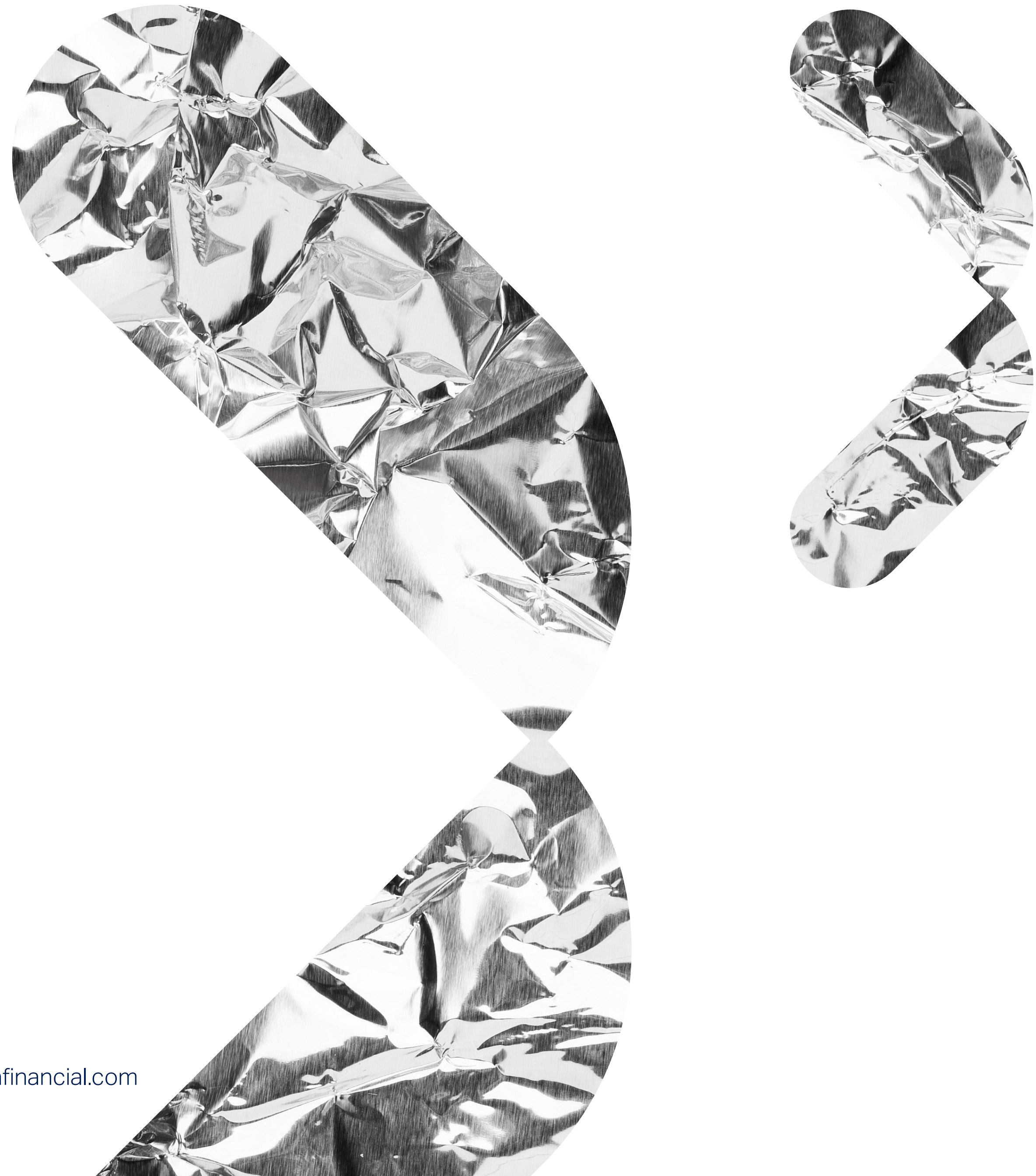
Quarterly Metals Report

Q1 — February 2021

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



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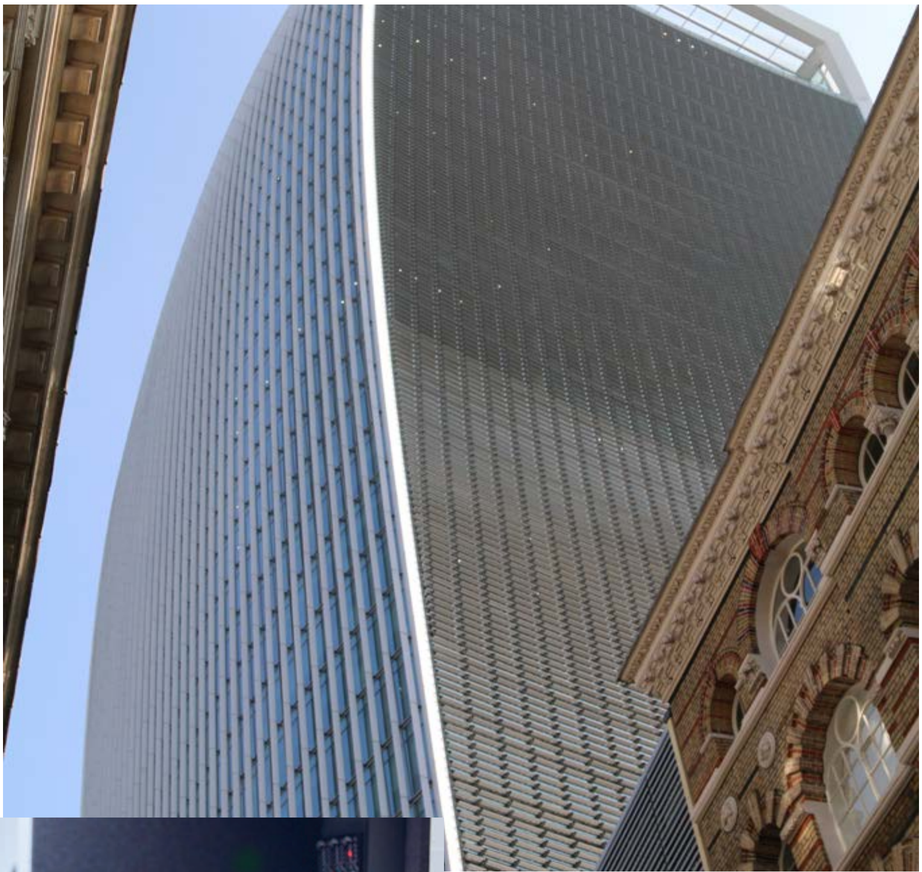

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Summary

Chinese economic data in Q4 shows the strength of their recovery, which has underpinned the performance of base and ferrous metals. Stimulus measures remain in place and the negative correlation with the dollar index has become one of the most important factors in the market. Delays to vaccine administration will keep economies running at a reduced capacity for longer. The inequality divergence across the globe is growing, and when unemployment benefits stop, we expect unemployment to rise which is a headwind to consumer demand. Funding fragilities remain a threat but risk appetite amongst traders is expected to keep the long-term trend intact, however, we could see some consolidation in prices in Q1.

Aluminium (Al)
The output of aluminium in China is expected to increase in 2021 due to new capacity and high exchange prices. Economic data in China will continue to support commodity markets, however, financial restrictions on the property sector is a concern for 2021 and aluminium consumption. The auto sector continues to recover in China and the rest of the world; however, shortages of semiconductors and chips are causing issues in the global supply chain. Output of alumina and aluminium in China is expected to continue at a steady clip but the expansion of inventories will not exert downward pressure on prices. We expect support at $1,890/t, but a continuation of the dollar weakness and risk appetite may trigger $2,225/t.

Copper (Cu)
December copper production was 506,891 tonnes in December, down 8.7% y/y but up on November. Chinese copper production was strong due to high operation rates in 2020, with copper products' output up on a year-on-year basis. Operating rates are falling, which could mean lower output in January and February. Global manufacturing PMIs are expansionary which will support copper demand, but supply has been constrained. All eyes remain on vaccination rates as an indication of future economic growth. The weaker dollar and risk appetite for metals is expected to boost copper in Q1, we expect strong support below $7,600/t, with the upside target at $8,465/t in March. In the immediate term, we anticipate prices will fall before resurging in March.

Lead (Pb)
China's auto market has recovered well compared to other majors, with the US now not far behind. However, the lead battery supply chain has struggled in some parts of the world to replenish automotive lead battery stock ahead of the 2020/21 winter season. Battery demand is expected to recover and operating rates in reached multi-year highs. We do not expect the concentrate market to get any tighter, and so, it would be reasonable to expect higher TCs in the upcoming months, especially if LME price strength is maintained. We expect most trading between $1,890/t and $2,160/t.

Nickel (Ni)
Lack of Ni ore availability will continue to curb Chinese NPI production. Investment from Chinese firms in Indonesia is increasing Indonesian capacity, which is growing rapidly. The arbitrage window has seen premiums rally and investor sentiment for nickel is robust. Despite reduced subsidies for EVs in China, we expect production and sales for EVs to increase. Investment in EVs in Europe is increasing sharply which will also support nickel demand. The strong fundamentals are underpinned by the weaker dollar and risk appetite for commodities. We expect prices to take out the $19,000 high with $20,000 a key level for 2021 but not Q1.

Tin (Sn)
Semiconductor consumption across the globe has been trending higher, however, we still see some weakness in Europe. The supply chain has been impacted in recent weeks causing delays to industries such as the auto sector. The calendar spreads outline the squeeze, and we expect mine supply to improve in 2021 but not in time for Q1. We maintain our bullish stance on the tin as inventories are falling and consumption is not wavering. The first key resistance level is $24,000/t with 2013 high next in line at $25,250/t, we expect the market to be supported at $21,641/t.

Zinc (Zn)
Operating rates for galvanisers have been falling and we expect this to continue into Chinese New Year. Maintenance has been brought forward to before Chinese New Year with some smelters reluctant to purchase material at spot prices. As prices have been falling, we could see buying interest improve. TCs have been on the decline due to reduce mine supply, and output in China is expected to improve in March after Chinese New Year. LME prices have struggled as inventories rise, with support at $2,475/t and we expect the market to be supported at this level, with the upside looking at the recent high of $2,900/t.

Iron Ore & Steel
Iron ore prices are well supported due to Chinese steel demand, as we move into Chinese New Year prices may take a breather. However, steel demand in China is expected to be strong in the near term. Fiscal stimulus around the world and the vaccine rollout could support exports of steel from China. Steel capacity in China may start to be curbed but in Q1 we expect production to remain elevated. The spreads between high-grade ores are rising and Steelhome iron ore inventories have started to rise once again to 126.2m tonnes. We expect prices to remain in the range, but a break below $140/t could trigger losses to $120/t but we expect demand to remain strong.

Gold (Au)
Increased speculative demand supported the precious metal in Q4; however, at a much more moderate pace comparing to the previous quarter. The announcement around vaccine approval and distribution, the release of the US stimulus bill as well as the Democratic majority in the government eased market uncertainty. As the increased lockdown measures took place once again in developed economies, we expect continued headwind to economic recovery in 2021, supporting the outlook for gold. Jewellery demand continues to recover in major consuming economies; however, we do not expect to return to normality any time soon. Range: $1,800 – 1,990/oz.

Silver (Ag)
Silver was one of the fastest-growing precious metals in Q4 2020, with investment demand seen at elevated levels as silver's discount to gold encouraged additional purchases. The fundamentals are supportive, as silver's dual industrial and jewellery properties continue to recover. However, in Q1, we believe that major fluctuations in the silver price will be dependent on the spread of the virus globally, as well as the distribution of a vaccine. Overall, rising industrial demand and continued investment interest are expected to combine with falling production from silver mining companies to support the silver prices in Q1. We have seen a massive rally recently driven by retail traders; however, we expect prices to average at $26.50/oz throughout the quarter.

Palladium (Pd)
Palladium continued to recover marginally as tight supply conditions and safe-haven demand for the precious metal prevailed. While industrial metals suffered the pressures of the repeated waves of restrictions, PGMs have benefited from continued uncertainty. Palladium grew 7% in the last quarter, up 28% in the year. While South African mines are under threat once again due to the new virus variant, the restrictions have been set to a lower level than in March, due to the adverse economic impacts of the full lockdown. The recovery in supply this year and expectations of increased recycling are unlikely to offset growth in demand in 2021, which should support palladium prices throughout the year. Range: $2,160 -2,500/oz.

Platinum (Pt)
In Q4, platinum, in line with gold, rallied as a strong rebound in Chinese and American vehicles sales supported prices. The precious metal gained 24% in Q4 on the back of record investment demand. Thanks to a continued recovery in China's GDP, platinum jewellery outperformed other categories, outperforming gold, thanks to pent-up demand, and festival occasions. Heading into 2021, the second wave of lockdowns in South Africa should not impact the supply as much as it did in the first half of 2020, and so platinum prices may not be as strongly impacted as anticipated. Range: $1,000 – 1,280/oz.

Market Overview

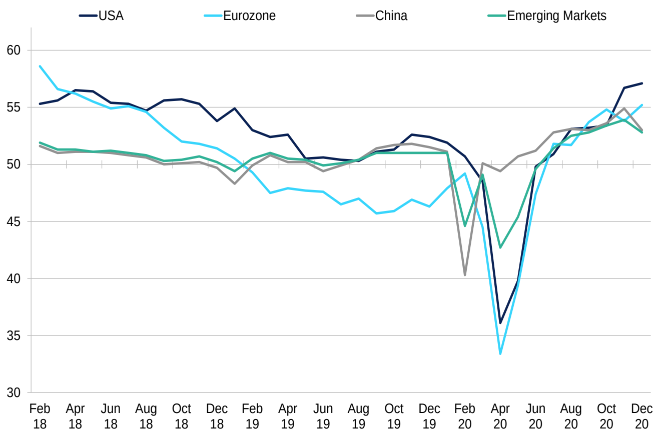
Global Outlook: 2020 saw unprecedented shutdowns of economic activity, a combination of monetary and fiscal policy tools, and a presidential election in the US. Indeed, when we look back on 2020, we see a global economy that ended up experiencing the most severe economic slump in almost a century. For 2021, we see the world steadily moving towards the normality; however, we believe the world economy will not return to the pre-pandemic norms this year. The uncertainty is likely to persist; however, the presence of a vaccine should spur the recovery later in the year. Indeed, according to the IMF, the world is forecast to grow at 5.2% in 2021, higher than the growth seen in 2010, driven by Asian economies, primarily China.

Regardless, in Q1, for many developed economies, in particular Europe and the US, things will first get worse before they get better. Q1 are to be characterised by extended lockdowns, requiring additional monetary and fiscal support from the governments and central banks. In the long term, given rapid growth, there is a possibility of new inflationary threats, and with interest rates remaining near record lows, this could further accelerate spending. However, as clearly outlined by the Fed, the course of action is already in the works, and other fiscal and monetary tools will be in use to combat excessive price growth.

To fund social support bills, governments ran aggregate deficits of over 11% of global GDP in 2020, while the world's top five central banks provided an aggregate of $5tn. In the long term, risks of higher debt and inflation prevail; however, a premature pull back from fiscal spending programmes could leave millions struggling, complicating further economic recovery. In our opinion, monetary policy alone is insufficient to support economic growth, even as the governments continue to 'bridge the gap' until a vaccine enables a return to normal economic functioning. On the other hand, there is a possibility that the governments could be hesitant to enact support policies, having so far run much higher deficits without suffering higher inflation or borrowing costs. This is however unlikely, especially if unemployment does not normalise.

Manufacturing PMIs

China and Europe saw moderate manufacturing growth, the US hit multi-year highs.



Source: Bloomberg

The oil market and geopolitical conditions could drive Russia and Saudi Arabia into greater cooperation in dealing with oil market supply. In particular, Biden's presidency could make it more likely that large members of OPEC+ could take a more conservative approach, leading them to cut production further in January 2021. Oil prices responded negatively to Biden's election win as it signalled a potential return of the US to the Joint Comprehensive Plan of Action, which is a bearish signal for oil prices. However, we believe that negotiations with Iran could be especially challenging as presidential elections approach in June 2021, and this is just one of the many barriers to a rapid return to the negotiating table. As such, it appears unlikely that Iranian oil production could rise further in the first year of Biden's presidency, who is expected to bring up the issues surrounding climate change which could significantly stall negotiation progress. Even as OPEC+ and Russia agreed to increase oil supply and encouraging vaccine news boost demand recovery, market balancing for crude oil could remain robust in 2021. Given a successful rollout of vaccines nationwide, we could see higher oil prices as expectations of demand rise.

The global composite PMI fell slightly from 53.1 in November to 52.7 in December, a level indicating moderate growth in activity. In the United States, manufacturing PMI increased to 57.1, the highest level in six years, indicating very rapid growth. However, the survey also highlights how manufacturers are now not only facing weaker demand conditions due to the pandemic but are also seeing COVID-19 disrupt supply chains further, causing shipping delays. Likewise, in the Eurozone, the situation has improved. Manufacturing PMI picked up higher to 55.2, the highest level since May 2018, indicating a significant acceleration in activity despite renewed economic restrictions. Improvements were linked to an increase in new orders, which also rose for the sixth month in a row. Finally, in China, PMIs were growing, yet at a softer pace, as the index declined from 54.9 in November to 53.0 in the last month of the year. Firms signalled slower expansions of output and total new work; export orders remained muted. Thus, it appears that China's domestic demand is strong, a fact that will likely stimulate activity in other countries.

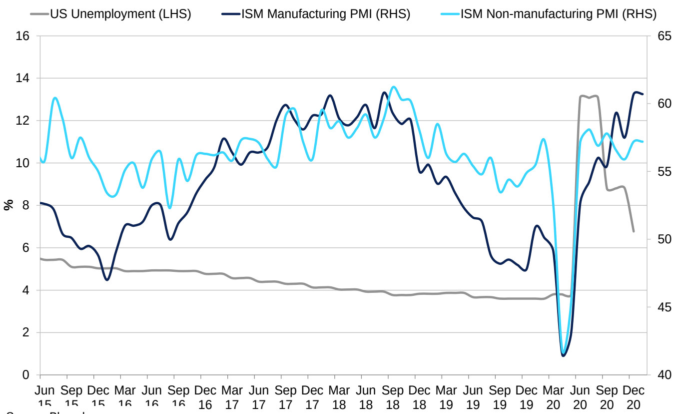
US: In Q4, there was a sharp deceleration in consumer spending and employment growth. In December, these figures continued to decline, with the former falling to August lows, in line with the worsening of the outbreak in the region. As a result, we expect that Q4 2020 GDP growth will be moderately lower than that seen in Q3. We expect this downward momentum to be carried into Q1 2021; however, the passage of the stimulus checks in December, as well as the one promised by Biden, should support disposable income levels as well as the economic sentiment. However, we support our outlook on lockdown restrictions in the country throughout most of the quarter.

Low interest rates and high government spending should persist as policymakers attempt to mitigate the economic effects of pandemic control measures. This combination should prove supportive of equities and credit, however, contribute to a weaker US dollar. The US dollar index had already fallen by 13% from its highs in March 2020, and we anticipate renewed weakness in 2021. In addition, a recovering global economy and heightened focus on US indebtedness could reduce demand for the currency as a safe haven. Indeed, we expect higher fiscal spending to be funded by a rising deficit, rather than additional taxes, at least for most of 2021. Although this spending could be covered by private domestic savings, we expect spending to increase, as the economy begins to recover in 2021, contributing to a widening current account deficit.

At the same time, we think the Biden administration will renew the US's approach to foreign relations, a move that could improve relations with Europe in particular. Although the fundamental US-China rivalry is not likely to change drastically, we do not think the new administration will completely eradicate tariffs as a tool of foreign policy. From the policy side, we think that new political leadership will mean additional fiscal stimulus and more predictable policymaking, especially when compared to the divided government scenario. Democratic control of the Senate would make significant tax increases on businesses or individuals more likely in the coming years. It would also increase the probability of aggressive new regulation on healthcare or fossil fuel companies. More broadly, the unified government increases the potential for significant policy changes, reducing the opportunity for market volatility as the Biden administration's views are more in line with the ones of the market.

