uncertainty in China and Europe. This has caused gold to decline sharply, and as we look ahead to Q4, we do not see a significant change in trend due to high inflation. The Fed has indicated they will raise rates by another 125bp before the year-end, causing the front end of the curve to reach 4%, with December Fed Funds futures at 4.030, and Fed funds peak in April 2023 at 4.525. The dollar's strength has dominated commodity markets recently, as investors are unwilling to sell their dollars. The thirty-day correlation between the change in gold prices and the dollar index is at -0.984% as of September 20th. This shows a strong negative correlation and is statistically significant, confirming that dollar movements dictate the market. When we price gold in JPY and GBP, it has remained high on a 7-year timeline due to the severe weakness in these currencies. If there is a correction, this will be due to dollar weakness, not fundamental strength from JPY and GBP, and we would favour selling XAUJPY and XAUGBP and buying XAUCHF.

Gold/Dollar Correlation vs Gold/U.S. 10Yr Yield Correlation vs DXY

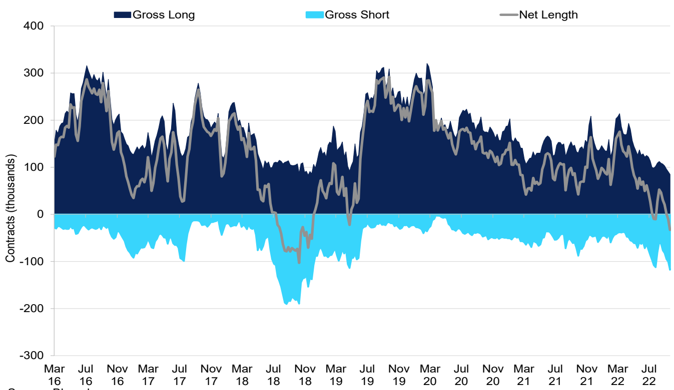
The The negative correlation has deepened; this confirms the headwinds against gold from a dollar and yield perspective.



As global interest rates rise, negative-yielding debt has fallen substantially. As a result, the opportunity cost of holding gold has declined in favour of yielding assets, whether it be corporate or government. Only the Japanese 10yr bond is below 0.5% at 0.232 as of September 30th, with all other 10yr yields above 2%, except Switzerland at 1.1%. The higher yield on top-rated government bonds is likely to be a better option for investors than gold as the dollar is strong and physical demand is low. The volatility in the bond market, specifically the U.K., in sessions may be enough for some funds to reallocate capital elsewhere; however, we do not expect that to be gold at this time. More likely to be other G7 countries, this process would be compounded if the OBR's forecasts confirm that the government's spending is too high, and gilts would suffer, as would the sterling. With rates expected to push higher in the next six months, we do not expect gold to catch a bid as the dollar and yields firm. The appetite for gold is low, and even as we enter a high level of uncertainty and geopolitical tensions, gold fails to catch a bid. The decline in CFTC net position exemplifies the lack of sentiment in the gold market's managed money net total position. After reaching 176,000 net long in March, the position now stands at -32,966 contracts as of September 20th, a decline of 22,843 contracts in the week. The gross short has been rising since mid-August; after a large correction, the gross short has increased to 117,853 contracts from 60,000 in mid-August. Given the decline in prices and the relatively low net short, there is significant capacity on the downside still for gold. The delta adjusted hedge volume is dominated by forwards at 4,4986.57 troy ounces in Q3 2022, compared to 986.53 troy ounces; we see little hedging done at these low prices, especially with prices forecast to fall further.

NYMEX Managed Money Net Position

The strong sell-off and long liquidation have caused the market to hold a net short in gold.