US Unemployment vs non- and Manufacturing PMI

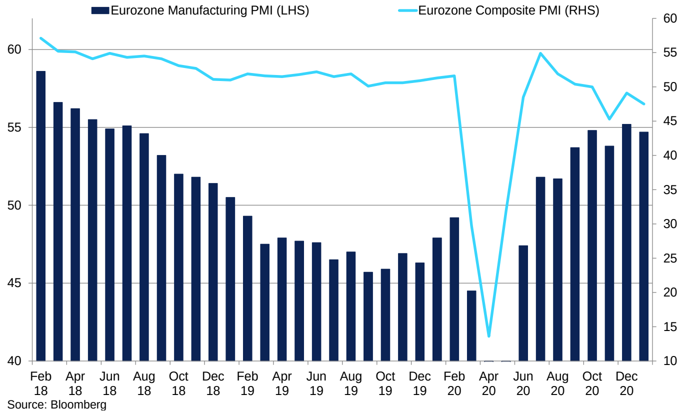
Manufacturing a bright spot, while unemployment remains elevated.



Source: Bloomberg

Eurozone Manufacturing and Composite PMIs

With another set of lockdown measures industry performance deteriorated



Source: Bloomberg

While the impact of COVID-19 on consumer spending is likely to continue for the next quarter at least, widespread vaccine deployment next year is expected to trigger a revival. In Q3 2020, consumer spending rose by 1.5%, the highest since March, and average personal income surpassed the 2019 levels in September, driving the recovery in the quarter. This was due to consumers drawing down savings, which they had shored up in the previous two quarters. We, therefore, can expect a similar trend to take place after the vaccination implementations give rise to improving economic outlook. Consumer spending is likely to continue to feel the weight of the pandemic at the beginning of 2021, especially as the job market remains weak. In the longer term, consumers are likely to spend on services that they missed out on in 2020; travel, food industry, entertainment. Indeed, Deloitte economists forecast PCE to rise by 3.4% in 2021 and 3.2% in 2022. As of Q4, we expect lower growth in consumer spending, as we saw a sharp rise in cases and a tightening of restrictions in some areas of the country. Eroding consumer confidence may possibly result in consumer behaviour reverting to patterns in the early stages of the pandemic.

Things will not get better immediately, and we expect the world will take its time adjusting to the new US presidency, fluctuating number of COVID-19 cases, as well as the rising number of vaccinated people. The question now: how long will it take until we see a consistent recovery? The last economic crisis was followed by a sluggish recovery; employment did not return to 2007 levels until 2014 and real median household income remained subdued until 2016.

However, just as the nature of this crisis varies from that seen in 2008/09, the recovery, in our opinion, is likely to be different, with prospects looking much better this time around. Housing starts are growing at the fastest pace in 14 years, and there is a lot of pent-up demand that we expect to unleash once customers go back to normal shopping routines; this outlook is further supported as many Americans received $600 worth of pandemic support cheques each.

Europe: The Eurozone is likely to contract in Q4 due to the second outbreak of coronavirus infections. As continued support, the ECB has chosen to provide the economy with the additional stimulus through a bond-buying programme, increasing it from EUR1.35tn to EUR1.84tn. The programme is set to expire in March 2022, with promises of reinvesting securities until the end of 2023. Therefore, the asset base of the ECB should continue to increase throughout 2021, supporting the market during the recovery period. In addition, to ensure liquidity in the credit market, the ECB has provided banks with the option of direct borrowing at rates as low as -0.1%, given that these funds are later used to fund loans to households and businesses. That is, the ECB is effectively paying national banks to provide loans to the private sector. This, in our opinion, should contribute to preserving favourable financing conditions over the period, supporting credit flow to households and businesses, and, in turn, the economic growth

Consumer prices dropped by 0.3% in December, substantially below the 2% target set by the European Union. Also, retail sales in the bloc disappointed as they dropped by 6.1% in November after rising by 1.4% in the previous month. Meanwhile, sentiment in the services sector dropped to -17.4 from -17.0 as companies worried about the new virus wave.

By the end of 2020, the UK and Europe finally agreed on a trade deal. While this deal seems to be the best option for both sides, the markets experienced uncertainty surrounding exports. We, therefore, expect a slower recovery in the UK due to potential hurdles in uncertainty surrounding the relationship with the EU.

In our opinion, the lockdown measures will remain intact until the most vulnerable are vaccinated, which could be only by the end of Q1. We base our decision on the presumption that current lockdown measures will be unable to contain the spread of the new variant, as well as the first lockdown, did in March. Indeed, the R number is predicted to rise by 0.7 with the new variant, making it almost impossible to keep it below 1.0 even under strict lockdown measures. In the meantime, UK vaccination rates are also one of the highest, behind Israel and UAE. The nationwide distribution of the vaccines and a Brexit deal could see the economy have one of the biggest rebounds this year, with GDP growth at the levels not seen before the pandemic.

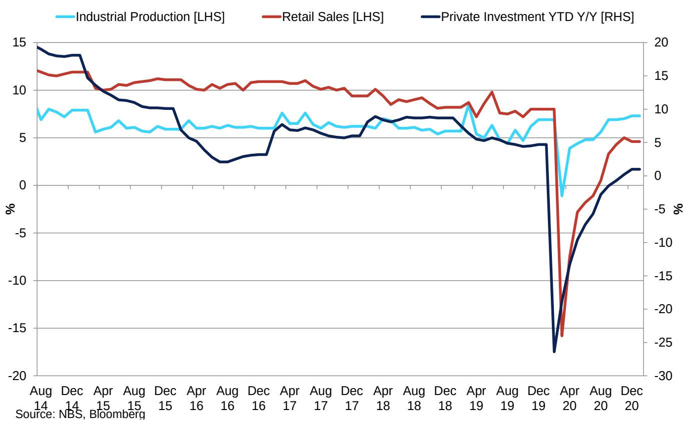
According to Markit, overall construction PMI dropped to 54.6 from the previous 54.7. This performance was lower than the consensus estimates and was mostly due to the pandemic. The UK is also facing a challenge due to the rising number of coronavirus cases, which has forced the government to announce a new lockdown. On the employment front, the UK jobs market stabilised towards the end of 2020 after months of turbulence. But with the furlough scheme, now ending in April, there is a risk we will see the jobless rate rise if support is removed before all sectors have fully reopened. Higher costs/trade barriers that have arisen from the new UK-EU deal should also add pressure on hiring.

China: With the economic activity in China recovering well by the end of 2020, we expect that the growth in 2021 will be below those seen in Europe and the US. The Chinese economy grew at 6.5% y/y in Q4, surpassing the pre-pandemic levels. We believe China is strong enough to experience another quarter of growth as it continues to recover.

In 2021, most of the new growth should come from an improving export sector, as the US and Europe set on the path to recovery. Regardless, at the time of writing, China continues to outperform the world's major economies, especially in terms of export growth. Chinese exports increased by 21.1% y/y in November, the fastest growth in three years, up from 14.1% in October. This growth was mostly fuelled by continued strong external demand for PPE and tech-related to online interactions. December figures were marginally lower, but at elevated levels comparing to the growth seen in the last couple of years.

China's Industrial Production vs Retail Sales vs Private Investment

We continue seeing improvements in both the industry and service sectors.



Source: NBS, Bloomberg

Indeed, the soaring US housing market has already contributed to a strong growth of Chinese exports of household appliances. The result was that China's trade surplus soared to a record level. However, the rising renminbi could have a delayed adverse effect on export levels in 2021. Moreover, if a vaccine is widely introduced, it could lead to a deceleration or decline in demand for pandemic-related goods. On the other hand, we have seen an increase in Chinese manufacturing of consumer goods as supply chains in the rest of the world have been impacted by the spread of COVID-19. Additionally, a post-virus world is likely to entail a shift in consumer spending away from direct consumption more toward the services that consumers have avoided over the past year. This is, however, more of a longer-term outlook.

However, the 2020 data showed that even though China's suppression of the virus allowed normal economic activities to resume by H1 2020, household spending has yet to return to pre-pandemic levels. Indeed, China's per-capita consumption, after adjusting for inflation, dropped by 4% in 2020. Retail sales declined 3.9% in 2020 from the previous year, a steeper fall than in developed economies such as the US, where government payments to workers stuck at home and unemployed supported spending on consumer goods. The full-year figures mostly reflect a downturn in the first half. Consumer spending measures returned to growth by May, once the spread of Covid-19 was effectively suppressed. Retail sales registered 4.6% year-on-year growth in December but remained below pre-pandemic rates of around 8%. Indeed, a weak job market and more precautionary saving continue to suppress the country's potential for economic growth.

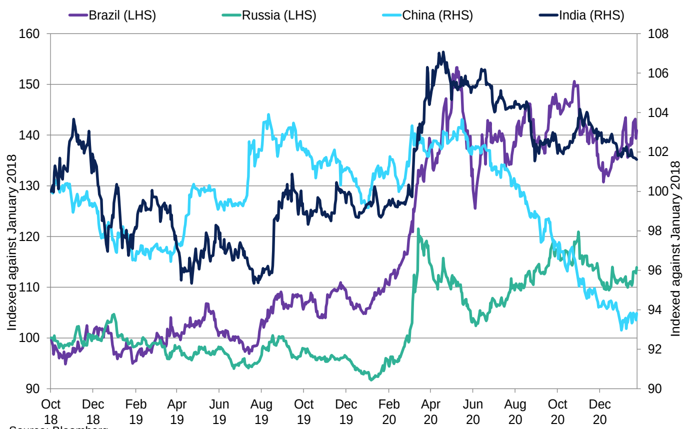
China has a target to contain the debt to GDP ratio low because of the concerns it poses to the financial markets if it is not contained. Last year, China provided stimulus and credit growth was at an elevated level. We think that China might replicate its policy decisions in line with 2018 when a synchronised global recovery gave China confidence to tighten the credit growth while keeping its private sector dynamics healthy. The tightening is likely to be in the form of financial regulations and some fiscal tightening so that the officials can bring down credit growth to a level consistent with nominal GDP.

Emerging Markets: After a 3.3% expected contraction in 2020, the IMF sees EM GDP rebounding by 6% in 2021. However, political risks are likely to be an important consideration, as the region sees strong election activity during the year. While higher oil prices could be supportive of economic growth in exporting countries like Russia, fiscal gaps, because of weak growth and additional spending are a risk. In Q1, a widening US current account deficit, low US interest rates, and a weaker dollar should all support emerging market growth.

The recovery in emerging markets picked up steam in Q3 thanks to COVID-19 vaccine announcements and the US election outcome. The MSCI EM Index was in line with global developed markets equities in 2020, growing by 16%. At the time of writing, the number of COVID-19 cases has subsided significantly across the majority of the region, with other a couple of countries undergoing repeated waves of increased infections. Strong inflows of capital into the markets were seen in the first weeks of 2021, setting the scene for improving economic conditions in the quarter. We expect that EM economies will benefit further as the vaccines are distributed in developed markets during the first half of 2021; trade-dependent economies, in particular, are set to benefit from this as demand improves.

Emerging Market Currencies

EM currencies remain elevated on the back of a weaker dollar.



Source: Bloomberg

Brazil's extensive policy response to the pandemic was crucial in mitigating the economic impact. The monetary easing was probably one of the most forceful in the emerging market region, as the country lowered interest rates down to 2%, down from a 10-year average of 10%. The stimulus enacted supported household incomes despite wage losses due to COVID-19 restrictions. The dual effect of the increased spending and the drop in tax collection could result in a deeper fiscal deficit in 2021. With household income transfers ending December and government spending already set to reach the pre-set limit, officials might want to pull back the spending when COVID-19 cases spike once again.

Aluminium

LME Aluminium 3MO ($)

Source: Bloomberg, 02.02.2021

Summary

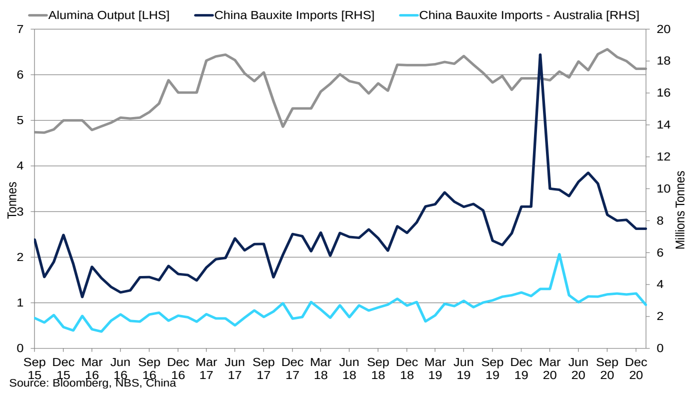
Higher SHFE and LME prices should incentivise production in 2021, and this will fuel stronger demand for resources in H1. Economic data in China has been robust, and downstream consumption is expected to be strong in the near term despite Chinese New Year. The weaker dollar and vaccine optimism has prompted strong speculator activity, and we remain wary of a correction in the dollar exerting downward pressure on aluminium in February. While prices may take a breather in the immediate term, we expect aluminium prices to remain on-trend for Q1 2021.

Q4 Recap: Aluminium prices rallied in Q4 2020, gaining 12.03%, however prices tested appetite around $2,100/t, but this level was rejected. Gains for the whole year were more modest at 9.6%, however from the low in April to the last day of trading prices gained 36.3%. LME inventories trended lower in Q4, down 7.7% to 1.346m tonnes, inventories were nearly down 20% from July. This year we have seen an inflow of material taking stocks to 1.41m tonnes, with most of this material in Asia, and more specifically in Malaysia, with Pork Klang inventories at 701,625 tonnes. SHFE prices gained 7.47% in Q4 to 15,685 yuan/t, but the market failed at 17,000yuan/t. SHFE inventories were steady down 2.5% in Q4, but stocks were also in flat, up 0.23% in H2 2020. Economic data in China closed the year on a front foot; we expect data to continue to be strong in Q1 2021, despite Chinese New Year and the reduced activity in the economy. The rise in COVID cases is likely to reduce output in the near term as logistics continue to struggle.

Outlook: Bauxite imports into China have reduced in recent months, after reaching 11m tonnes in July, with shipments into China struggling to reach these highs. In the final quarter imports averaged 7.8m tonnes per month, with December's imports at 7.49m tonnes; the Q4 average was below that of the previous quarter of 9.896 tonnes per month. Bauxite shipments into China from Guinea improved, reaching 4.2m tonnes in December, up from 3.89m tonnes the previous month. Bauxite CIF has averaged $41/t as of January 26th, with 48-51% aluminium content and 7-12% silicon. The price of Guinea lump bauxite aluminium 45% with silicon at 2% CIF has been declining in recent months to $43.50/t. China's National Bureau of Statistics showed alumina output declining in the final months of 2021. After reaching 6.50m tonnes in September 2020, output reduced back towards 6.134m tonnes in December 2020. Supply of alumina is tighter in Central China than other regions, but we expect the market to move back towards a mild surplus in 2021. Utilisation rates of Chinese alumina capacity reached a 4 year low in 2020 of 77%, and the recent rally in primary aluminium prices is likely to incentivise output from alumina producers. Prices of Alumina FOB from Australia rallied in Q4 2020 by 8.75%, and from the low in April prices gained 30.6%. At the time of writing prices trade at $304.9/t, the LME price is providing support to alumina prices in recent months as well as a resurgence in alumina imports into China which reached 408,511 tonnes, up from 249,441 tonnes in November and 174,168 tonnes in October. Imports into China were stronger in 2020 than in 2019, averaging 351,000 tonnes compared to 130,000 tonnes.According to IAI, alumina production was 6.04m tonnes in November which is down from the October figure of 6.24m tonnes. Cumulative output for alumina production was 0.3% in December 2020, at 73.13m tonnes.

China Alumina Output vs Total Bauxite Imports and Australia Bauxite Imports

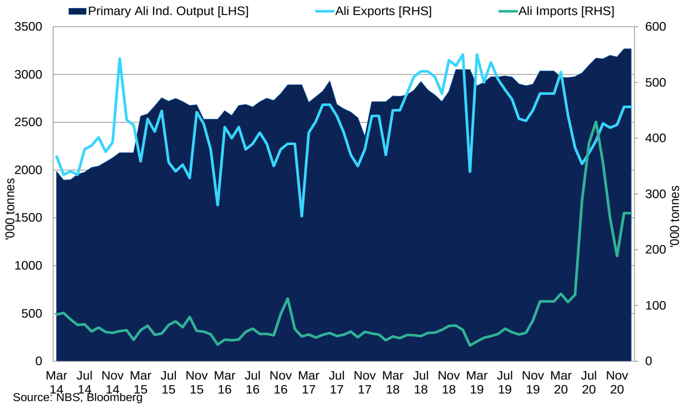
Alumina output strong in recent months despite the tail off in bauxite imports.



Aluminium output in China reached 3.280m tonnes in December, up from 3.207m tonnes in November. NBS data has output of primary aluminium at 3.268m tonnes in December, November production was 3.182m tonnes. Cumulative output for 2020 reached a new high at 37.08m tonnes, with producers continuing to capitalise on the strong margins. Output of aluminium products reached 5.678m tonnes in December, up from 5.381m tonnes, and cumulative production was 51.63m tonnes for 2020. Operating rates for aluminium producers stood at 55.7% in December with the next month rates were down to 50%.

Primary Aluminium Output vs Exports of Unwrought & Aluminium Products

New capacity and high margins indicate strong aluminium output in the near term.



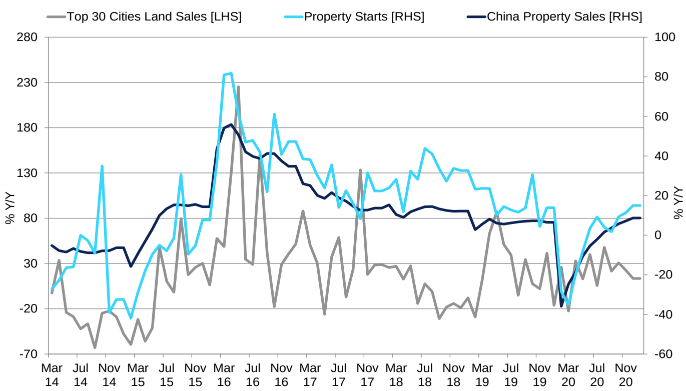
Source: NBS, Bloomberg

We expect rates across the aluminium spectrum to decline into Chinese New Year. Large producer operating rates for January are expected to fall to 50% as well. In our opinion, new capacity and strong margins for smelters will lead to an increase in aluminium production in China in 2021. New capacity could present downward pressure on prices in H2 2020, but at the time of writing downstream demand is strong.

The construction and automobile sectors have been strong in recent months, the restrictions on property developers will present some headwinds to the construction market, however, and there is an expectation that some debt will be get taken off the books. Infrastructure investment in China has been strong, and we expect aluminium-intensive projects to boost demand. Chinese exports of unwrought aluminium improved in December 2020 to 22,654 tonnes; however, imports in 2020 were strong, outlining robust demand imports reached 265,569 tonnes; average imports in 2020 were 239,619 tonnes per month.

Chinese Property Market

Tightening of credit restrictions likely to weigh on China's property sector in 2021.



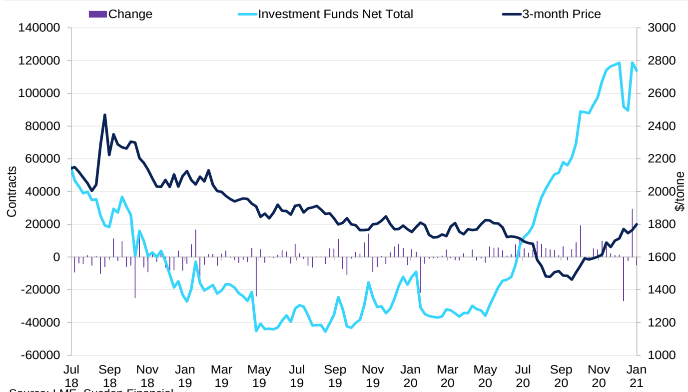
Source: Bloomberg

Economic data in China continues to provide support for aluminium demand; industrial production was 7.3% in December 2020. The industrial production metrics such as new orders and output have been consistently expanding throughout 2020; we expect these indicators to remain expansionary in January and February 2021. Downstream demand for materials is robust in China, but in the rest of the world, we see limited growth in the near term. Export orders recovered in Q4 of 2020 after inventories were reduced in the previous quarter. European demand has shown some green shoots with more orders for extrusions and rolled products. Lead times for orders are increasing outlining positive sentiment, but the rise in cases presents risks. Premia for extrusion billet into Germany has rallied to $320-350/t. An increase in restrictions could provide headwinds to services, but construction is starting to improve consumption of aluminium products. Flat-rolled products in the US has rebounded strongly, as manufacturing reached recent highs and activity improves. We are seeing shortages of material across the supply chain as a result of the pandemic. Can sheet demand in the US was strong due to a surge in packaged food, this has created a shortage of can sheet. Construction in the U.S. has benefitted from low interest rates with housing starts rising to 1.6m units in December, with permits up to 1,709. The low-interest rate environment will continue to benefit the housing sector and therefore, aluminium demand.

Investment funds have increased their net position significantly in recent months; this has fuelled the market rally. The net length was 113,850 contracts as of January 15th, the commercials covered shorts in November and December, but we expect more selling in February. Low-interest rates benefit the carry and the cash to 3s spread has moved into $6.49/t backwardation as of January 26 as cancelled warrants rise. The correlation between the weekly change in 3-month prices and weekly change in investment funds position has buckled in recent weeks and stood at -0.113 as of January 15. The most recent z-score for the investment funds net position is 2.31, marginally less than the previous week, which was 2.41. This happens to be the maximum recorded outlining the strong speculator sentiment in the market. Commercials currently have a z-score of -0.31 which is within the interquartile range outlining producers have been tentative to hedge their exposure. The current z-score is below the four-week average and may mean more appetite for selling in the coming weeks

Investment Funds Total vs Change vs 3-month Price

Funds increased their net long position significantly, but we expect a pause.



Source: LME, Sucden Financial

Copper

LME Copper 3MO ($)

Source: Bloomberg, 02.02.2021

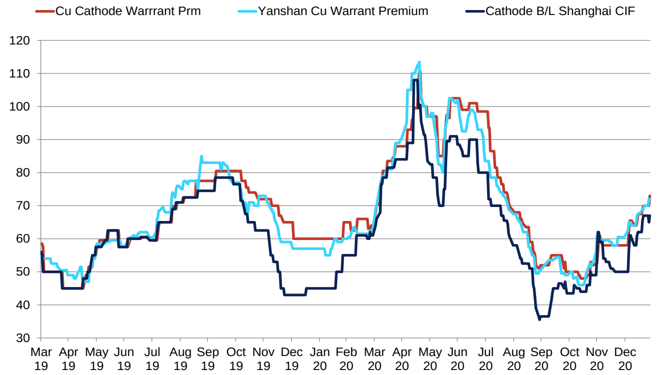
Summary

The benchmark TCs are low, outlining the low availability of copper concentrate. We expect output of copper products and refined copper to edge marginally lower in January and February due to Chinese New Year but production will return in March. Consumption of copper is strong, and headline economic indicators continue to grow. Chinese credit restrictions present a dark cloud over the market but end-user consumption in China, and from consumer goods outside of China is expected to remain expansionary in the near term. A correction in the dollar to the upside will exert strong downward pressure on the market, however in the long run we anticipate dollar weakness. We maintain our bullish stance in copper for 2021 but expect prices to take a breather in the immediate term.

Q4 Recap: Copper prices surpassed our expectations in Q4 as the weaker dollar, vaccine optimism and improved risk appetite prompted prices to gain 16.26% in Q4. Gains over the 12 months were 25.49% with the market up 77.6% from the March low. Bullish momentum has faded in recent weeks as we head into Chinese New Year, with cases rising and worries about the vaccine deployment. SHFE prices gained 13% in Q4, up 17.6% in 2020. LME inventories have continued to decline in recent months to 77,175 tonnes as of January 27th. SHFE inventories are also down in the last few weeks, to 67,248 tonnes, down 58% since the beginning of October. Activity in China will be more subdued in the coming weeks as we enter Chinese New Year and following this break orders will return to the market. Manufacturing PMIs for major economies have returned to the expansionary territory, a boost for copper demand, and the global manufacturing PMI was 53.8 in December.

China Copper Premiums

Copper premiums have been on the rise in January, indicating robust demand. .



Source: SMM, Bloomberg

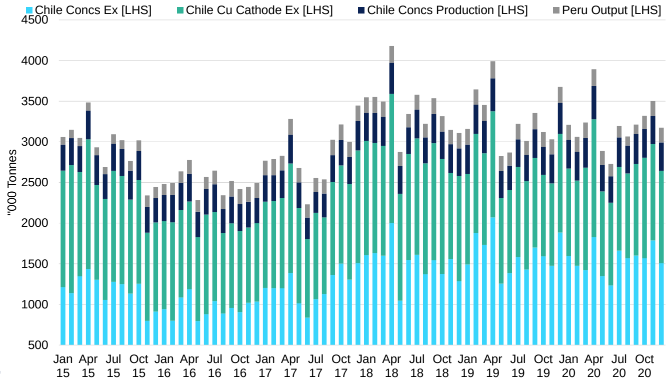
Outlook: Copper mine output in Chile improved in October to 486,450 tonnes, marginally higher than the previous month of 479,900 tonnes. Production has managed to maintain a relatively constant level throughout 2020. Copper output according to the Instituto Nacional de Estadist was 493,538 tonnes in November, marginally higher than the October number in 2020. Codelco production reached a high for the year at 166,100 tonnes, output has recovered well from the low in January when production was 188,900 tonnes. Contra to Codelco output, Escondida managed to maintain a constant level of production in 2020. In November, output dropped to 90,800 tonnes, down 9.1% m/m from October. We expect production to edge higher once again in January and February at Escondida. Seasonality suggests the January production levels are lower in Chile as a whole, which is also reflected in the export data.

The value of copper exports has rallied due to the strong uptrend in LME and SHFE prices. The value of copper concentrate, blister and cathodes rallied, but the value of concentrate to a lesser extent. The SMM copper concentrate output index was $48.74/t in December 2020, but this index edged lower to $46.17/t on a weekly level.

In Peru, mine production reached 207,033 tonnes in October, above the 4-year average monthly production level which is 185,000 tonnes a month, according to Ministerio de Energias y Minas. Cumulative production in Peru reached 1.72m tonnes, down from 2.019m tonnes in 2019. At this time, cases are rising, and this could keep output at a lower capacity for longer. The vaccine administration in Chile is low at 67,096 at the time of writing, with no data recorded for Peru. This will continue to hamper copper mine production in the near term.

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

Peruvian output recovered well from the low, but both remain down on the year.

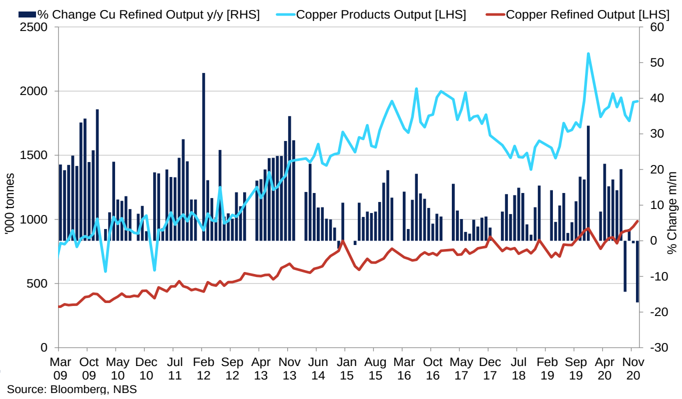


Source: Banco Central de Chile, Banco Cenrtal de Reserva del P

China copper concentrate TC 25% CIF has declined again in recent weeks to $46.50/t, down from $50.50/t. The imported TC for copper concentrate 26%min into China has stood steady at $48.74/t, outlining that the availability of material is low. Imports of copper ore and concentrate reached 1.89m tonnes in December 2020. Imports of unwrought copper and copper products continued to decline into December 2020 to 512,000 tonnes, significantly below the high for 2020 at 762,000 tonnes in July. Imports of refined copper into China also tailed off in Q4. December imports were 322,037 tonnes, down from 574,000 tonnes in July 2020. The fall in imports suggests China's demand for copper has waned, however, we do not believe this is the case China imported significant amounts of material when prices were low in the first few quarters of 2020, as prices have continued to rally imports of refined material and unwrought copper & copper products have waned but ore and concentrates have held comparatively steady. Chinese demand for copper has been strong, and premiums rallied in the final months of 2020, this trend has continued into 2021. The copper cathode warrant, Yanshan copper warrant premium and cathode bill of lading Shanghai CIF have moved towards $70/t. Premiums rallied once again in January suggesting robust consumption of copper cathodes and could be restocking.

China Refined Output vs Cu Products

Output started to tail off on a year-on-year basis.

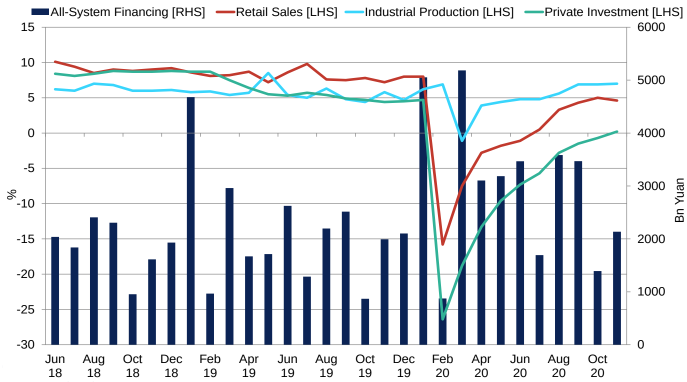


Source: Bloomberg, NBS

Chinese output of refined copper has been strong despite the reduced availability of concentrate. Output reached 986,000 tonnes in December, output averaged 948,000 tonnes in Q4 2020. Cumulative output for refined copper was 10.02m tonnes in 2020, which is higher than the previous year, due to strong output in H2 2020, when production averaged 910,333 tonnes a month compared to 825,750 tonnes in H1 2020. However, this does not include data for January and February. Cathode production in 2020 was 7.4% higher than in 2019, cathode production in China was 9.38m tonnes according to SMM. Output of cathodes averaged 781,975 tonnes in 2020. Production of copper products was equally as strong, reaching 1.921m tonnes in 2020, marginally higher from 1.914m tonnes in November, the average output for 2020 was 1.875m tonnes. Data for January and February is often not reported but we expect output to edge lower in the coming months due to Chinese New Year. This has been represented by operating rates of wire, plate/sheet and strip (PSS) producers have declined in January to 84.25% and 82.44%, respectively. Raw material inventory at PSS producers have been falling in recent months and have reached a multi-year low. Inventory of finished PSS products have also been falling to 10,000 tonnes. Tube producer raw material inventory has held steady in recent months; however, the finished product inventory has been high around 20,000 tonnes and have been rising in recent years, suggesting demand for tube is low.

China Macro Indicators and Copper Demand

China's recovery has been ahead of the rest of the word, but a reduction in financing is a threat to material consumption.



Source:Bloomberg, PBOC

All systems financing in China has been falling from the highs of 2020. In November financing was 2.13trn while this was above the previous month's level at 1.5trn. Chinese demand will support the market as the construction of power grids keeps cable consumption strong. Auto and consumer electronics consumption is robust, and we do not expect this to falter in the short term. Higher exchange prices could see more scrap come to the market, although in December we saw reduced demand for scrap from manufacturers. Under new regulations, and COVID-19 these inspections are taking longer. New laws impose criminal penalties on the whole chain of importers if the cargoes do not meet specifications.

We expect copper consumption to be strong in the short term; consumer and white good demand was strong in 2020 as consumers purchase goods, not experiences. Investment in renewable industries will support the consumption of copper in the long term, the 14th five-year plan will be critical, and the government have set ambitious targets for EV integration, renewable energy capacity. This in turn will increase investment in the electrical grid, not to mention 5G. Copper demand ex-China will improve as the vaccine is more widely distributed; however, this will take time and may not be completed until Q4 2021.

Investment funds remain bullish on copper outlined by the large net position on the LME and COMEX. The relationship with the dollar and yuan has been particularly prevalent. As we move into Chinese New Year, we could see the market edge lower, we are seeing reluctance to enter the market from the long side at this moment despite the long-term bullish outlook. Exchange stocks are low and the lack of concentrate availability outlined by the low benchmark TCs will keep copper elevated in the long term, assuming there are no more drastic changes in the path of the vaccine roll out and COVID-19 cases.

Lead

LME Lead 3MO ($)

Source: Bloomberg, 02.02.2021

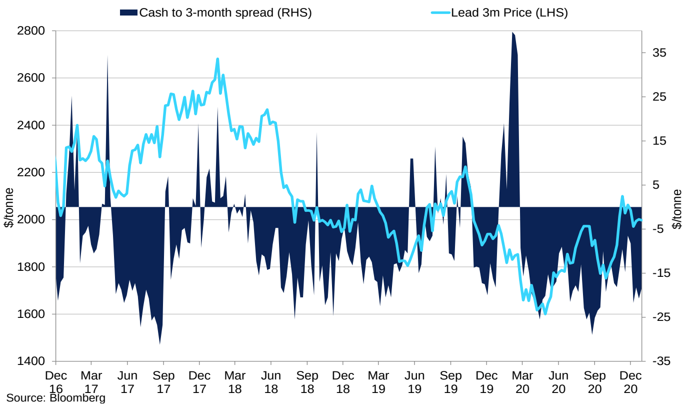
Summary

The auto market has continued to recover, and severe weather conditions in Europe and the US suggest the demand for battery replacement will continue in the near term. Responding to this lead demand strength, most smelters have been running at high production rates, and the large and small-sized rates reached multi-year highs. We do not expect the concentrate market to get any tighter, and so, it would be reasonable to expect higher TCs in the upcoming months, especially if LME price strength is maintained. We anticipate lead will suffer from depleting inventory levels, and growing output in China, as demand continues to recover.

Q4 Recap: Lead surged in Q4, up by 17%, as November saw the metal finally catching up with the rest of the base metals pack, before pulling ahead in a sharply. Rising investment funds' net total as a result of falling short positions was the main reason for increased positive price momentum. Investment funds' net total turned positive in November and continued to increase throughout the quarter. Expanding manufacturing activity, as well as the continued economic recovery in China, tempted the investors to take on a more risk-off attitude and take more longs across the whole LME basket. This sentiment was later supported by the release of the US stimulus package and the weak dollar, that supported all the metals apart from lead. LME inventories remained elevated, while cancelled warrants picked up to highs seen in January 2019.

Cash to 3-month Spread vs LME 3-month Price

Lead prices rallied in November, catching up with the rest of the base metals pack.



Outlook: Factors such as delays in vaccination procedures and the continued rise of COVID-19 infection rates could set the market for another correction in Q1. Until we see a fall in the number of infections, and in turn, the relaxation of lockdown restrictions, lead performance will be constrained from the demand side. The only key factor that helped offset the muted outlook was the release of the US stimulus bill in Q4.

Therefore, with persistent weakness elsewhere, a lot depends on the strength of Chinese economic recovery. While the economy is seen growing month-on-month, economic indicators have softened in December. Finally, in China, PMIs were growing, yet at a softer pace, as the index declined from 54.9 in November to 53.0 in the last month of the year. Firms signalled slower, but still steep, expansions of output and total new work; export orders remained muted. At the same time, companies took a more cautious approach to employment levels amid an accelerated rise in overall input costs, as workforce numbers were broadly unchanged. Looking ahead, firms were still optimistic that output would increase over the next year, though overall confidence dipped to a three-month low. Thus, it appears that China's domestic demand is strong, a fact that will likely stimulate activity in other countries.

On the other hand, the manufacturing and auto industries continue to grow despite the new introduction of lockdown measures, posing well for another quarter of growth. China's vehicle sales rose for the ninth straight month in December, up by 6.4% y/y to reach 2.83m vehicles. CAAM forecasts vehicle sales to rise by 4% y/y in 2021; however, a shortage of certain auto chips could start to impact car production at some Chinese companies at the beginning of this year. Representing one-third of global automotive production, China's healthy growth expectations in Q1 2021, together with the rollout of more stringent emission legislation should support domestic demand.

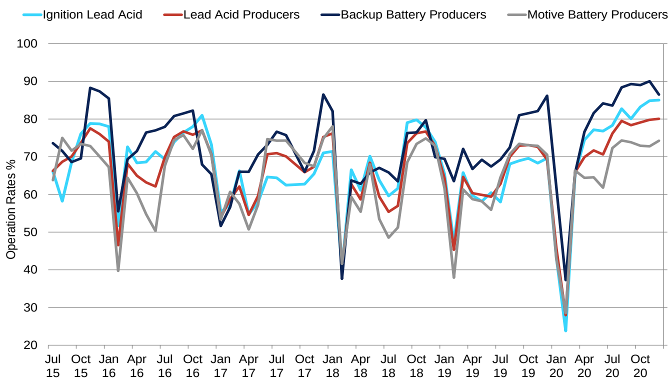
Severe weather conditions in North America have supported battery demand during the winter months so far. Cold weather conditions in the region in December prompted many to expect a continuation of heavy snow for the latter part of the winter. Battery makers have struggled to build inventory ahead of peak demand season. The lead battery supply chain has struggled in some parts of the world to replenish automotive lead battery stock ahead of the 2020/21 winter season. Responding to this lead demand strength, most smelters have been running at high production rates, operating rates increased in Q4, and in December, the large and small-sized rates reached multi-year highs. Additionally, refined lead availability has also been an issue as the scrap supply chain became more constrained. Ongoing restrictions across Europe and North America will again prevent smelters from collecting scrap.

Meanwhile, China battery operation rates were only marginally higher, with backup batteries falling by 3% in Q4; about three-quarters of capacity was utilised in December. The worst performing sector was the e-bikes, as the colder weather conditions deterred consumers from using or purchasing new units. Automotive demand has remained solid, and stationary battery consumption proved to be robust. Chinese lead-acid storage battery manufacturers have accelerated their internal stocks' build-up prior to the Chinese New Year holiday.

Together with the tighter supplies of the metal, the inventory build-up has lent support to domestic lead prices. For this year, demand for Chinese batteries looks strong but potentially driven more so by exports than domestic consumption. Nevertheless, CRU forecasts a rebound in Chinese lead use by about 5% in 2021, after a flat 2020, compared to some 4% in the rest of the world.

China Battery Operation Rates

Operation rates improved in Q4, only with backup batteries seen lower.



Source: Bloomberg, SMM

For 2020, mine production is set to decline by 7.4%, with smelters experiencing moderate growth. The disconnect reflects the concentrate surplus of 2019, which helped build stock for smelters to drawdown in 2020. As stock levels are seen lower in 2021, and mine production not being high enough to offset 2020 losses, smelters are expected to experience another year of moderate growth. Indeed, mine production is forecast to increase by 3.6% in 2021.