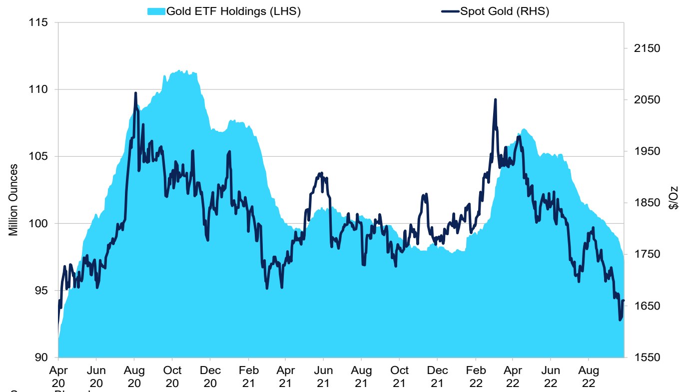


Source: Bloomberg

Total known ETF holdings of gold declined at a fast pace and stands at 97m troy ounces; this was significantly below the April high when investors were looking at the declining economic growth and high inflation, expecting gold to rally. Historically, gold ETF holdings are still high, and the 5-year average stands at 85.16m troy ounces. ETF holdings from a regional basis are held by North America and Europe at 1,781 tonnes and 1,612 tonnes, respectively. In August, there were few withdrawals from ETF holdings across all regions. Still, the weekly change data from Refinitiv shows that in the week to September 25th, there were 22 tonnes of gold withdrawn from ETFs in America, with 7 tonnes in Europe. The outflows from ETFs have slowed recently, indicating that bearish appetite is waning. However, the market is dominated by currency risk, and we expect moves to be dictated by the dollar.

Gold vs ETF Holdings

ETF holdings have plummeted, outlining little appetite for gold even though holdings are elevated on a historical basis.

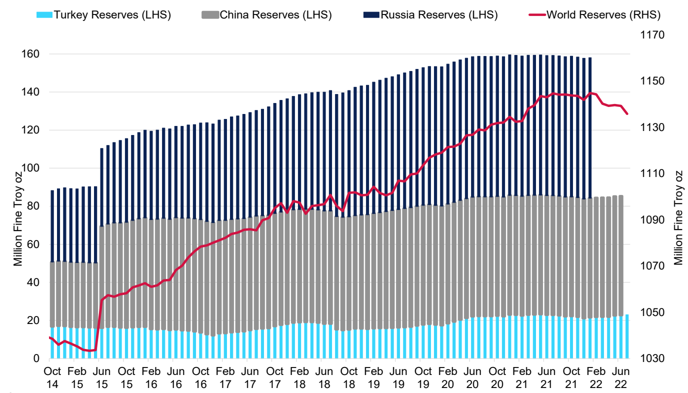


Source: Bloomberg

The Indian market is dominant, but retail consumption levels are still subdued compared to previous levels. Data indicates that jewellery consumption was at 24.1t for July, this was down from June data at 35.1 tonnes. May has set the standard for 2022 with demand at 60.3 tonnes, and the wedding season will see demand stronger. The 995 fineness (INR/10GM) has corrected to the upside, trading at INR50,172.56/gm, and consumption could push higher due to the wedding season boosting prices. The Q2 2022 jewellery demand was 127.1 tonnes, and imports were also marginally stronger at 110 tonnes. The central bank purchases are behind last year's level at this time at 128.7tonnes compared to 280.6tonnes. In July, gold purchases were 12% higher M/M at 35.3tonnes. Physical demand, while still poor, could improve in the near term due to buying from India; we still expect lacklustre performance from China due to their economy's woes. The implied volatility curve has been bid in recent weeks, with 1,3 and 6 months all rising to 17.18%,17.73%, and 17.81%, respectively; the 1yr implied vol stands at 18.275%.