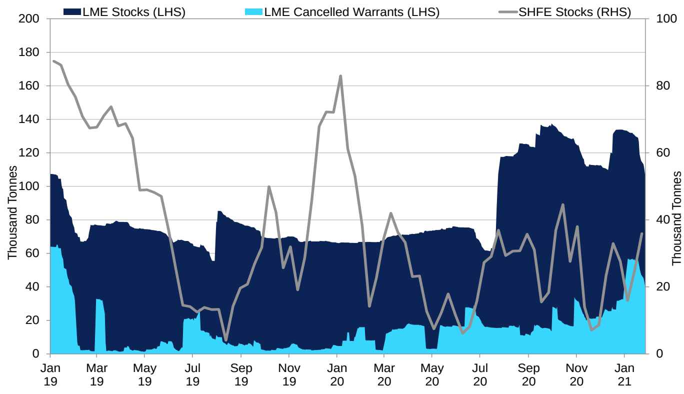
Secondary production will support total production, yielding a 3.8% growth y/y. Additionally, while COVID-19 lead mine losses were quite different to zinc in terms of scale in each location, few of the major additions to zinc mine supply in 2021 will add much lead mine supply However, while the production side continues to recover, it is the consumption that will have a growth of near 5% y/y.

Secondary supply remains elevated, despite the continued export activity. However, many smelters in Europe stated that their customers were keen to lock-in supply contracts without waiting for potentially better deals, continued strong demand in the battery replacement sector ahead of the Chinese New Year was the key driver behind this development. Mine production growth is insufficient to stave off tightness in the concentrates market. However, this will be more than offset by secondary output expanding due to reduced supply chain disruption and better availability of scrap lead batteries. Therefore, for the year ahead, WoodMac forecasts a tightening deficit in concentrate balance, to 16kt up from 123kt in 2020. The consequence should be downward pressure on the lead price, still growing from last year, but below the past year's annual averages.

Spot TCs began their fall in March, driven by production curtailment due to COVID-19 and a subsequent concentrate market tightness. LME cash prices falling much further than SHFE was supportive of the downward correction of spot TCs. While most COVID-19 mine shutdowns have ended, spot TCs indicate that the market is still tight, with the current spot price at around $100/t CIF; however, the relative strengthening of the LME price in December points to a different picture. LME prices strengthening above the SHFE in Q4 made it more expensive to import concentrate into China. We do not expect concentrate market to get any tighter, and so, would be reasonable to expect higher TCs in the upcoming months, especially if the LME price strength is maintained.

LME Lead Warehouse Stocks vs SHFE Deliverable Stocks

Both LME and SHFE stocks increased in Q4, with additional gains seen this January.

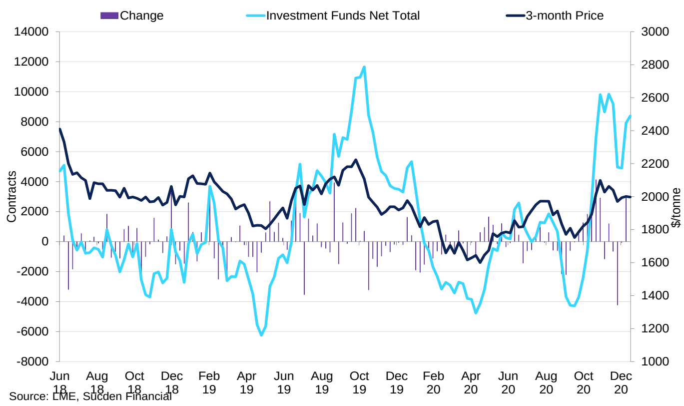


Source: Bloomberg

Additionally, with the increase in LME and SHFE lead stocks in December, we expect higher TCs and lower lead prices in Q1. Indeed, LME lead stocks increased by 20.7kt in December to 133.4kt, a rise of 18.4%. All this increase occurred in Europe, with Asian stocks unchanged, and North American volume halved. Concentrate balance is forecast to come to -23kt in 2021. As the quarter progressed, we saw a rising number of warrant cancellations of LME lead stocks, which helped reverse some of the lead's decline in value. Cancelled warrants grew by 68% in December to 32.5kt. Chinese stocks were also higher as producers took advantage of relatively good prices, SHFE refined lead stocks surged by 22.7% to 45.8kt. This is the highest quantity since July 2017. This is due to adequate supply levels from both primary and secondary smelters; however, relatively weak demand from battery producers.

Investment Funds Total vs Change vs 3-month Price

Investment funds net total rallied in Q4, causing a surge in prices.



Source: LME, Sucden Financial

Nickel

LME Nickel 3MO ($)

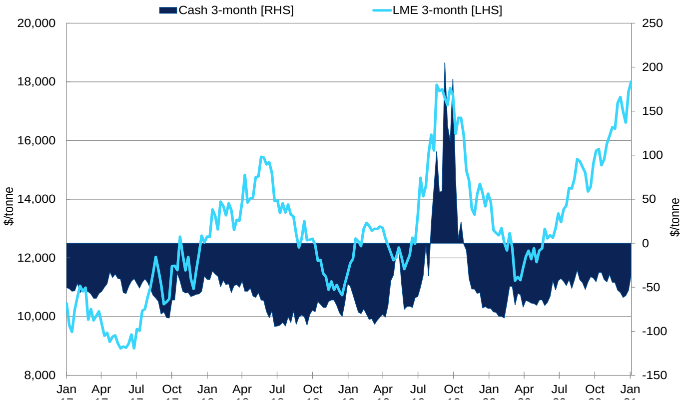
Summary

Investor sentiment is firmly on the upside due to the weaker dollar, reduced availability if nickel ore and an improving environmental agenda across the globe. At the time of writing, China import arbitrage is open, and this has triggered premiums to rise. Lack of nickel ore in China is curtailing NPI output, and this could trigger greater ferronickel imports from Indonesia. Indonesian output skyrocketed in 2020, and we expect this to continue in 2021, partially attributed to Chinese firms investing in Indonesia. The fundamentals and trading environment point to higher nickel prices, and we expect support at $17,000/t, and we remain wary of correction in the US dollar weighing on prices.

Q4 Recap: LME nickel prices were well supported in Q4, after finding support at $14,000/t the market rallied 14.7% to close at $16,613/t. The 3-month rolling contract has rallied in the first few weeks of January, taking out last year's high of $17,880/t. 1st-month SHFE prices adopted the same trend, gaining 9.05% over the final quarter to close at 124,480yuan/t, similar to London prices, SHFE prices have rallied to trade at 133,730yuan/t. LME inventories have held steady for the majority of 2020, rising 5.9% from March to January 2021. Market optimism has been increasing due to strong EV sales and the vaccine rollout. China's economic data was strong in Q4, with GDP at 6.5% y/y, industrial production at 7.3% y/y, fixed asset ex rural YTD y/y was slightly below forecasts at 2.9%. This outlines the strength of China's recovery vs other major consuming countries; we expect this to be the case in the near term, but finance restrictions are a headwind for the economy in 2021.

LME 3-month Price vs Cash to 3-month spread

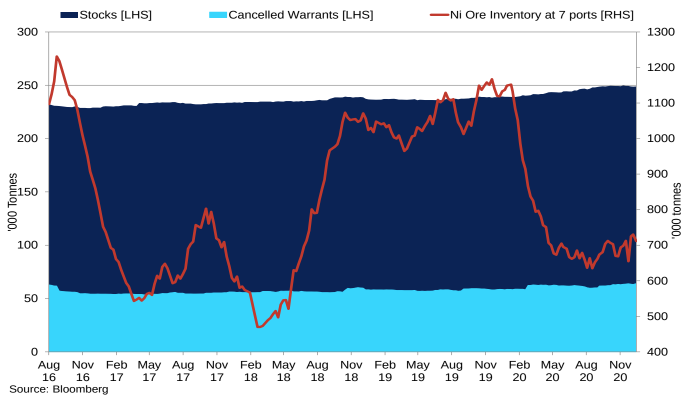
The rally in the 3-month prices has been robust, but cash to 3s remain in contango.



Outlook: Nickel ore inventory in China has started to edge lower in recent weeks, in the week to January 15th, inventories declined to 8.87wmt, Ni content stocks fell to 70,200 tonnes. Port stocks across 7 major Chinese ports decreased 178,000 wmt to 6.94m wmt according to SMM. However, stocks are considerably below January 2020 levels when they stood at 1,150,000 tonnes, this drawdown in inventory has played a significant role in the recent rise in prices as ore availability declines. Shanghai bonded stocks decreased by 1,600 tonnes in the week to January 15th, bring inventories to 21,200 for that period. Chinese imports of Ni ore in November 2020 were 3.57m tonnes, nearly half the total of September which was 6.2m tonnes.

LME Nickel Inventory vs Ni Ore Inventory at 7 major Ports China

Ore inventories are considerably below last year's level, outlining material shortage.



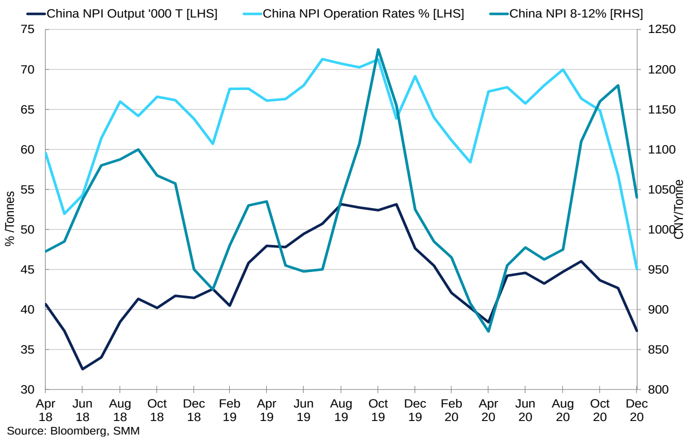
According to China's customs data in November, nickel ore exports from the Philippines where the vast majority of this total with 2.969m tonnes, once again the total in September was 5.488m tonnes. China Nickel Ore-Philippine 1.5% in ports has held steady in recent months at

520yuan/t which is the highest level since 2017. Imports of ferronickel into China continue to be high on a historical level, but in October, imports declined to 259,481 tonnes from 340,891 tonnes the previous month.

Capacity of NPI in Indonesia increased in 2020 and overtook China as the world's largest producer, most of this capacity is being built by Chinese producers as a result of the export ban. Tsingshan added another 190,000 tonnes in 2020 which amounted to 52% of the new capacity in 2020. According to SMM, Indonesia could have added around 360,000 tonnes of capacity in 2020 with another 130,000 tonnes this year which equates to 42% of total capacity. This additional output in Indonesia could bring total capacity in 2021 to 745,000 tonnes in 2021, up from 550,000 tonnes in 2020. Conversely, China's capacity is falling due to a lack of ore supply and high costs. Operation rates for Chinese NPI have plummeted in recent months and stand at 45.06% for January 2021. This is considerably below the September 2020 high of 69.98% but also last January when rates were 69.15%.

Chinese NPI Output Vs China 8-12% NPI Price

NPI output has been falling in China due to lack of material.



China NPI and output has been declining as mentioned above, but in January 2021 stands at 36,160 tonnes. Output has been falling since September when supply reached 46,020 tonnes. We expect NPI in China to remain low due to lack of raw materials. 8-12% prices have been falling in recent months to 1,070yuan/t. China's demand for nickel is rising as EV production and stainless-steel output are both high, the grade 1 nickel premium in Shanghai has increased in recent weeks as demand strengthens, it stands at 4000yuan/t as of January 18th 2021. The refined Jinchuan premium has also rallied to 7,250yuan/t as of January 19th.

Nickel Premiums

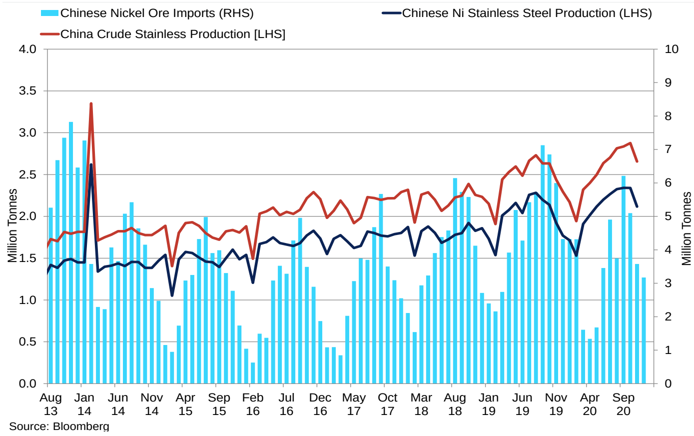
Premiums rallied as the arbitrage window into China opened.

Russian cathode premium for bills of lading has also been rising to $130/t. This all suggests that demand for nickel in China is strong, but the increase in premiums can also be attributed to the fact that the nickel import arbitrage into China is open once again. This is causing stainless and battery producers to re-stock, with China's NPI output falling and ore prices rising this is expected to remain the case in Q1 2021.

Nickel stainless steel production has been falling in recent months. Output of 300 series was lower in Q4 2020 according to Wood Mackenzie, 200 and 400 series stainless has increased in the same period. The most up to date production data for China is November and output was 2.1m tonnes, down from 2.3m the previous months, lower production rates could remain low in the coming weeks/at the start of 2021. Stainless stocks increased in the commercial warehouses in the week to January 15th according to Steelhome, warehouses in Wuxi and Foshan were below 400,000 tonnes for the 3rd consecutive week. We have seen volumes edge higher due to a limited number of coil deliveries, inventories in Wuxi and Foshan were 388,623 tonnes, Jiangsu stocks increased by 1.2% in the week to January 15th.

Chinese Nickel Ore Imports vs Stainless Steel Production

Ore imports have fallen, stainless output also declined marginally from recent highs.



Demand for nickel from EVs and batteries has aided the rally in recent months, investment funds and speculators have increased their position as they bet on the green economy. This trend is something that will continue to shape the nickel market; EV sales across the globe are starting to increase. Production of NEVs in China was up 75% y/y in November, with passenger cars up 100.7% y/y in the same period. PHEVs grew 145.7% y/y with output at 33,000 units compared to 150,000 units for BEVs in November. Commercial vehicles were down 33.1%y/y in November but were up on the month by 24.2%. China has cut subsidies for the EVs in 2021 by 20%. The new policy for PEVs with a range of 300-400km will be 13,000yuan with PEVs with a range of 400km+ will be 18,000yuan per vehicle. The PHEVs subsidy will be lowered to 6,800 yuan per vehicle, these policies are in line with expectations, but we expect the EV market to continue to grow. In Europe, investment in e-mobility has increased significantly, in 2019 the region saw EUR60bn investment with 40bn of this invested in Germany specifically. This investment accompanies progressive policies and incentives to aid EV adoption. Transport & Environment forecast that EV sales in Europe will reach 15% of the entire auto market in 2021 with CAAM in China, expecting EV sales to rise by 40% in 2021 to 1.8m units.

Tin

LME Tin 3MO ($)

Source: Bloomberg, 02.02.2021

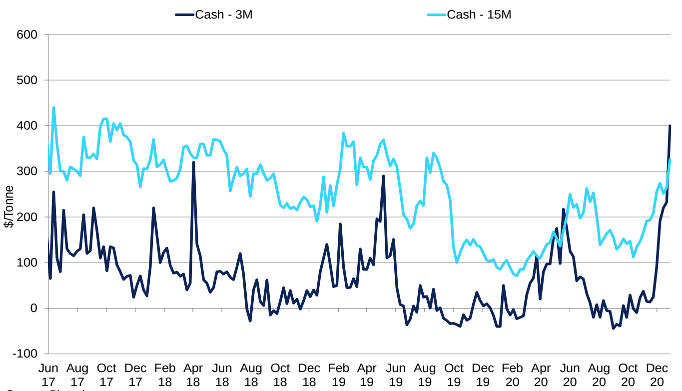
Summary

The semiconductor market was strong in 2020 as global demand for consumer electronics was robust, in our opinion this trend will continue into 2021. We are seeing a squeeze now which has caused the spreads to tighten into a sharp backwardation. Supply chain constraints and lack of material are causing delays in the auto industry, and this is expected to have impacts in other industries as well. Mine supply will improve this year, and it needs to in order to keep up with consumption. We maintain our bullish stance on tin and expect longs to hold their position with the fundamental outlook maintaining strong and exchange stocks falling.

Q4 Recap: Tin prices were well supported in Q4 2020, gaining 15.32%, prompting the market to close the year at $20,325/t. SHFE prices gained 2% in Q4 2020; however, prices rallied significantly in January to 162,640yuan/t as SHFE deliverable stocks declined to 5,152 tonnes. LME stocks saw considerable outflows in Q4, falling from 5,555 tonnes to 1,890 tonnes. Supply was impacted in 2020 due to COVID-19, especially when shipments in Indonesia were reduced due to low prices. The drawdown in stocks and large position bandings on the LME caused the spread to tighten to $219/t back as of December 31st; this has tightened further into $553/t backwardation as of January 21st. The position banding indicates a squeeze and the lack of tin availability is a severe problem for the shorts.

Tin Calendar Spreads

Spreads have tightened into a sharp backwardation in recent weeks as the market is squeezed.

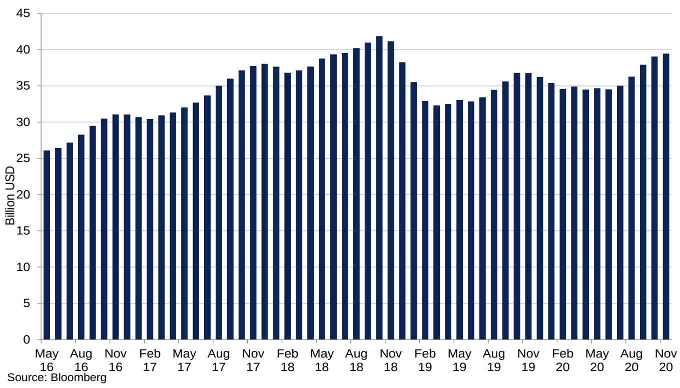


Source: Bloomberg

Outlook: PHLX Semiconductor index gained 22.6% in Q4, and the rally has been fuelled by more positive sentiment surrounding the vaccine for COVID-19 and high levels of stimulus. This may seem counterproductive to semiconductor companies who benefited from the WFH economy. In 2020, the PE ratio reached 35.79, up from 27.16 in 2019. The gross margin was at 51.95%, which is below the last 3 years, the profit margin for 2020 was 19.54, up from 17.28 in 2019. In our last report, we indicated that President Biden might adopt a more China-friendly policy; however, we now expect the U.S. to maintain a firm stance on China and keep the 'America First' rhetoric to continue. The communication is expected to shift back to more traditional rhetoric, and this could reduce market volatility around meetings and trade talks.

Global Semiconductor Sales

Sales continue to strengthen in most major regions, suggesting more solder demand.



Source: Bloomberg

Consumer electronic goods demand will remain strong until consumers can buy experiences, supporting semiconductor sales. Revenue for major semiconductor companies in December remained strong in December, except for Taiwan Semiconductor Manufacturing (TSM) revenue which declined by 6% to NT$117.37bn, their revenue growth for

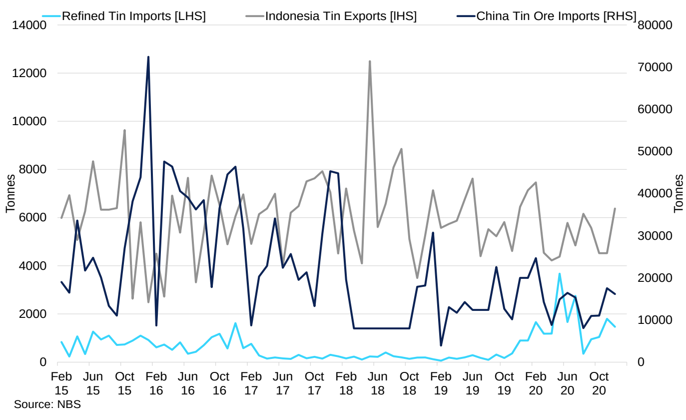
2020 was 25.2% even though orders from Huawei halted. TSM is expected to reach record revenues in Q4, and we expect revenues to remain high into Q1 as they invest $28bn in CAPEX in 2021. Taiwan exports reached $533.7bn, up 10.1%y/y, according to the Ministry of Economic Affairs.