Central Bank Reserves

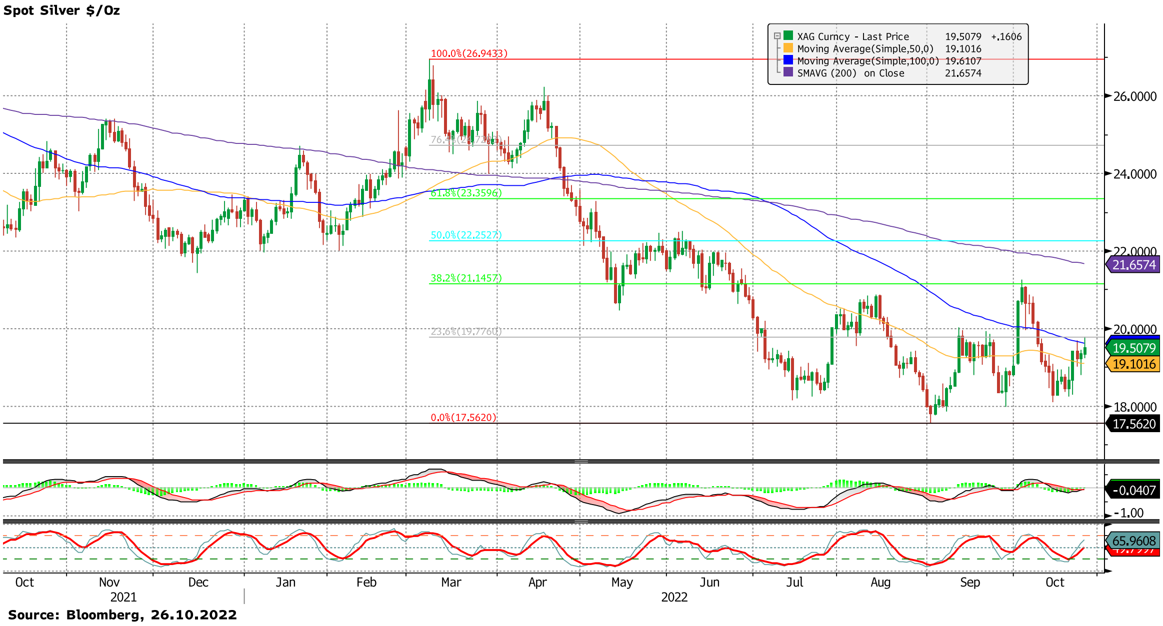
Central Bank Purchases have improved but remain low on a yearly comparison.



Source: Bloomberg

Silver

Spot Silver $/Oz



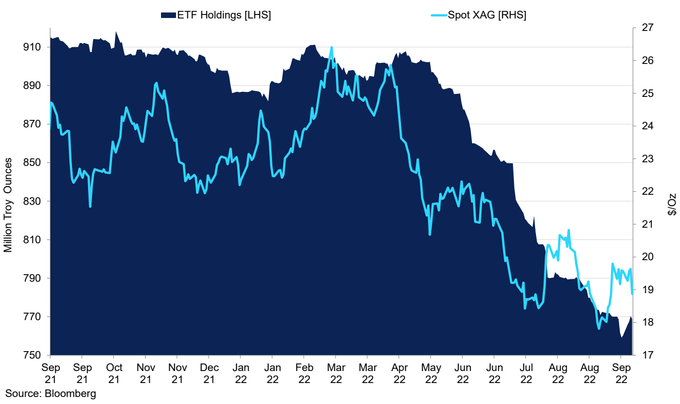
Sentiment

Tighter Monetary Policy	Weakening Industrial Demand	Stonger Solar Outlook	Rebound in Jewellery
↓	↓	↑	↓

Q3 Review: Silver prices continued to weaken in the first half of the quarter as its industrial and precious qualities deteriorated under the weight of tighter monetary policy worldwide. In particular, in the US, the Fed surprised the markets with a larger-than-expected hike of 75bps. On the announcement day, silver, in line with gold, declined sharply. Overall, silver remained broadly unchanged during the quarter, at $19.00/oz, but still bringing the value down by 18% since the start of the year. A stronger dollar and higher yields are having a strong traditional impact on the speculative side of the metal performance. However, despite a recent rally, the silver price found resistance at around $20/oz and failed to get above the August highs of $20.80/oz. In line with prices, we saw the total ETF holdings fall by 9.5% to 770moz in September and down by 117.5moz since the start of the year.

Silver Spot Price vs Total ETF Holdings

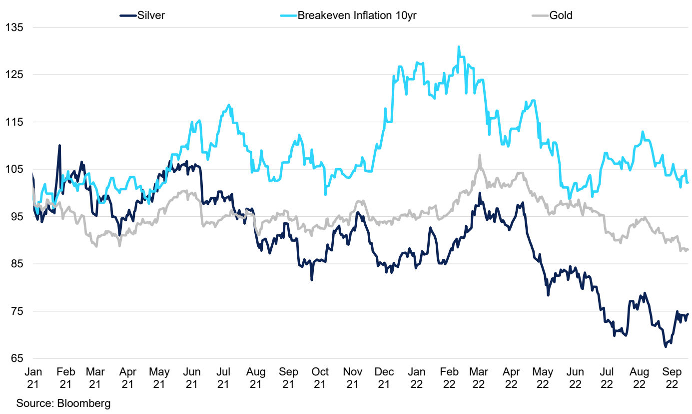
Spot prices declined in line with the total ETF holdings, highlighting a lack of speculative appetite.



Outlook: At the latest Fed meeting, Jerome Powell reiterated the Fed's resolve to continue raising rates and hold them at a higher level until the policymakers are confident that inflation is under control. Indeed, policymakers made it clear that the policy will continue to be centred on fighting inflation, with Fed officials suggesting that the unemployment rate could reach 5% before the bank lets up on interest rate hikes. Anticipation of another jumbo rate hike in November and a smaller one in December has already been priced into the markets, and now the question is directed towards the probability of a recession in the US next year. With much of the Fed-based negativity being priced in, the likelihood of a soft landing seems less and less unlikely. If the 125bps worth of hikes promised by the Fed materialise by the end of this year, then we could expect the markets to price in a Fed pivot after the December meeting at the start of next year.

Silver vs Gold vs 10yr Breakeven Inflation

Silver correlation with the breakeven inflation remains intact, driving the recent price performance.



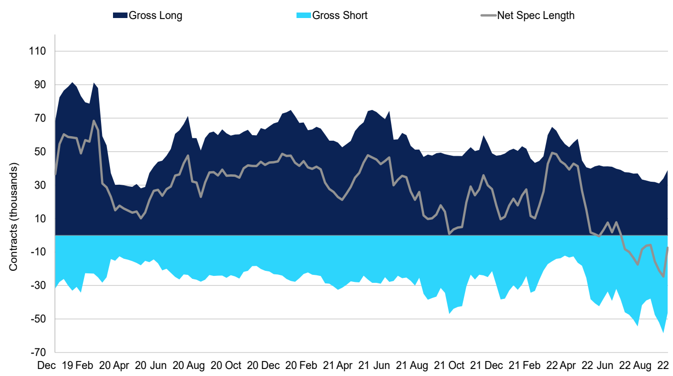
But now the expectations of further rate hikes in the next couple of months are being priced in, any move that would suggest the strength of the US economy is likely to continue driving silver lower in the meantime.

Still, there are plenty of opportunities for further volatility, especially given the historically low liquidity we have seen across the markets. As a result, we could see the speculative side of the silver and gold try to bottom out in Q4 2022 before gaining ground in 2023 as the sentiment surrounding the monetary policy outlook changes. With that in mind, from the speculative impact on silver, we expect the downside momentum to slow and find support around $18.00/oz levels.

On the other hand, the precious metals' safe haven properties are yet to shine, and we might see that shift take place once the Treasury yields give up their gains. In the meantime, the correlation between the precious metals and the inflation gauge remains intact, suggesting that silver remains a useful gauge for the macroeconomic outlook and monetary policy decisions rather than acting like a traditional safe haven. Indeed, silver saw a strong upside in October, jumping by 7% on the day after the treasuries declined, as the 10yr US Treasury yield fell by more than 20bps. Another upside could materialise through dollar weakness, which saw the rally test the record highs of 114. This could allow speculators the opportunity to shift the flows back to traditional assets, as gold and silver, being significantly undervalued, could benefit from this. As of now, the managed money net length stands at -7,095, the closest to neutral since June.