Global semiconductor sales gained 7% y/y in November 2020 with sales reaching $39.4bn, having improved 1.1% m/m. Regional sales on a year-on-year basis were strongest in America's at 12.5% y/y, China was next in line at 6.5%y/y, with the Asia Pacific and Japan at 6.5%y/y and 5.1% y/y respectively. Europe continues to disappoint on a year-on-year basis, down 0.7%; however, on a month-on-month basis sales increased by 3.6%. Demand for semiconductors is expected to have increased by 5.1% for the FY2020 and 8.4% in FY2021. This will keep solder demand high, and as a result, tin and strong tin consumption will see inventories continue to fall, increasing tightness in the near term. However, we do expect a stronger response from the supply side this year which may help alleviate tightness in the market, but in our opinion, this material will not arrive in Q1. In the U.S. the Semiconductor Industry Association, the National Defense Authorization Act will incentivise semiconductor production in the U.S. The act is seen as a positive for the economy and national security.

Indonesian exports through to the end of November were 61,000 tonnes in 2020, down from 64,265 tonnes in 2019. Shipments from Indonesia increased in November to 6,376.2 tonnes, up from 4,522 tonnes the previous month, the average shipment per month through the first 11 months was 5,545.46 tonnes. We expect exports to remain strong as prices incentivise supply in 2021, and according to the ITA the deficit this year will be a modest 2,700 tonnes. China's imports of ore imports increased throughout 2020 to 158,146 tonnes, considerably higher than in 2019 imports, at 120,678 tonnes. This outlines appetite from China for tin, especially when you factor in the 17,719 tonnes of refined tin imported into China in 2020; for reference 2019 imports were 2,887 tonnes. Strong demand for consumer goods and the transition toward renewable energy will keep imports into China strong, especially as LME inventories have declined significantly in Q4.

Indonesian Exports vs China Ore Imports vs China Refined Imports

Indonesian exports managed to recover this year, as China's refined tin imports also rise, outlining strong demand.



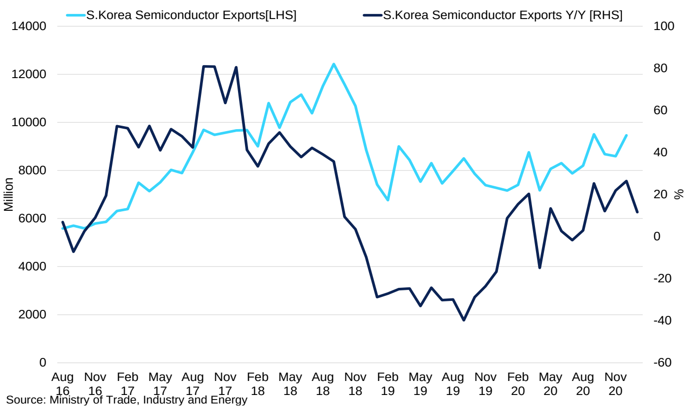
Alphamin production beat expectations in Q4 2020 as output reached 2,900 tonnes of tin-in- concentrate, up 13% Q/Q. The strength in output is attributed to high tin grades and recoveries, compared to Q3 2020, processed grade was 10% higher according to the International Tin Association/ Plant recoveries increased 4% Q/Q, and in December the processing of plant reached 77% for tin recovery. Sales were down 14% in Q4 2020, largely due to poor weather conditions limited exports causing a build-up material. Once conditions start to improve, this concentrate will be shipped and processed, which will help alleviate some of the tightness in the market.

Alphamin beat its output expectation for 2020 of 9,000- 10,000 tonnes to produce 10,900 tonnes. The company is working in a fine recovery plant (FTP) which started April 2020, which according to reports, is 70% complete. Alphamin reports they anticipate processed capacities to increase by 5-10% when the plant is finished, which is expected to be in July 2021. Alphamin is raising the production capacity in Mpama South; initial drilling will start in March 2021 with further drilling in Q3 to test for mineralisation. According to the ITA, this ore will help them reached their short-term production target of 11,000-13,000 tonnes. The ITA have Alphamin as producing 4% of global tin-in-concentrate output, in 2021 they will consolidate their position in the market.

Elsewhere, the Peruvian Ministry of Energy and Mines outlines that production at Minsur's San Rafael mine fell by 2.7% in November, with output at 2,097 tonnes a reduction from 2,156 tonnes in October. Output in Peru was up 0.6% YTD to through to November despite the pandemic, prompting exports of refined tin to improve 1.4% y/y, at 15,600 tonnes through to the end of October. In 2021 the lack of disruption will see output edge higher.

S.Korea Semiconductor Exports

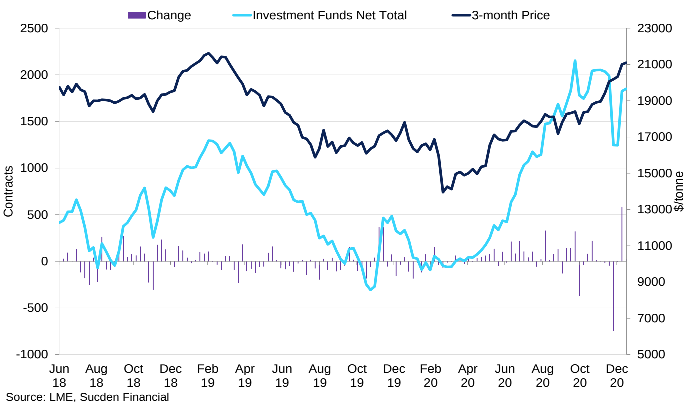
Exports in S.Korea are likely to remain strong in 2021.



Investment funds started to increase their net long position once again in January after we saw some long liquidations in the final weeks of 2020. The net length stands at 1,852 contracts, once normalised the investment funds net tin position has a z-score of 1.9, the record z-score is 2.4, which shows that the current position is edging towards this high. There is greater capacity for funds to add to their position, pushing prices on the upside. The correlation between the weekly change in the 3-month price vs the change in investment funds weekly position has declined significantly in recent weeks from 2.7 as of December 2020 to -0.026 as of January 15th. Commercial positions covered their shorts in December, the recent rally has been strong and commercial have failed to increase their net short suggesting we the rally could have more legs in the near term. The commercial short position z-score is within the lower quartile range at -0.62. We do expect selling from commercials to start to improve despite the tightness in the market.

Investment Funds vs LME 3-Month Price

Funds art to increase their Net length increases once again as prices rally.



Zinc

LME Zinc 3MO ($)

Source: Bloomberg, 02.02.2021

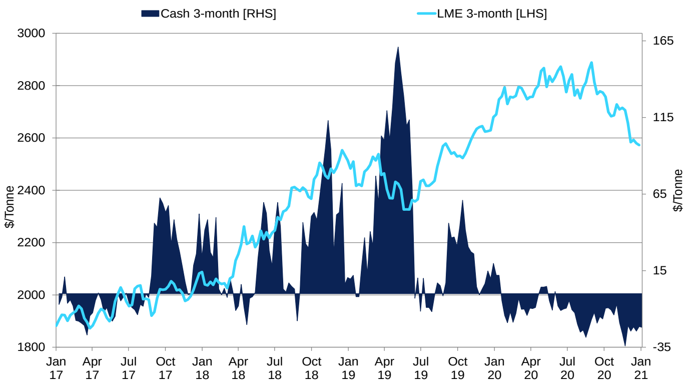
Summary

We could see some maintenance brought forward to pre-Chinese New Year as some smelters are well covered, and others are reluctant to purchase material on the spot market at current prices. We anticipate TCs to remain subdued in Q1 with mine supply still low. Operation rates for galvanizers have been falling, and we expect this to remain the case into Chinese New Year. China's manufacturing sector benefitted from weakness elsewhere in the globe in 2020, and with COVID-19 cases high in Europe and the US, this could be the case once again in Q1 2021. We expect zinc prices to take a breather in the near term due to weaker activity due to Chinese New Year and inventory flows.

Q4 Recap: Zinc prices rallied in Q4 by 14.4%, this brought gains for 2020 to 19% and the rally from the low to the end of the year was 64.2%. Economic data in China continued to remain strong even with the US and Europe struggling to maintain the virus. The 1st generic SHFE contract gained 8.48%, gains from the low to high was 46.7%. Demand for raw materials in China was robust as stimulus measures from the government supported the economy, this is exemplified by SHFE zinc deliverable stocks falling 40% in Q4 to 28,581 tonnes compared to a decline of 5.56% in LME warehouses. The demand outlook for zinc is stronger in 2021, and the prospect of a weaker dollar will also help support zinc prices, this could lead to further inflows from the fund community which increased their net length considerably in H2 2020.

Zinc 3-month Price vs Cash-3-month Spread

Prices retreat from recent highs - cash to 3-month spread firmly in contango.



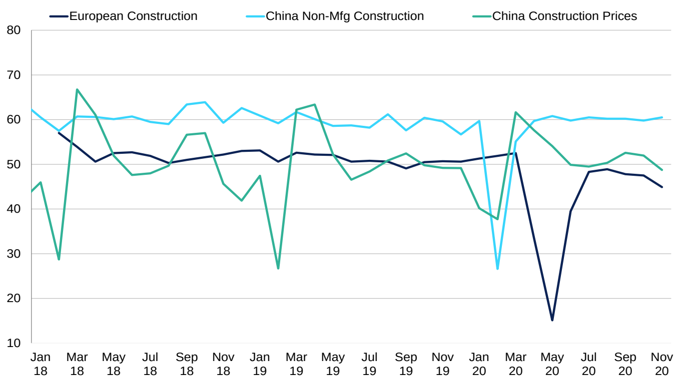
Source: Bloomberg

Outlook: The strong recovery in prices has been largely driven by the strength of the Chinese economy. Consumption in China was robust following the COVID-19 outbreak; however, while indicators show growth, the rate of growth was starting to slow in Q4.

We expect property sales growth and infrastructure expenditure to slow in the coming months; the main catalyst behind this is the increased financial restriction for property developers. This could be a trend for 2021 as a whole; however, the financial restrictions could boost property sales in the near term as developers look to raise capital. An improvement in property sales would be a boon for white goods which could present some upside for zinc.

China Construction vs European Construction

Non-manufacturing construction remained steady, but Europe's construction PMI has continued to decline.



Source: Markit, SMM, Bloomberg

As we approach Chinese New Year, we expect construction activity to subside, the increase in COVID-19 cases in China and new restrictions in some areas of China could trigger some firms to start the wind down for Chinese New Year early. China's non-manufacturing construction business activity increased to 60.7 in December a modest increase from November at 60.5, however, the index for monthly prices contracted for the second month in a row in December to 47.22. Building space under construction was positive in December to 3.2% y/y, according to NBS. Cumulative fixed asset investment for real estate was 5% y/y in China, but as mentioned, this could moderate in the coming months.

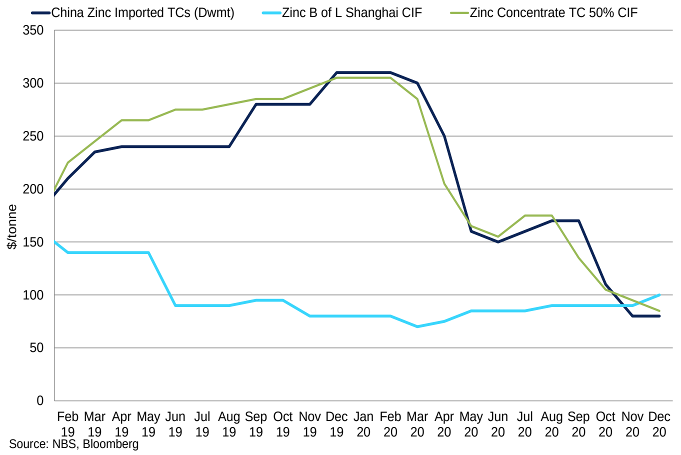
Outside of China, coronavirus cases are rising sharply in Europe, and the construction sector is expected to be weak in the coming months. The eurozone construction index remains in the contractionary territory, and with the most recent wave of cases, we expect this to continue in Q1. One bright spot for European construction area is that a Brexit deal has been agreed and this will help reduce uncertainty, triggering inflows of investment.

In the auto market, we have seen numbers strengthen in China and the US. Production of passenger cars in China reached 2.31m units in November, which is the highest rate since March 2018. This was up 7.5% y/y and 11.8m/m, however for 2020 as a whole, sales were down 1.9% y/y to 25.3m vehicles. We expect the auto market to continue to grow in 2021, helping to support demand for zinc. Chinese New Year may cause activity to moderate slightly, as we continue to watch the raising of COVID restrictions, but at this time, we do not expect this to have a significant impact.

The Chinese economy has benefitted from reduced manufacturing capacity in other major economic regions; this is expected to remain the case in the near term, once again highlighting the role China has played in the zinc recovery. In the US, the vehicle production index has rebounded to 187.6 in December. However, there is a shortage of computer chips made for vehicles, and this could reduce output across the globe. Major producers such as Ford, GM, Nissan, Honda, Toyota, and Volkswagen have all either reduced production or slowed operations around the globe due to shortages for microprocessors and microchips. The strong recovery in auto sales after the pandemic caused inventories to be drawn down across the supply chain. The desegregated recovery will continue to exert pressure on the supply chain until the vaccine is more widely rolled out.

China Imported TCs vs B of L Shanghai CIF vs Concentrate TC 50% CIF

TCs have been falling due to weak availability of material.

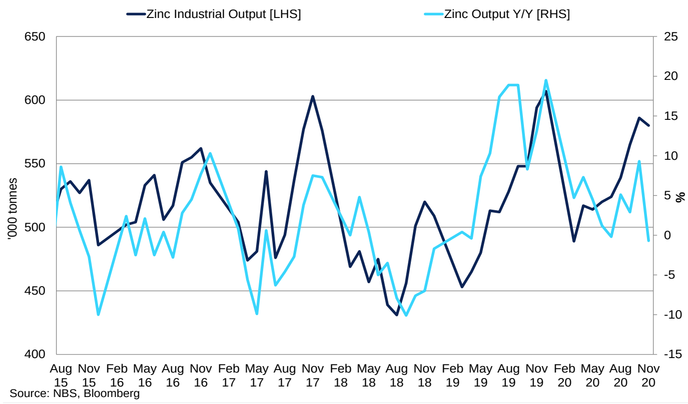


Source: NBS, Bloomberg

Treatment charges for zinc concentrates have been declining for months due to reduced availability. Zinc production in Peru has recovered well since plunging to 16,515 tonnes in April standing at 142,180 tonnes as of October 2020, this is the highest level since December 2008. We expect production to edge lower back towards 120,000 per month and average at this level, assuming there are no more national lockdowns in Peru. China's Zinc concentrate TC 50% CIF stands at $85/t as of January 15th, 2021, the imported zinc concentrate TC stands fractionally below this level at $80/t. These TCs have remained constant in recent weeks, whereas China's domestic TC has been falling, as of December 2020, it stood at 4000yuan/t. Even with the tightness in the concentrate market, Chinese refined output has been strong reaching 580,000 tonnes in November, this was down 0.7% y/y but cumulative output for the first 11 months of 2020 was up 3.1%. Operating rates for refined zinc producers have started to tail off since reaching 93.65% in October 2020. This indicates output will start to decline, however outside of China demand remains weak; exchange and off-exchange stocks are sufficient with off-exchange zinc stocks as of January 15th stood at 133,000 tonnes. We expect mine supply to improve this year, and this rate of growth will be greater than smelter capacity. We expect to see TCs start to increase in 2021, but they will remain muted in Q1 as tightness of concentrate remains. Zinc concentrate stocks at Lianyungang port have started to increase in recent weeks to 136,000 tonnes as restocking takes place before Chinese New Year.

Zinc Output vs Zinc Output Y/Y

Output was stronger in 2020 on a cumulative basis vs 2019, up 2.7%..



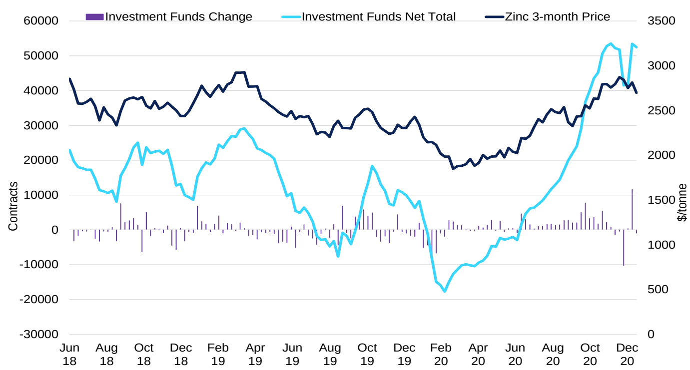
Source: NBS, Bloomberg

The Commitments of Traders Report (COTR) from the LME shows that investment funds have increased their net position in 2020. The net position stands at 53, 437 as of January 8th, which is fractionally lower than the record high from 4th December 2020. The correlation between the change in 3-month price and change in investment funds total with a 30-day rolling sample has fallen in recent weeks to 0.309, after reaching a high of 0.438 in August 2020. The investment funds position once normalized has a high z-score and is at the top end of the historical range, above the 4-week average and significantly higher than the median.

The total gross exposure has dropped below the long-term average in recent weeks. We saw an increase in commercial short in recent weeks as producers sell into rallies, similarly to the investment funds z-score, the current commercial position is above the 4-week average and towards the record short position. The trend of the weaker dollar in conjunction with strong demand from China and the contraction in mine supply prompted strong speculator flows. We expect the tightness from the concentrate market to persist in Q1, and the weaker dollar and stronger demand outlook for metals to keep investors active in the metals space. However, as mine supply improves and COVID cases continue to rise until the vaccine is more widely rolled out, this presents downside risk to the prices. We have seen sell offs in zinc when the dollar rallies slightly, and we expect this correction to persist.

Investment Funds Total vs Change vs 3-month Price

Net long pushed back towards record highs, despite the price losing steam.

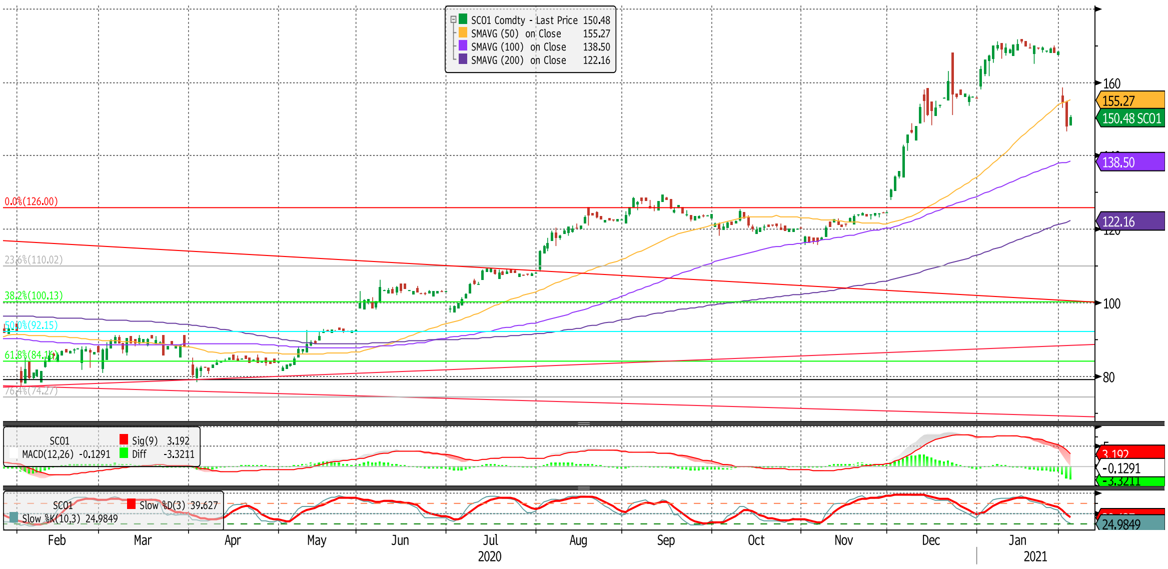


Source: LME, Sucden Financial

Iron Ore & Steel

1st Generic SGX 62% Fe

1st Generic SGX 62% Fe



Source: Source: Bloomberg, 02.02.2021

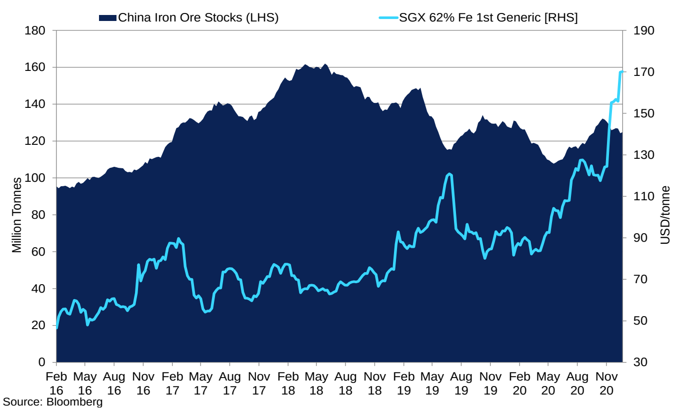
Summary

Iron ore prices continued to rally in Q4, reducing profitability for steel mills in China. Economic data from China is still on the front foot, but investment in steel heavy industries has started to wane. Mills are reluctant to buy iron ore at current prices, but we expect dips to be bought in the near term. Seaborne supply should improve in 2021, with steel capacity rising again this year this could cap steel prices. However, the market remains tight into Chinese New Year, but as credit conditions in China are tightened, iron ore prices have historically sold off presenting significant downside risk in the medium term.