Silver Managed Money COT

Net speculative length is about to become long again.



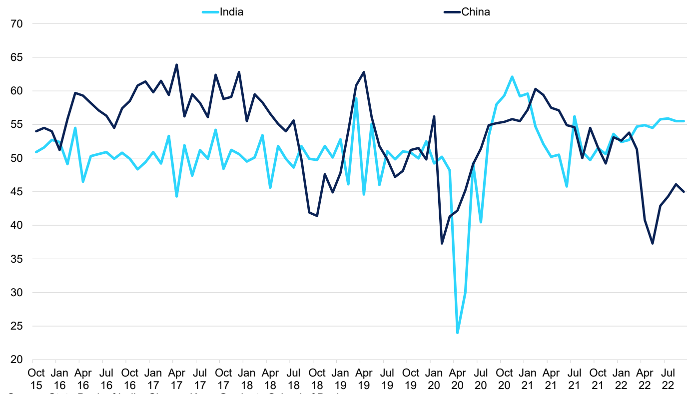
Source: Bloomberg

From the jewellery standpoint, historically, low prices mean that the physical demand is likely to rise. With a looming threat of recession, consuming countries usually stockpile the physical metal. This, however, could be hard for both the biggest consumers in upcoming months, China and India, with the former continuing to see muted outlook regarding covid restrictions, restricting movement and access to retail shops. In India, consumers will also struggle to spend money this coming festive season. According to the survey compiled by LocalCircles, 35% of Indian consumers do not plan to spend anything in the coming months, and out of those 65% that will, the current budget equates to around $120 vs a comparable figure for 2020 of $183. Many households, especially in the middle class, are feeling the squeeze from high energy prices, as well as food and other commodities.

Despite low prices of gold and silver, according to survey respondents, only 6% of the available funds will be spent on jewellery. Coin sales from the Perth Mint match this trend as sales of silver coins and bars plunged 33% m/m in August to 1.66moz. From the industrial standpoint, the outlook also remains quite bleak. S&P Global manufacturing PMI for the world performance remains expansionary but continues to deteriorate month-on- month as new orders and demand diminish. Europe is already slowing, and the US is expansionary but decelerating. With China as the most significant silver consumer, the downside effect of lockdown conditions in the economy is driving the decline in physical demand.

India and China Business Conditions Indices

Both indicators show softness in the performance, dimming the outlook for jewellery sales in the regions.



Source: State Bank of India, Cheung Kong Graduate School of Business

The main driver for silver in the upcoming quarter is set to be macro-driven. Given the looming energy crisis in Europe, interest rate hikes from central banks are set to continue, which has all been a major driver for precious metals. However, most of these moves, especially in the US, have been priced in. We expect the downside momentum that we have seen in the last couple of months to slow. Inflation remains key, and we expect it to decelerate, but core components take up a bigger weight of the overall performance and remain elevated. The pressures felt from inflation should cap the silver's performance in the last quarter of the year. The industrial properties are also taking a hit, and we expect silver to underperform its gold counterpart.

Palladium

Spot Palladium $/Oz

Source: Bloomberg, 26.10.2022

Sentiment

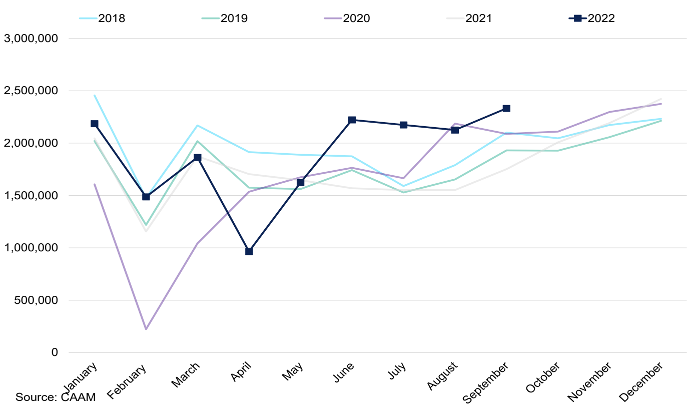
Improvement in Auto Market	Weakening Industrial Demand	Supply from Russia	Supply Chain Bottlenecks

Q3 Review: Palladium managed to gain marginal ground during the quarter, growing by 20%, as the metal found support at the $2,000/oz level. However, these gains were not enough to offset the previous quarter's losses, and the metal closed the quarter down by 4.0% from March levels. The upside momentum was supported by improving auto conditions, as supply chain bottlenecks eased, and material availability improved. However, the gains are capped by the overall souring global outlook, in which developed economies' demand is set to decelerate. Moreover, with China still under strict lockdown restrictions, the global outlook is deteriorating.

Outlook: Supply issues have now calmed compared to what we have seen in the first quarter of the year. According to Nornickel, the company's palladium production remained largely unchanged, with Q2 output at 709koz. So far, in H1 2022, palladium output amounted to 1,416koz, growing by 8% y/y. For this year's forecast, the company expects the palladium market to be balanced, at 0.8moz in deficit. This supported the price to stay above $2,000/oz.

China Passenger Vehicle Sales

The sales in recent months have exceeded the average over the last five years.



Source: CAAM

From the demand side for 2022, thanks to easing supply chain disruptions, the auto sector is set to improve slightly from 9.9moz to 10.0moz of palladium in 2022. Auto demand for palladium grew in Q3 as the supply chain continued to ease, translating into higher sales month-on-month. Indeed, in the US, according to J.D Power-LMC, light vehicle sales are set to record their best September performance yet, growing by 5.4% y/y to 958,900 units. On the other hand, Europe will be one of the weakest regions, with 2022 output equating to 80.9m. According to Moody's forecast, Asia-Pacific is expected to grow by 3.5%. Easing auto supply conditions have helped to ease the market tightness in recent months, where the waiting period in retailers was 26 days, and consumers had to secure the purchase fast to ensure the sale. Therefore, whilst the semiconductor shortages persist, they are easing year-on-year, which is reflected in higher production volumes, as well as palladium loadings.

However, as we move into 2023, we expect demand to soften and decelerate. In our opinion, buyers will shift to smaller, more efficient vehicles, which, coupled with improved supply conditions, could create a downside for palladium use in auto catalysts. Indeed, it takes, on average, 12-18 months for producers to feel the margin squeeze, so the impact of weaker demand should really be translated in H1 2023. These downgrades add to significant production cuts that will continue into next year, reducing forecast 2023 palladium automotive demand by 460koz. This means that the palladium market will likely to be in a surplus for 2023, depressing the price.

Overall, the use of PGMs should improve in the meantime, especially in the US and China, as both economies see a healthy pace of auto sales. The EU should continue to see moderate weakness in the meantime, as its likelihood of a recession is higher than other economies, given the looming energy crisis. On the other hand, EU emission standards coming into effect in October could provide some upside for the metal in Q4 from the physical demand side. Still, global production is set to remain flat this year, growing to 76m units before rallying back to 2019 highs in 2023 of 89m.

Platinum

Spot Platinum
$/Oz

Sentiment

Improvement in Auto Market	Weakening Industrial Demand	Supply from South Africa	Supply Chain Bottlenecks