Q4 Recap: Iron ore prices continued to rally in Q4, once again catching some of the market off-guard. Chinese steel production remained strong throughout Q4, supporting iron ore demand. The SGX 1st Generic 62% Fe contract rallied 28.85% in Q4 alone, bringing the gains for the year to 71%. In the first trading days of 2021, prices have continued to rally. Gains in domestic iron ore prices in 2020 were marginally weaker, but the 1st generic price still rallied 53.92% closing at RMB1,079/t on December 31st. In Q4, HRC prices broke above rebar prices, even though rebar is the most demanded steel product, according to Mysteel HRC Q235 4.75mm prices reached $766/t in December. The spread between Q235 4.75mm HRC and HRB 400 20mm rebar reached RMB400/t in late December. Demand conditions in China are expected to soften into Chinese New Year, which is February 12th this year.

Steelhome China Iron Ore Port Stocks vs SGX 62% Fe 1st Generic

Prices surged - demand from China boosted by steel production and infrastructure spending.



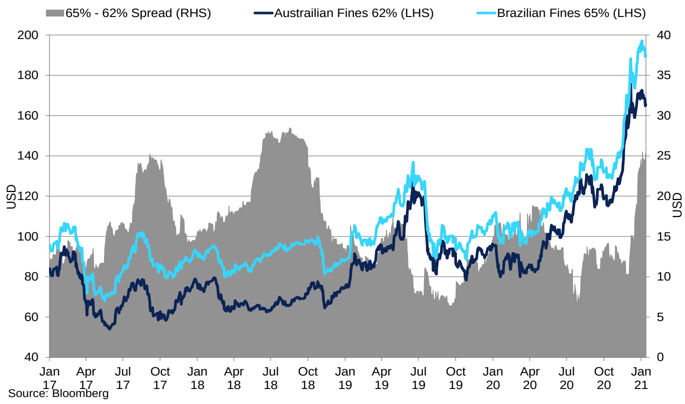
Source: Bloomberg

Outlook: We have seen a decline in Chinese iron ore inventories, since the November 2020 high of 119.59m tonnes, stocks have fallen back to 115m tonnes. Falling inventories indicate supply-side tightness as steel demand remains strong. However, we have seen some reluctance by steel mills to purchase iron ore at current prices. The global market will remain tight in the near term, we expect demand to be strong, and inventories to fall further in the coming weeks, steel mills may be better off locking in material. The trade spat between Australia and China helped propel prices in Q4, Australian iron ore exports from their June high of 85.3m tonnes to 71.2m tonnes in November. This helped accentuate the tightness in the market. Seasonality suggests that exports to China during January and February will be low, while demand from steel mills will also be low in these months, we could see another situation where steel mill demand outstrips mine supply in March and April. Despite Australian iron ore exports falling, shipments to China have remained elevated, only falling in November to 55m tonnes but recovered quickly in December to 63.3m tonnes. Iron ore from Brazil strengthened throughout 2020, and shipments peaked in December 2020 at 16m tonnes.

Chinese iron ore imports in November fell to 98.15m tonnes, the first-time imports fell below 100m tonnes since May. In the second week of January, we saw arrivals increase at Chinese ports, up 2.03m from the week prior and 2.11m tonnes from 2020 at 16.29m tonnes. The 5yr average for iron ore inventory flows in January and February in China suggests stocks have risen 1.48m tonnes and 2.79m tonnes, respectively. If iron ore arrivals continue to remain firm, we could see inventories edge higher in the lead up to Chinese New Year, with demand for material strong we expect any downward pressure on prices to encourage steel mills to purchase iron ore. Spreads for imported iron ore have widened in recent weeks, Fe Fines CFR Qingdao 58% to 65% is -$35.6/t, the FOT Qingdao 58% to 65% is -$38.7/t as of January 12th. The spreads between higher grade fines have also widened in recent weeks, the spread between imported Fine 66%-62% at $11.4/t

Australian 62% Fe CFR N.China vs Brazilian 65% Fe CFR N.China

The spread between the different grades has widened once again.

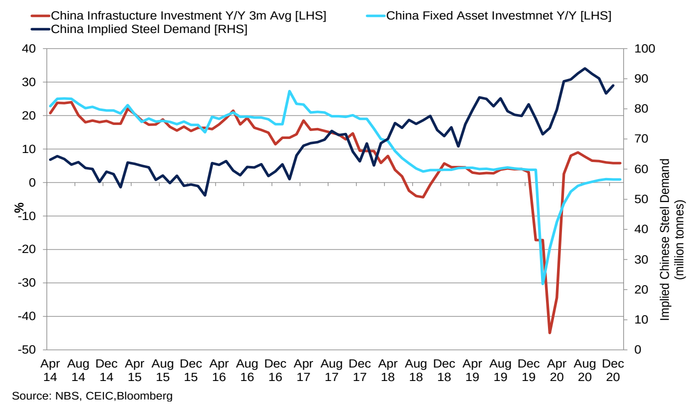


The strength of Chinese steel demand in 2020 has been highlighted by the China Iron ore & Steel Association who predicted steel exports would fall 15% over 2020 and imports would surge 60%. Between June and September China became a net importer of semi and finished steel, the virus continues to spread in the US and Europe, and this has reduced steel demand in those regions. China imported steel from local regions as well, usage in China was strong as the economy started to grow once again. The 3m average Chinese infrastructure investment y/y grew at 5.99% in November, Chinese fixed investment returned to growth in Q4 2020 and reached 1%y/y in November. Investment growth for railway and highway peaked in August and September, respectively. Conversely, investment in real estate and construction peaked in November at, at 5% and 12.6%, respectively.

As we look to 2021, we expect steel demand from the property sector to fall due to tightening financial restrictions as a result of the 'three red lines' policy. The property sector equates to around 35% of domestic steel consumption, with these new financial restrictions we expect steel demand from this sector to soften in 2021 but we expect the decline to be less than anticipated as developers look to move debt off the books. Loopholes remain in the policy, but according to reports, they are smaller. Steel PMIs are traditionally low in the first two months of the year due to Chinese New Year; we expect the construction and transportation PMIs to remain low before rebounding back to growth in March and April when we expect demand to pick up once again.

China Investment vs Implied Steel Demand

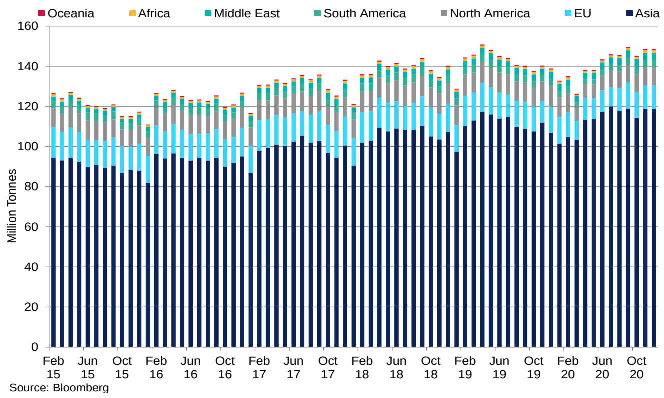
Infrastructure investment rebounded strongly, boosting steel demand, but as financing dries up demand could wane.



China's steel output is expected to break 1bn tonnes in 2020, with forecasts suggesting y/y growth of 5.4% according to China Metallurgical Industry Planning and Research Institute. Capacity is expected to rise in 2021, towards 1,300m tonnes a year by the end of 2021. This will have a limited impact on prices in Q1, however, as we move through 2021 and steel demand from the property sectors start to suffer, the overcapacity may become more evident prompting steel prices to soften slightly. The Ministry of Industry and Information Technology is planning to amend the swap ratio for steel capacity in high growth areas, the required ratio will be 1.5:1 against the 1.25:1, for M&A activity the ratio is 1.25:1 for key steel producing, and 2+26 regions. The new policy does encourage electric arc furnaces with capacity swaps at 1:1 that replace converter-based capacity. Again, this is a longer-term trend, but we expect near term demand for steel scrap to be strong in January due to restocking demand. Due to tight supply, we expect firm scrap prices but as we move through to February and March, and finished product stocks rise, and consumption weakens, scrap prices could soften..

Crude Steel Output

Production of steel in Asia remains the lion's share of the global market.



Profitability for rebar improved as we moved through December and finished the year around 300yuan/t, contra to HRC profit which fell from around 700yuan/t at the beginning of December to below 300yuan/t at the end of the month. Iron ore prices have caused profitability to decline, and as steel inventories in China start to increase, this will put pressure on prices. We expect inventories to draw back down once again as uptake increased after Chinese New Year. We have started to see spot transactions deteriorate in the first few weeks of January as the sentiment in the construction sector weakens.

Gold

Spot Gold $/Oz

Source: Bloomberg, 02.02.2021

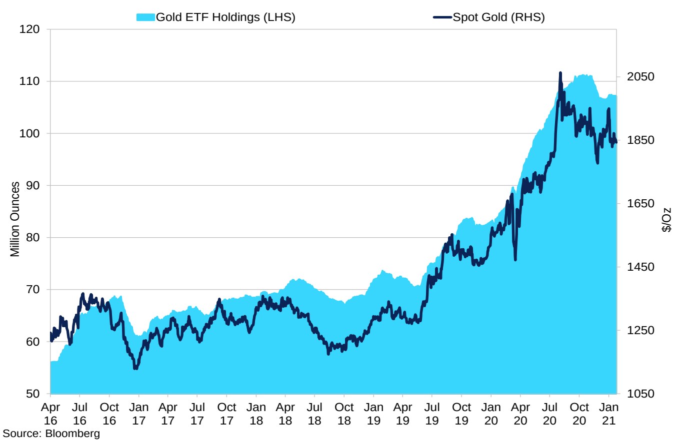
Summary

Gold had an extraordinary performance in 2020, with prices rallying by 25% to all-time highs, as investors turned to the precious metal as a safe haven. Relative to Q3, we saw the last quarter of the year to be more moderate as the announcement around vaccine approval and distribution, as well as the release of US stimulus, eased the ongoing economic uncertainty. Looking ahead, we believe that in an environment of higher growth, we do not expect gold's 2020 gains to be replicated in 2021. However, as downside risks prevail in Q1, we would expect prices to remain elevated until the economy moves towards normality later in the year.

Q4 Recap: Gold had a remarkable run in 2020, with spot prices rallying over 25%, up to an all-time high of $2,075/oz, as investors turned to safe-haven assets amid growing COVID-19 uncertainty. Indeed, in 2020, financial demand drove the bull run, and ETF buying was a prominent driver for gold. By the end of December, the price reached $1,900/oz - below the August peak, yet still above the year average. Interestingly, gold's performance in Q4 seemed to be more linked to physical demand rather than the speculative futures market. Indeed, a recovery in jewellery sales in the biggest consumer economies kept support gold prices in the quarter, while ETF holdings softened.

ETF Holdings vs Spot Price

Gold prices softened in Q4 on the back of declining investment demand.



Source: Bloomberg

Indeed, in Q4, gold-backed ETFs recorded their first net outflows in 12 months and the second-largest monthly outflow ever. Gold ETF holdings decreased to 107moz as the gold price had its worst monthly move since November 2016, during which the priced dropped by 10%.

Regardless, net inflows in 2020 remain well above the highest yearly amount on record. As the risks around the election and vaccines subsided, investors reduced hedges, and this was reflected in the gold ETF outflows. Meanwhile, while COMEX net long positions reached an all-time high in Q1 2020, they ended the year almost 30% below that value

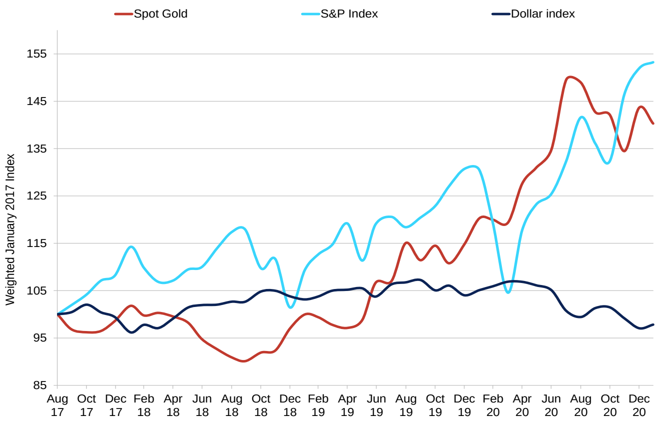
According to the World Gold Council, gold demand fell by 19% y/y to 892t in Q3 2020, the lowest quarterly result since Q3 2009. Strong growth in global investment demand for gold partly offset weakness elsewhere as COVID-19 threats persisted. Central banks generated small net sales - the first quarter of net sales since Q4 2010. Indeed, after seeing robust gold demand at the beginning of 2020, central bank demand fluctuated more in H2. This was a stark contrast to the consistent buying seen for many years, due, in part, to Russia's decision to halt its buying programme in April. However, the high value of gold, combined with the low interest rate environment, continue to make gold attractive for CB purchases.

Global stocks performed particularly well in the quarter, with the MSCI All-World Index increasing by almost 15% over the period. However, with rising COVID-19 cases and reportedly more infectious new variants of the virus, a renewed sense of uncertainty ensued. Yet, regardless, this has not deterred investors from maintaining their exposure to risk assets. Indeed, the S&P 500 stock has risen by 18% since November in comparison. Gold has not been priced this cheap to US equities since December 2019. With gold having a persistent bull run for the last two years, Q4 2020 was the first sustained decline.

Outlook: Going forward, we believe that in an environment of higher growth, we do not expect gold's 2020 gains to be replicated in 2021. Recovering economic markets, along with lower levels of uncertainty, should keep stock prices and valuations high, driving investors away from gold. The metal may be driven primarily by a recovery in consumer demand, as jewellery, bar and coin demand improve. However, the precious metal can still act as a hedge against geopolitical and economic uncertainty, while record-low rates keep the opportunity cost of holding the yellow metal low.

Gold vs S&P 500 vs Dollar Index

For the first time this year, the relative value of gold crossed below the S&P 500 index.



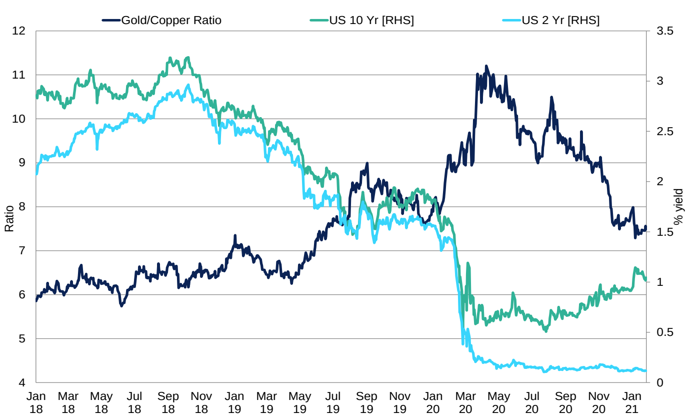
Source: Bloomberg

In the meantime, the continuing rise in COVID-19 infections, development in vaccine progress and administration might cause additional equity market corrections until the economy is back on track, making gold an attractive investment. Indeed, investors may experience strong market swings and significant pullbacks as vaccinations take longer to be administered, giving room for more uncertainty. Gold has historically performed well during equity market correction as well as high inflation. And while the S&P 500 has actually correlated pretty well with gold since January 2019, we expect to see some rallies in gold prices, as equity corrections could urge investors towards the safe-havens. The prospect of more stimulus from Biden administration should keep gold well bid. Inflation is likely to remain muted, but cost-push inflation from higher commodity prices could be a risk.

Market expectations will continue to drive gold prices in 2021, especially as vaccine distributions continue in major developed economies. Indeed, news about vaccine developments and implementation led to a sharp downward correction in gold prices. The news about the $1.9tr US stimulus package has also provided some upward pressures on gold prices. This is despite the dollar trading lower, and longer-term yields remaining near multi-year lows. Clearly, this correction has been a result of investor appetite shift towards the risk assets. This is clear from the copper/gold ratio - a global sentiment barometer - which has rallied to June 2019 highs.

Gold to Copper Ratio vs 10yr vs 2yr US Treasuries Yield

The ratio fell to 2019 lows, as gold performance softened relative to copper.



Source: Sucden Financial, Bloomberg

More recently, the gold price has failed to hold onto November gains, despite the news of the Democrats winning both of the Senate run-off elections in Georgia, the implications of which are positive for gold. A new round of economic stimulus is expected in the near term, along with more spending to aid recovery over the course of the year, both of which are supportive of a higher gold price. Regardless, gold's bull run is unlikely to end in Q1 2021. A weaker dollar and continued, yet reduced uncertainty regarding the economy should continue to support gold.

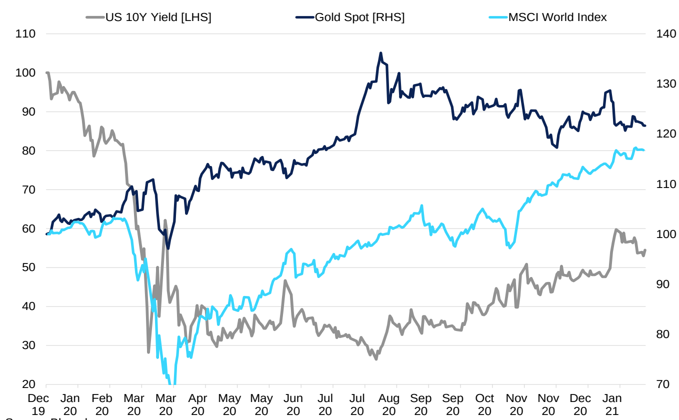
Although most of the population is likely to be vaccinated this year, the reality is that we see a potential double-dip in some economies, given the latest waves of quarantine restrictions. In the medium-term, we expect a moderate increase in US Treasury yields; however, higher inflation expectations are likely to offset the rise in nominal yields. Indeed, hopes of additional economic stimulus programmes sent inflation expectations above 2.00% in January for the first time since 2018. Therefore, further weakness in real yields should be supportive of gold prices. In the long term, growing budget deficits and inflationary pressures should support gold investment. Indeed, many are concerned about growing risks from expanding budget deficits, which, coupled with record-low interest rates and expanding money supply, could result in rising inflationary pressures. This, however, is more of a longer-term risk, close to the end or after 2021 as central banks have signalled increased tolerance for inflation to be above the previously acceptable levels.

While physical demand in the last quarter of the year has begun to show signs of recovery, it remains below pre-pandemic levels. Pent-up demand is likely to push up demand in 2021, as consumers return to the market, especially for festival and marriage seasons. While higher prices in comparison to previous years might deter some consumers, government stimulus programmes and recovering income levels are likely to provide enough liquidity for consumers to increase gold purchases.

However, while this growth is likely to remain anaemic relative to its full potential for some time. Gold's more stable price performance in H2 2020 points to additional buying opportunities for consumers in the near term. The economic recovery may be especially prominent in countries like China that managed to effectively control the spread of the virus and return to pre-pandemic growth levels. Given this positive relation between economic growth and Chinese gold demand, we believe that the precious metal consumption may continue to grow. Similarly, the Indian market appears to be on a front foot. Data from the November festivals points to jewellery demand being below average, but already recovering from the lows seen in Q2 2020.

Gold vs US 10yr Treasury Yield vs MSCI World Index

Inverse correlation between gold and 10yr yield held in the quarter, as precious metal prices softened.



Source: Bloomberg

Silver

Spot Silver
$/Oz

Spot Silver $/Oz

Source: Bloomberg, 02.02.2021

Summary

As the new wave of lockdown restrictions hit developed economies, silver's outlook as a safe- haven improved, with prices closing the year on the front foot at $22/oz. For the whole year, silver outperformed gold, as investors turned to silver as a more affordable alternative. More recently, we have seen a massive rally recently driven by retail traders, pushing prices above $30/oz, however, the demand was short-lasting The fundamentals are supportive in 2021, especially as industry and jewellery sectors continue to recover. However, in Q1, we believe that major fluctuations in the silver price will be dependent on the spread of the virus globally, as well as the distribution of a vaccine. Overall, rising industrial demand and continued investment interest are expected to combine with falling production from silver mining companies to support silver prices in Q1.

Q4 Recap: Silver finished the year on the front foot, closing above a year average of $22/oz; however, below the year's peak of $28.30/oz at $26.50/oz. YTD silver gains have outpaced gold, gaining 50% in the year. With gold reaching a record high in August, investors turned to silver as a more affordable alternative, resulting in silver outperforming the yellow metal in recent months. Indeed, the silver market was resilient in the face of many challenges in 2020, highlighting silver's ability to outperform gold.

Gold to Silver Ratio

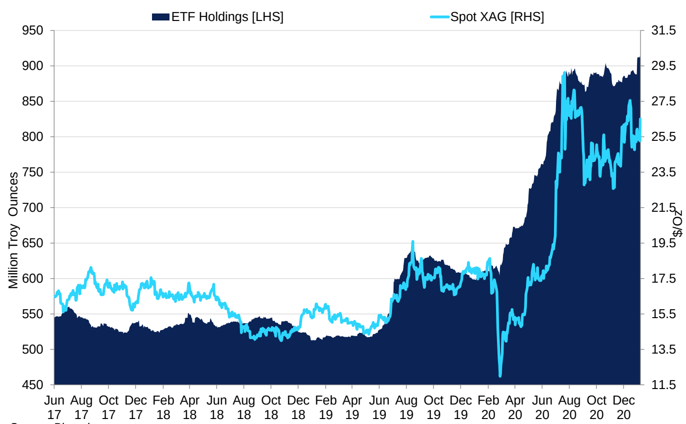
The ratio has softened as silver performance relative to gold strengthened.

Source: Bloomberg

In line with gold, ETFs have been a strong driver in price growth in 2020. Investment in silver- backed ETFs surpassed 800moz for the first time, achieving a record high of 893moz in August. Since then, all known silver holdings have remained marginally unchanged, pointing to a continued interest in silver as an investment. The retail investment was not far behind, as coins and bars increased by more than 15%. Meanwhile, physical silver investment is projected to reach a 5-year high of 236.8moz in 2020, according to the Silver Institute. The US saw the greatest growth, with bullion bar and coin demand rising by 62%.

ETF Holdings vs Spot Silver

Silver prices fluctuated in Q4 despite a stable interest in investment demand.



Source: Bloomberg

Although demand has recovered since the lows seen in March 2020, most areas are still on track for heavy full-year losses. Industrial fabrication demand, which constitutes more than 50% of silver's demand, is expected to fall by 9% to 466moz; the PV segment is forecast to dip 11% in 2020. This fully reflects the impact of lockdown restrictions, with industries adopting a cautious approach to inventory replenishment, and factories facing labour supply problems.

The impact on supply has been similar to the one seen with gold, only more pronounced as silver supply is much more concentrated in the major producing countries. Indeed, mines in Mexico, Peru, and China were temporarily suspended due to COVID-19 restrictions, with Peru in particular heavily impacted. By Q3, mining output among major producers began to ramp back up. Regardless, global mine supply is forecast to contract by 6.3% to 780.1moz in 2020, reflecting the impact of an operational shutdown in response to the pandemic. While this is a greater decline than seen in previous years, mine supply has been falling since 2016 on the back of declining ore grades and a lack of new projects.

Outlook: We expect silver to rise in 2021 on the back of its dual precious metal and industrial uses. Electronics and solar panels should be the biggest source of incremental demand growth amid rebounding industrial activity. Indeed, we believe silver could outperform gold due to its industrial uses as strong global industrial production growth continues. The fundamentals are supportive in 2021; however, in Q1, we believe that major fluctuations in the silver price will be dependent on the spread of the virus globally, as well as the distribution of vaccines.

US 10yr Treasury Yield vs Silver Spot

Silver spot and US 10yr yields have both been moving upwards in recent months.

Source: Bloomberg

In the meantime, uncertainty surrounding new US governing, the rising number of COVID-19 cases, and a lower dollar are likely to keep investment demand for silver supported. In the long term, this, coupled with the US committing to keep its ultra-accommodative monetary stance in place for the long term, should fuel inflationary pressures. Elevated unemployment levels, which look likely to take time to recover, suggesting low yields for the foreseeable future.

Ballooning government debt should increasingly become a focus, a key risk to the US dollars reserve currency status, with the potential for diversification away from US Treasuries a possibility, which would be further supportive for silver. This is a massive contrast with 2011 when a silver price bubble formed on speculations relating to a falling dollar and the Fed's seemingly radical monetary policy at the time.

The global economy is expected to rebound as the impact of the pandemic, and subsequent lockdown measures subside. Positive news on the COVID-19 vaccine front should be further raising economic prospects for H2 2021, a time period for which major economies project a wider scope of vaccinations to take place. This will likely continue to support investors' appetite for risk ahead, boding poorly for safe-haven demand and silver prices. However, vaccine rollout disruptions and other strains of COVID-19 could also be price catalysts.

Indeed, the rate-limiting factor is not just the supply of the vaccines or staff but waiting for batches to be approved. This could significantly slow the distribution of the vaccines, especially those that need to be stored and transported in low-temperature fridges, something that is not yet accessible for the majority of hospital facilities.

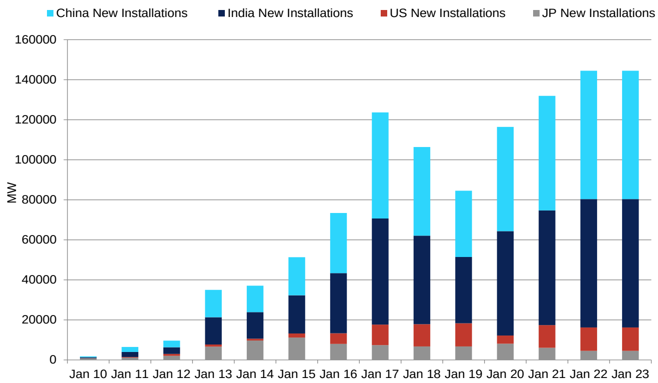
Strong economic performance in China and the possibility of the resurgence of the festive period in February is supportive of physical demand. Indeed, Chinese exports and imports have been beating forecasts, and growing year-on-year as the economy continues to recover. China's acceleration of 5G rollout is a bright spot for silver. The Ministry of Industry and Information Technology (MIIT) has revealed plans to speed up the rollout of the next- generation network across major cities in China, building 600,000 base stations for its 5G network in 2021, boosting demand for silver in electronics. While still in its infancy, 5G demand is estimated to have accounted for 7.5moz of silver in 2020.

On the industry front, global PMI for manufacturing showed its fastest expansion in almost two years, as demand continued to rise following COVID-19 lockdowns and there was a rebound in international trade flows. Indeed, China exports continue to grow at an unprecedented rate, highlighting its importance as a trade player. Indeed, economic growth was led by strong and accelerated increases in output and exports in China and the US. A continued rebound in industrial activity next year is expected to support the silver price.

Although a change in the US government is unlikely to ease tensions between Washington and Beijing, the incoming president's approach to negotiations with China could impact the status of gold and silver under the previous administration. Indeed, Trump's approach towards trade negotiations with China supported the demand for precious metals. In contrast, Biden is expected to negotiate with China by working with its allies to pressure Beijing, which could be less supportive of silver and gold prices as safe-havens. Additionally, Joe Biden has a clean energy focus a key part of his campaign. This should benefit metals like copper and silver, where electrification is a significant component of demand. With President Biden set to commit to more green energy in the future, solar could play a key role in that transition.

New Solar Installations by Country

The outlook for new solar installations is stronger in 2021, after a lacklustre 2020.



Source: Bloomberg

In line with other sectors, the mining industry faced unprecedented operational challenges in 2020 due to COVID-19 lockdown restrictions. Mines around the world were forced to scale back or postpone production in the first half of the year when the spread of the virus was beginning to take hold. Despite silver's rally this year, producers will be hesitant to increase supply on the price alone. The majority of silver is mined as a by-product of other metals, which is the main source of revenue for many silver producers. We believe that supply is likely to increase in line with refined precious metals demand, such as jewellery. Overall, rising industrial demand and continued investment interest are expected to combine with falling production from silver mining companies to support the silver prices in Q1.

Palladium

Spot Palladium $/Oz

Source: Bloomberg, 02.02.2021

Summary

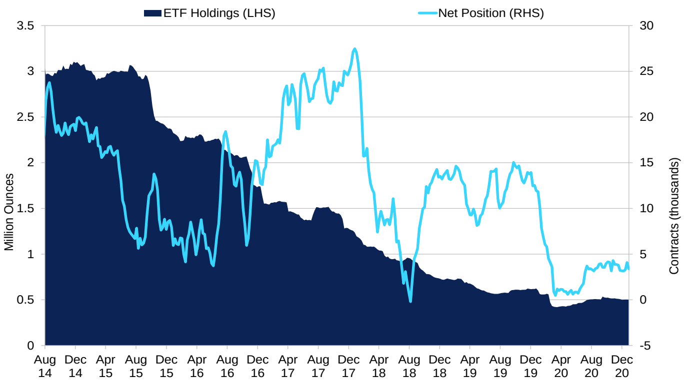
Palladium continued to recover marginally as tight supply conditions and safe-haven demand for the precious metal prevailed. Indeed, while industrial metals suffered the pressures of the repeated waves of restrictions, PGMs have benefited from continued uncertainty. Palladium grew 7% in the quarter, up 28% in the year. The recovery in supply this year and expectations of increased recycling are unlikely to offset growth in demand in 2021, which should support palladium prices throughout the year.

Q4 Recap: Palladium growth in Q4 has been moderate, up 6.94%, well off February highs, as it followed a better-performing platinum performance. For 2020 in total, however, the metal's price rose by 28%, climbing by more than 64% since its March lows. Indeed, strengthening auto sales across the world, especially in China, as well as white metal's safe-haven qualities supported palladium to finish the quarter at $2,460/oz.

Investment demand for the metal subsided, as shown by declining ETF holdings of the white metal. Indeed, al known ETF holdings subsided in Q4, down more than 6% to 0.5moz from the October peak. Since the start of 2021, palladium held above the $2,200/oz mark, making it the most valuable of the precious metals.

Palladium ETF Holdings vs Net Positioning

While ETF holdings remained elevated in Q4, they remain at yearly lows.



Source: Bloomberg

Supply disruptions in South Africa have significantly impacted platinum prices in the previous quarter; however, due to palladium's geographical diversity, the metal did not experience the same level of growth. In South Africa, production dropped by 24%, while in North America, it decreased by 3%. At the same time, palladium mining operations were virtually unaffected in Russia and Zimbabwe, with the former still forecast to slip by 3% to 2.77moz in 2020.

Outlook: Regardless of the growth seen in the last quarter of the year, the auto industry had not yet fully recovered in 2020. US December sales strengthened by 22% as an unexpected robust retail activity over the holidays pushed for great automotive demand. The release of the stimulus package, more certainty surrounding the election outcome, coupled with vaccine news supported sales. Though the 14.4m vehicles sold in 2020 was the lowest figure in nine years, auto sales rebounded rapidly after H1 lows, and we expect this strength to continue in Q1 2021.

According to CAAM, China's vehicle sales rose for the ninth straight month in December, up by 6.4% y/y to reach 2.83m vehicles. CAAM forecasts vehicle sales to rise by 4% y/y in 2021; however, a shortage of certain auto chips could start to impact car production at some Chinese companies at the beginning of this year. China's healthy growth expectations in Q1 2021, together with the rollout of more stringent emission legislation should support domestic demand. While we expect palladium prices will continue to rise in Q1 2021, the gains are likely to be more subdued in comparison to other metals in the complex, due to its reliance on the still-sluggish auto industry.

While South African mines are under threat once again due to the new virus variant, the restrictions have been set to a lower level than in March, due to the adverse economic impacts of the full lockdown. Therefore, the palladium market could have a smaller deficit than in 2020, even with the anticipated recovery in light-vehicle sales. The recovery in supply this year and expectations of increased recycling are unlikely to offset growth in demand, in turn, resulting in a tenth successive physical deficit in 2021, which should support palladium prices throughout the year.

Platinum

Spot Platinum
$/Oz

Spot Platinum $/Oz

Source: Bloomberg, 02.02.2021

Summary

Platinum, in line with gold, rallied as a strong rebound in Chinese and American vehicles sales supported the prices. The precious metal gained 24% in Q4 on the back of record investment demand. Heading into 2021, the second wave of lockdowns in South Africa should not impact the supply as much as it did in the first half of 2020, and so platinum prices may not be as strongly impacted as anticipated.

Q4 Recap: Platinum has performed almost as well as gold and was up 24.65% in Q4 and 13.14% in 2020. This was on the back of strengthening auto sales, as well as the growing investment demand during the quarter. Indeed, total platinum ETF holdings have picked up to record highs of 3.848moz. Inflows have been growing marginally since September, pointing to a continued investment interest in the last couple of quarters, especially in Q4.

Chinese consumers have been attracted to platinum's price discount to gold. Platinum Guild International's (PGI) reported healthy demand for platinum jewellery in Q3'20, with sales growing by 5% y/y. Platinum jewellery fabrication rose by 13% y/y in Q3, owing to new collections from leading brands, new interest from smaller retailers, and a rebound in bridal demand.

Gold to Platinum Ratio

Gold to platinum ratio fell to February lows as platinum prices strengthened in Q4.

Source: Bloomberg

More recently, platinum posted its highest closing price in more than four years, while sister- metal palladium touched an almost 10-month intraday high on fears of potential disruption to logistics on any flight ban out of South Africa. The new coronavirus strain that emerged in the country is even more transmissible than a mutated form that prompted new lockdowns across much of the UK.

Outlook: Thanks to a continued recovery in China's GDP throughout Q3, platinum jewellery outperformed other categories, growing by 13% y/y in fabrication, outperforming gold, thanks to pent-up demand, festival occasions, as well as favourable platinum to gold pricing. Indeed, increased store traffic due to effective control of the spread of the infections was the biggest contributor to sales in China. However, the collapse in sales in the first half of the year means Chinese platinum jewellery demand is still forecast to contract by 23% in 2020, to around 730koz. With platinum priced above $1,000/oz, lease rates have been edging up, indicating a degree of tightness in the market.

On the auto front, China posted strong growth in both export and domestic car sales in November, supporting the outlook for a bullish PGM price trend. Car sales grew 12.6% y/y; however, YTD sales are still down 2.9%. Demand in China is also forecast to rise, as the country seeks to implement its delayed China 6 standards in 2021. Meanwhile, Europe's largest auto markets collectively posted their largest decline in annual sales in decades last year, and ongoing restrictions are expected to slow the region's recovery in Q1 2021. New car registrations fell significantly in Europe's major auto markets, with Germany in particular down by 20%. Indeed, Europe's autocatalyst platinum demand is forecast to have contracted by more than 300koz last year.

In Q1, supply-side factors could provide support for platinum prices, as it will take some time for Anglo American refined output to return to normal levels and for operations to be back in full swing. In the meantime, the second wave of lockdowns in South Africa should not impact the supply as much as it did in the first half of 2020, and so platinum prices may not be as strongly impacted as anticipated. Overall, the global platinum market is forecast to move into a greater surplus of above 1moz in 2020 (excluding investment), owing to the effects of the pandemic.