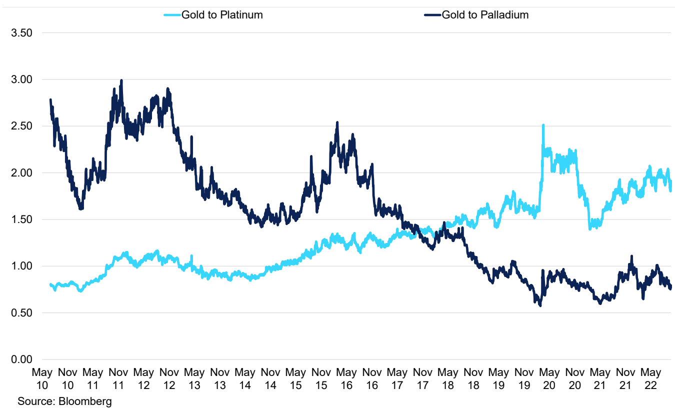
Q3 Review: Platinum fluctuated throughout the quarter but still managed to close marginally lower at $850/oz vs $980/oz at the start of the quarter. Demand story weighed on it more than palladium, and now the platinum market is expected to be in surplus. For the ETFs, global recessionary fears and a tighter monetary policy outlook drove the speculative demand away, with the total holdings falling below 3.1moz for the first time since the summer of 2020

Outlook: In line with palladium, platinum felt the relief from the easing impact of supply chain bottlenecks that quelled sales since the start of the year. Now, the outlook for auto sales is diverging between the economies, with the US seeing marginal improvements month-on-month but remaining historically low at 249,000 units in August, and China sees levels moderating slightly but high, given the historical average. Moreover, the sentiment in the EU is deteriorating rapidly. The EU, in particular, continued its effort to phase out diesel vehicles as a share of overall sales, which is likely to further weigh on platinum use more than palladium. Likewise, in China, loadings optimisations in China's trucks are set to weigh on demand in bigger-size vehicles. However, in line with palladium, we expect auto sales in the US and China to improve slightly month-on-month in the last quarter of the year as supply chain bottlenecks ease and demand in these regions remains ample.

From the jewellery side, demand for both gold and platinum jewellery in China has been heavily impacted by the covid restrictions. According to PGI, platinum jewellery sales fell by 24% in Q2 2022, adding to a 20% decline in the previous quarter. We are likely to see another drop to have taken place in Q3 as covid restrictions remain in place in Shanghai and other cities. Whilst overall US jewellery sales have been strong, growing 16.2% y/y in June, according to Mastercard, high inflation has increasingly impacted consumer spending in the last quarter, and large retailers are expecting discretionary spending to move away from jewellery in 2023. A tighter monetary policy outlook and an increasing likelihood of recession next year will also stifle demand in the US and Europe. Demand from China could increase slightly next year as Covid restrictions reduce, but the bounce back might be muted given the slowing pace of the global economy. A recession would also likely pull industrial demand down, adding to a larger material surplus and pressure to the downside for the platinum price.

Gold Cross to Platinum and Palladium

Gold continues to improve in relation to platinum, more so than palladium.



In the second quarter, the increase in supply from Russia offset the shortages of material elsewhere. Recycling fell by 20% during the quarter and is expected to fall by 15% (210koz) in 2022. Driving this was the ongoing semiconductor chip shortage and its impact on new car availability, forcing the consumers to run the existing vehicles for longer, further reducing the availability of material for scrap. NorNickel expects the platinum market to be in surplus of 0.9moz in 2022 as supply drops by 8.0% to 7.5moz. In 2023, the surplus is expected to fall slightly to 0.6moz.

Further disruption from possible power outages in H2'22 may lead to guidance being missed. With investors showing little interest in ETFs, this could leave the platinum price subdued for the remainder of the year. Substitution of palladium with platinum is not enough to reverse the trend, in which platinum remains under stronger pressures than palladium.