Appendix

Global

Global Manufacturing PMI

Source: Bloomberg

Date	USA (Markit)	China (Caixin)	Eurozone (Markit)	Japan (Nikkei)	Emerging Markets
Nov-2017	53.90	50.80	60.10	53.60	51.60
Dec-2017	55.10	51.50	60.60	54.00	52.20
Jan-2018	55.50	51.50	59.60	54.80	51.90
Feb-2018	55.30	51.60	58.60	54.10	51.90
Mar-2018	55.60	51.00	56.60	53.10	51.30
Apr-2018	56.50	51.10	56.20	53.80	51.30
May-2018	56.40	51.10	55.50	52.80	51.10
Jun-2018	55.40	51.00	54.90	53.00	51.20
Jul-2018	55.30	50.80	55.10	52.30	51.00
Aug-2018	54.70	50.60	54.60	52.50	50.80
Sep-2018	55.60	50.00	53.20	52.50	50.30
Oct-2018	55.70	50.10	52.00	52.90	50.50
Nov-2018	55.30	50.20	51.80	52.20	50.80
Dec-2018	53.80	49.70	51.40	52.60	50.30
Jan-2019	54.90	48.30	50.50	50.30	49.50
Feb-2019	53.00	49.90	49.30	48.90	50.60
Mar-2019	52.40	50.80	47.50	49.20	51.00
Apr-2019	52.60	50.20	47.90	50.20	50.50
May-2019	50.50	50.20	47.70	49.80	50.40
Jun-2019	50.60	49.40	47.60	49.30	49.90
Jul-2019	50.40	49.90	46.50	49.40	50.10
Aug-2019	50.30	50.40	47.00	49.30	50.40
Sep-2019	51.10	51.40	45.70	48.90	51.00
Oct-2019	51.30	51.70	45.90	48.40	51.00
Nov-2019	52.60	51.80	46.90	48.90	51.10
Dec-2019	52.40	51.50	46.30	48.40	51.00
Jan-2020	51.90	51.10	47.90	48.80	51.00
Feb-2020	50.70	40.30	49.20	47.80	44.60
Mar-2020	48.50	50.10	44.50	44.80	49.00
Apr-2020	36.10	49.40	33.40	41.90	42.70
May-2020	39.80	50.70	39.40	38.40	45.40
Jun-2020	49.80	51.20	47.40	40.10	49.60
Jul-2020	50.90	52.80	51.80	45.20	51.40
Aug-2020	53.10	53.10	51.70	47.20	52.50
Sep-2020	53.20	53.00	53.70	47.70	52.80
Oct-2020	53.40	53.60	54.80	48.70	53.40
Nov-2020	56.70	54.90	53.80	49.00	53.90
Dec-2020	57.10	53.00	55.20	50.00	52.80
Jan-2021	59.20	51.50	54.80	49.80	52.10

Aluminium

Price Forecasts and China Quarterly Supply/Demand Balance (kt)

Source: Wood Mackenzie

Year	Quarter	Production	Consumption	Balance	Stocks Days Cons	SHFE Cash Price $/tonne
2017	Q1	8971	7155	1816	100	1971
	Q2	9129	8784	345	86	2023
	Q3	8840	8885	-46	85	2316
	Q4	9079	9551	-472	75	2306
	Total/Average	36019	34375	1644	80	1867
2018	Q1	8969	7467	1503	109	2247
	Q2	9091	9191	-100	88	2271
	Q3	9215	9328	-112	87	2112
	Q4	9138	10046	-908	73	2003
	Total/Average	36414	36031	383	78	2154
2019	Q1	8812	7595	1217	106	2002
	Q2	8976	9365	-388	83	2055
	Q3	8879	9494	-615	77	2005
	Q4	8831	10209	-1378	59	1992
	Total/Average	35498	36662	-1164	62	2014
2020	Q1	8893	7588	1305	89	1909
	Q2	8915	9498	-583	67	1821
	Q3	9447	9756	-309	63	2100
	Q4	9789	10354	-565	54	
	Total/Average	37044	37196	-152	54	
2021	Q1	9360	7875	1486	80	
	Q2	9541	9752	-211	63	
	Q3	9830	9934	-103	62	
	Q4	9988	10641	-653	52	
	Total/Average	38719	38201	518	52	
2022	Q1	9782	8168	1614	78	
	Q2	9980	10115	-135	63	
	Q3	10159	10304	-145	61	
	Q4	10184	11037	-853	50	
	Total/Average	40105	39624	481	50	

Aluminium Forecasts

Source: Wood Mackenzie

Global (Mt)	2017	%	2018	%	2019	%	2020	%	2021	%	2022	%
Alumina Production (SGA)	122.0	7.5%	121.6	-0.3%	123.2	1.4%	124.5	1.1%	131.5	5.6%	135.1	2.7%
Aluminium Production	63.2	6.8%	64.0	1.2%	63.4	-0.9%	65.3	2.9%	67.8	3.8%	69.4	2.4%
Consumption	63.2	5.8%	65.1	3.0%	65.8	1.1%	63.2	-4.0%	66.0	4.5%	68.9	4.4%
Metal Market Balance	0.1		-1.0		-2.3		2.1		1.8		0.5	
Stock Days of Consumption	97.1		88.4		74.5		89.8		95.6		94.1	
Alumina Market Balance	-0.2		-2.0		0.8		-1.3		0.9		1.5	
Stock Days of Requirement	50.2		43.8		46.7		41.7		42.7		45.9	
Prices												
Cash Aluminium ($/t)	1968		2110		1791		1702		1794		1693	
(c/lb)	89		96		81		77		81		77	
Spot Alumina ($/t)	354		474		332		269		293		295	

Price Forecasts and World Quarterly Supply/Demand Balance (kt)

Source: Wood Mackenzie

Year	Quarter	Production	Consumption	Balance	Stocks Days Cons	LME Cash Price $/tonne
2017	Q1	15647	14266	1381	114	1849
	Q2	15901	16195	-294	100	1911
	Q3	15699	16108	-409	99	2011
	Q4	15992	16587	-595	93	2100
	Total/Average	63238	63155	83	97	1968
2018	Q1	15781	14668	1113	110	2158
	Q2	15962	16727	-765	93	2259
	Q3	16181	16607	-426	93	2055
	Q4	16098	17060	-962	85	1967
	Total/Average	64022	65062	-1040	88	2110
2019	Q1	15669	14823	846	101	1859
	Q2	15920	16920	-1000	83	1792
	Q3	15930	16792	-861	79	1761
	Q4	15910	17232	-1322	70	1754
	Total/Average	63430	65772	-2342	74	1791
2020	Q1	15917	14064	1853	98	1689
	Q2	15839	15733	106	88	1494
	Q3	16508	16506	1	84	1706
	Q4	17014	16853	161	83	1921
	Total/Average	65277	63162	2115	90	1702
2021	Q1	16486	14781	1705	105	1925
	Q2	16770	16790	-20	92	1825
	Q3	17166	16994	171	92	1725
	Q4	17353	17445	-92	89	1700
	Total/Average	67775	66017	1758	96	1794
2022	Q1	16963	15442	1521	110	1700
	Q2	17271	17529	-258	95	1670
	Q3	17558	17740	-182	93	1680
	Q4	17600	18204	-603	88	1720
	Total/Average	69392	68915	478	94	1693

Copper

Copper Forecasts

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Total Mine Production	20920	0.6	20622	-1.4	21343	3.5	22664	6.2
Total Smelter Production	19654	0.5	20131	2.4	20686	2.8	21704	4.9
Refined Production	23534	0.1	23757	1.0	24110	1.5	25097	4.1
Consumption	23671	0.1	23355	-1.3	23996	2.7	24753	3.2
Concentrate Stock Change	44		-350		0		150	
Metal Market Balance	-138		403		113		344	
Metal Stocks - Days of Cons	64		72		71		74	
Prices								
Cash LME Price ($/t)	5999		6168		6825		6363	
(c/lb)	272		280		310		289	
Contract TC/RCs (c/lb excl pp) for 30% Cu Conc	21		16		15		23	
Contract Blister Europe ($/t)	160		128		184		219	

Copper Concentrate Market TC/RCs

Source: Wood Mackenzie

	Asia Term Contracts (Benchmark)			Far East Spot Market (CIF Asia) Miner Selling Terms to Merchants						
	2018	2019	2020	2017	2018	2019	2020	2020		
	Ave	Ave	Ave	Ave	Ave	Ave	Q4	Oct	Nov	Dec
T/C ($/tonne Conc.)	82.25	80.80	62.00	73	76	52	37	39	36	36
R/C (c/lb Cu)	8.23	8.08	6.20	7.3	7.6	5.2	3.7	3.9	3.6	3.6
PP (c/lb Cu)										
Combined (c/lb) +	23.77	23.35	17.92	21.1	22.0	15.1	10.8	11.3	10.4	10.4
Combined (c/lb) #	21.09	20.72	15.90	18.7	19.5	13.4	9.6	10.0	9.2	9.2
				Chinese smelter buying terms (CIF basis)						
				2017	2018	2019	2020	2020		
				Ave	Ave	Ave	Q4	Oct	Nov	Dec
T/C ($/tonne Conc.)				84	85	65	49	50	48	48
R/C (c/lb Cu)				8.4	8.5	6.5	4.9	5.0	4.8	4.8
PP (c/lb Cu)				-	-					
Combined (c/lb) +				24.3	24.6	18.7	14.2	14.4	13.9	13.9
Combined (c/lb) #				21.5	21.8	16.6	12.6	12.8	12.3	12.3

+ For a 25% copper concentrate

For a 30% copper concentrate

Price Forecasts & Quarterly Supply/Demand Balance

Source: Wood Mackenzie

Year	Quarter	Refined Production	Refined Consumption	Balance	Metal Stocks Days of Cons	Cash Price $/tonne	c/lb
2019	Q1	5830	5305	524	75	6214	282
	Q2	5844	6078	-234	71	6112	277
	Q3	5921	6203	-282	67	5802	263
	Q4	5939	6085	-146	64	5881	267
	Total/Avg	23534	23671	-138	64	5999	272
2020	Q1	5767	4968	798	78	5636	256
	Q2	5835	5795	40	78	5356	243
	Q3	5976	6254	-278	74	6519	296
	Q4	6180	6338	-158	72	7160	325
	Total/Avg	23757	23355	403	72	6168	280
2021	Q1	6019	5330	690	80	7200	327
	Q2	6016	5966	50	81	6900	313
	Q3	6017	6415	-398	75	6700	304
	Q4	6057	6286	-229	71	6500	295
	Total/Avg	24110	23996	113	71	6825	310
2022	Q1	6265	5584	681	79	6550	297
	Q2	6268	6257	10	79	6400	290
	Q3	6279	6689	-410	73	6300	286
	Q4	6286	6224	63	74	6200	281
	Total/Avg	25097	24753	344	74	6363	289

Lead

Global Quarterly Supply/Demand Balance And Price Forecasts

Source: Wood Mackenzie

		Refined Prod'n	Cons'n	Balance	Stock Days	$/tonne	c/lb
2019	Q1	3055	2950	106	36	2036	92
	Q2	3253	3311	-58	30	1885	86
	Q3	3323	3275	49	32	2029	92
	Q4	3414	3404	10	31	2038	92
	Total/Avg	13046	12939	106	33	1997	91
2020	Q1	2981	2831	149	42	1847	84
	Q2	3173	3185	-12	37	1670	76
	Q3	3247	3148	99	40	1876	85
	Q4	3334	3275	59	40	1914	87
	Total/Avg	12735	12440	295	43	1827	83
2021	Q1	3093	2958	135	49	1950	88
	Q2	3292	3332	-40	42	1875	85
	Q3	3370	3296	74	45	1850	84
	Q4	3460	3428	31	44	1850	84
	Total/Avg	13214	13014	200	47	1881	85
2021	Q1	3122	2986	135	54	1850	84
	Q2	3324	3364	-40	47	1825	83
	Q3	3402	3329	74	49	1850	84
	Q4	3491	3462	29	48	1875	85
	Total/Avg	13339	13141	198	52	1850	84

Lead Forecasts

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Mine production	4708	2.3	4359	-7.4	4517	3.6	4672	3.4
Refined production	13046	2.6	12735	-2.4	13214	3.8	13339	0.9
Consumption	12939	0.8	12440	-3.9	13014	4.6	13141	1.0
Concentrate balance	222		-154		-23		128	
In days of requirement	43		30		28		39	
Refined market balance	106		295		200		198	
In days of requirement	33		43		47		52	
Prices								
Cash LME Price ($/t)	1997		1827		1881		1850	
(c/lb)	90.6		82.9		85.3		83.9	
Realised TCs ($/t conc)	100		180		152		208	

Nickel

Global Nickel Quarterly Supply/Demand Balance - (kt)

Source: Wood Mackenzie

		Refined Supplies	Refined Consumption	Balance	Cash Price $/tonne	c/lb	Stocks kt	Days of Cons
2019	Q1	587	590	-2	12385	562	1289	197
	Q2	589	601	-12	12259	556	1277	193
	Q3	612	615	-3	15602	708	1273	190
	Q4	633	592	41	15367	697	1314	204
	Total/Avg	2422	2399	23	13903	631		
2020	Q1	620	519	102	12720	577	1421	247
	Q2	628	549	79	12197	553	1506	250
	Q3	640	613	26	14231	646	1536	230
	Q4	638	605	32	15907	722	1553	236
	Total/Avg	2525	2287	239	13764	624		
2021	Q1	627	579	48	16130	732	1606	250
	Q2	637	625	12	16829	763	1624	236
	Q3	631	641	-10	17123	777	1621	233
	Q4	644	657	-13	17416	790	1590	223
	Total/Avg	2538	2501	37	16875	765		
2022	Q1	688	627	61	16314	740	1652	237
	Q2	689	674	15	15065	683	1666	225
	Q3	690	681	9	14257	647	1675	226
	Q4	693	703	-11	14404	653	1664	218
	Total/Avg	2759	2685	74	15010	681		

Nickel Forecasts

Source: Wood Mackenzie

Global (kt)		2019		2020		2021		2022
Mine Production	2501	9.0%	2489	-0.4%	2736	9.9%	2968	8.5%
Smelter Production	2379	8.8%	2490	4.7%	2496	0.2%	2679	7.3%
Refined Production	2422	9.8%	2525	4.3%	2538	0.5%	2759	8.7%
Consumption	2399	4.1%	2287	-4.7%	2501	9.4%	2685	7.4%
Market Balance	23		239		37		74	

Cash LME price				
($/t - Current)	13903	13764	16875	15010
(c/lb - Current)	631	624	765	681

Tin

ICDX & LME Tin Price

Source: LME, ICDX

	ICDX	LME Cash	LME premium to ICDX
02-May-17	20100	20015	-85
02-Jun-17	20425	20420	-5
04-Jul-17	20000	20240	240
01-Aug-17	20700	20650	-50
04-Sep-17	20880	20985	105
03-Oct-17	20700	20954	254
01-Nov-17	19650	19535	-115
04-Dec-17	19600	19582	-18
02-Jan-18	20100	20112	12
01-Feb-18	21820	21550	-270
01-Mar-18	21800	21755	-45
02-Apr-18	21100	21252	152
01-May-18	21375	21340	-35
01-Jun-18	20800	20795	-5
02-Jul-18	19850	19825	-25
01-Aug-18	20100	19925	-175
03-Sep-18	19200	18895	-305
01-Oct-18	19150	18970	-180
01-Nov-18	19180	19115	-65
03-Dec-18	18690	18871	181
02-Jan-19	19525	19508	-17
01-Feb-19	20750	20985	235
01-Mar-19	21790	21710	-80
04-Apr-19	21515	21524	9
02-May-19	19685	19639	-46
03-Jun-19	18770	19350	580
01-Jul-19	18840	18890	50
02-Aug-19	17280	16971	-309
02-Sep-19	15775	16812	1037
01-Oct-19	16030	16228	198
04-Nov-19	16515	16398	-117
04-Dec-19	16750	16772	22
03-Jan-20	17120	16801	-319
04-Feb-20	16250	16337	87
03-Mar-20	16225	16741	516
01-Apr-20	14225	14411	186
04-May-20	14980	15193	213
02-Jun-20	15640	16160	520
01-Jul-20	16825	16857	32
04-Aug-20	17750	17890	140
01-Sep-20	17830	18105	275
01-Oct-20	17380	17506	126
02-Nov-20	17915	17755	-160
01-Dec-20	19315	18873	-442
02-Nov-20	17915	17755	-160
01-Dec-20	19315	18873	-442

Zinc

Price Forecasts and World Quarterly Supply/Demand Balance

Source: Wood Mackenzie

		Refined Supplies	Refined Consumption	Balance	Metal Stocks Days of Cons	Cash $/tonne	Price c/lb
2019	Q1	3158	3474	-316	40	2702	122.5
	Q2	3373	3392	-20	41	2762	125.3
	Q3	3377	3480	-103	37	2345	106.4
	Q4	3450	3522	-72	35	2384	108.1
	Total/Avg	13357	13868	-511	35	2546	115.5
2020	Q1	3280	3237	43	39	2127	96.5
	Q2	3296	2853	443	58	1959	88.9
	Q3	3419	3402	17	49	2340	106.1
	Q4	3567	3609	-41	45	2629	119.2
	Total/Avg	13562	13101	461	45	2264	102.7
2021	Q1	3364	3371	-7	48	2800	127.0
	Q2	3432	3446	-13	47	2800	127.0
	Q3	3488	3391	97	50	2800	127.0
	Q4	3549	3412	137	54	2800	127.0
	Total/Avg	13833	13619	214	54	2800	127.0
2022	Q1	3444	3438	6	53	2600	117.9
	Q2	3532	3514	18	53	2600	117.9
	Q3	3512	3459	53	55	2600	117.9
	Q4	3620	3479	141	58	2600	117.9
	Total/Avg	14108	13890	218	58	2600	117.9

Price Forecasts and World Quarterly Supply/Demand Balance

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Mine Production	12964	0.5	12527	-3.4	13216	5.5	13613	5.5
Refined Production	13357	0.8	13562	1.5	13833	2.0	14108	2.0
Consumption	13868	-1.9	13101	-5.5	13619	4.0	13890	4.0
Concentrate Market Balance	281		-218		307		507	
Metal Market Balance	-511		461		214		218	
Prices								
Cash LME Price ($/t)	2546		2264		2800		2600	
(c/lb)	115		103		127		118	
Realised TCs ($/t concentrate)	242		300		230		261	

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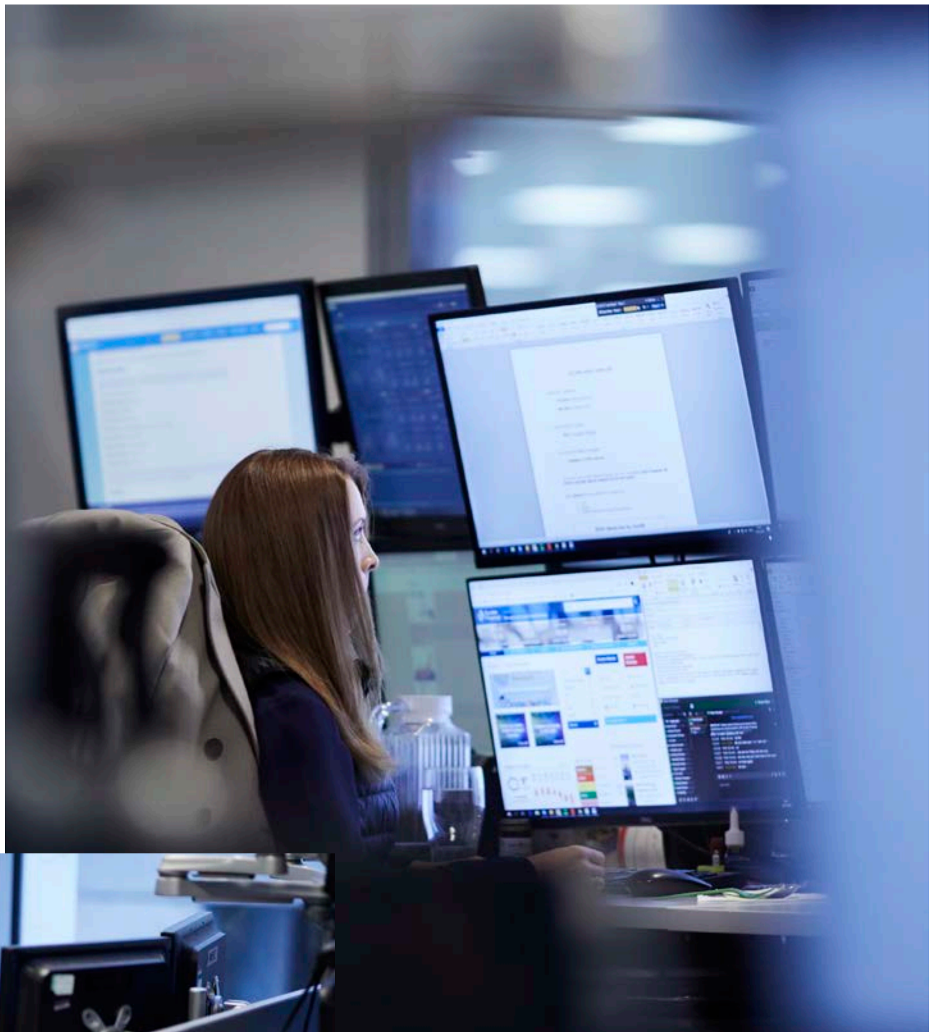

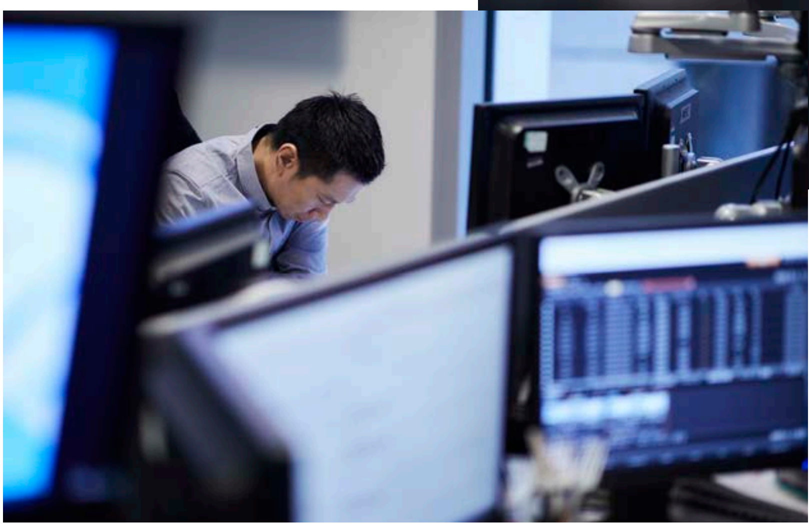

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