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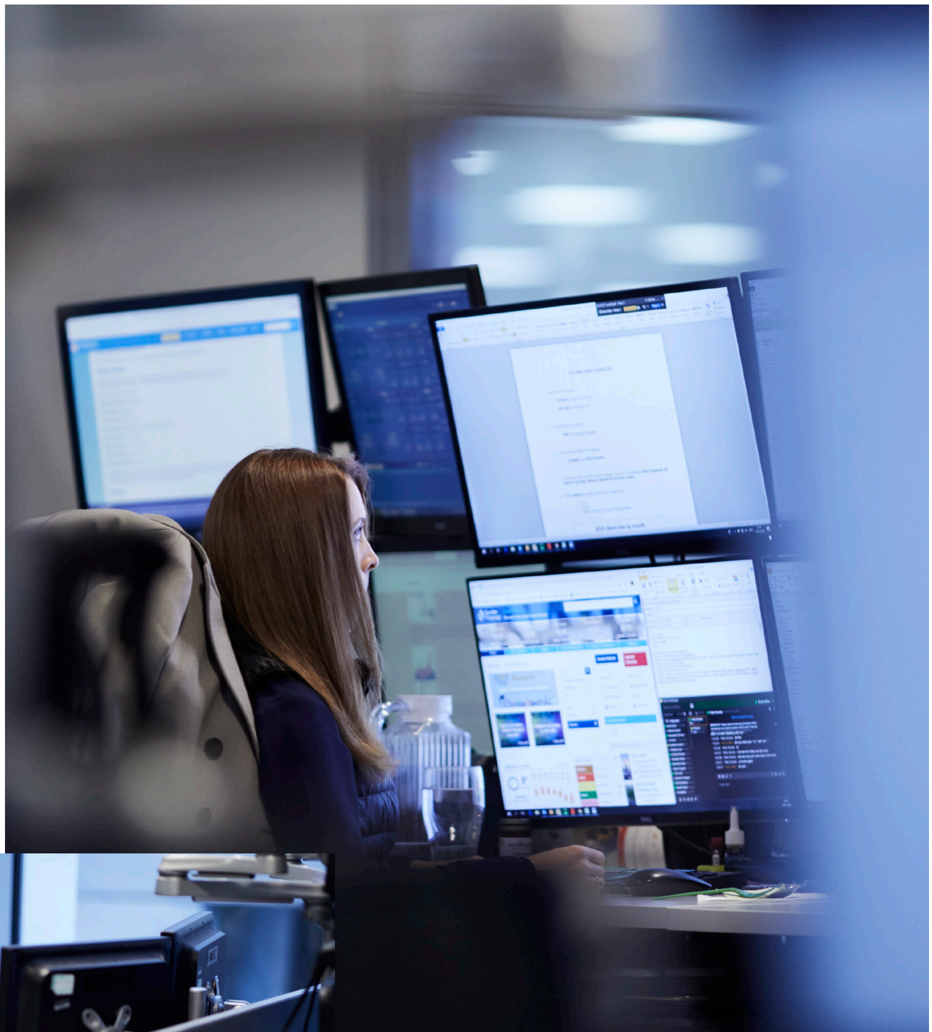

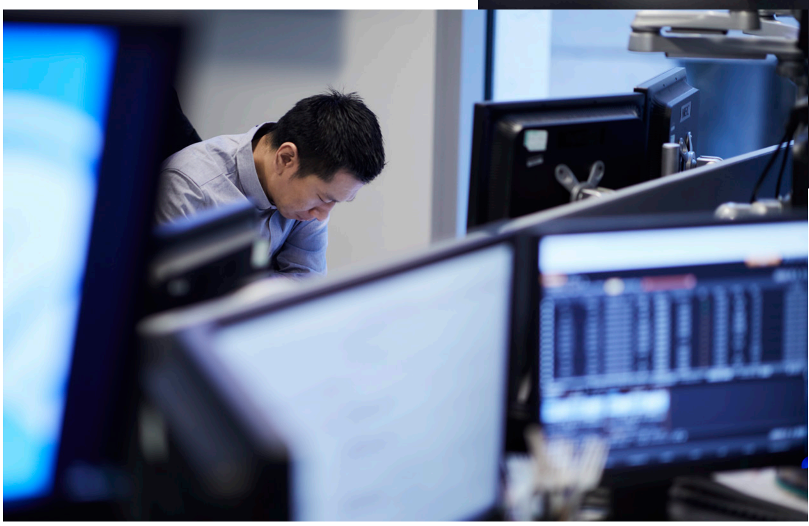

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