Sucden Financial

Quarterly Metals Report

Q1 — March 2020

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

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Precious Metals, Iron Ore & Steel

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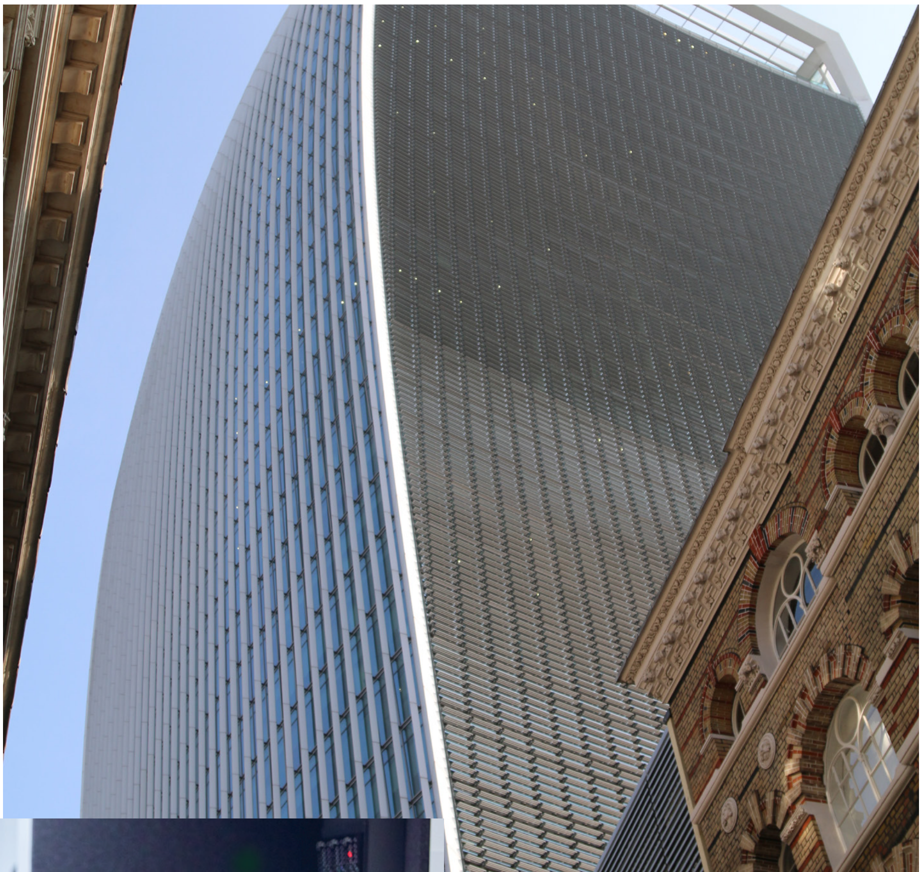

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Sucden Financial's experienced and knowledgeable teams are central to our success, drawing on their expertise to exploit ever-changing markets, technology and trading environments, to keep our clients ahead. We are open minded, constantly evolving and adapting to tackle today's and tomorrow's opportunities.

Summary

Optimism from the 'Phase 1' trade deal was decimated, as the coronavirus spread across China, and now the rest of the world. Risk assets have suffered major losses as the virus spread to Europe, shaking financial markets globally. Damage to logistics in China and therefore, product supply chains have been significant. Finished inventories at smelters and mills are building, causing capacity cutbacks. The medium-term damage to the global economy is unknown, we expect data from China to be patchy into Q2 2020, creating further uncertainty. We do not expect Chinese stimulus until the economy starts to recover, muting near term metal demand; in our opinion, downside risks have been priced in.

Aluminium (Al)
We expect aluminium consumption to be weaker due to the virus, social, smelter and exchange inventories in China are rising. The high smelter inventories could lead to lower production but the weak demand and high inventories are likely to offset any production cut. The alumina and bauxite supply chain provides some upside risk to alumimium prices and we watch the Guinea elections intently. We expect prices to remain on the back foot in Q1 trading between $1,600-1,825/t.

Copper (Cu)
Logistical issues continue to hinder progress of the domestic market. From an economic perspective it may be punitive to predict the full implications of the virus on a global scale due to such high levels of uncertainty. Data from China will be patchy and stimulus measures from Beijing are unlikely to be what they once were. Cathode output is falling and this is expected to remain soft but off-warrant stocks will offset lower output for longer. CTA's will see a reduction in virus numbers and China's stimulus as bullish. There is little downside cover, and if things deteriorate, traders could be trying to catch a falling knife, we favour selling rallies. Range: $5,500- $5,900/t.

Lead (Pb)
German industrial data remains poor, however new emission standards saw manufacturers get rid of stock in 2019 and following the seasonal lull in demand in February we could see auto production start to improve. The weather has been mild, reducing demand for replacement batteries. Operating rates are expected to remain low in the near term. Some smelters may be using this opportunity to conduct maintenance work. Tightness in supply remains and if production is weak in the medium term we could see the spreads move further into backwardation and the flat price bid. Range: $1,740-$2,050/t.

Nickel (Ni)
Stainless steel production was strong in China last year and we expect this to loom over the market this year. Inventories are sufficient to supply an uptick in demand if the economy starts to function as normal in the near term. However, approximately 3 out of 4 workers in China are not at work according to Bloomberg. Stimulus measures will support demand but we expect supply to be sufficient in Q1, even with the nickel ore ban from Indonesia. Range: $11,600-$14,500/t.

Tin (Sn)
We anticipate that downstream sectors to be heavily impacted from the virus, as they are located in eastern and southern China. The issue is spreading further down the supply chain. From a demand perspective, we expect semi-conductor sales to start to improve in 2020 despite the virus. We anticipate prices will remain in the recent range but see upside as we move through 2020. Range:$15,500-$18,000/t.

Zinc (Zn)
Optimism from the Phase 1 trade deal dissipated quickly as the virus broke out. We anticipate demand destruction due to the virus as the Chinese economy has more or less grinded to a halt. The auto industry in Europe is on the back foot and this could deteriorate if President Trump takes aim at the bloc. Chinese inventories are rising as logistics start to suffer and this may start to impact the supply chain further downstream. We expect risk relief rallies as the number of patient's starts to fall but the implications of downside risk are still present into H2 2020. Range $1,950-$2,365/t.

Iron Ore & Steel
News of stimulus from China may prompt a rally for iron ore and steel prices. Demand from the stimulus is expected to be delayed as we question when this will come about and in what form the stimulus will appear in. Vale lost their top spot as the world's largest iron ore producer last year but we expect them to increase output in 2020. The logistical issues due to the virus will impact Chinese imports of iron ore and this could lead to a draw in local stocks. However, the issues surrounding the delivery of material will strengthen the price outlook. Range $75-95/t.

Gold (Au)
Central banks along with increasing ETF holdings continued drive the precious metal in Q4. Global economic slowdown along with the impacts of novel coronavirus in China should dampen the industrial and jewellery demand for gold; however, encourage speculative positioning. In Q1, gold volatility is likely to increase given already high prices, yet we see further movement to the upside.Range: $1,550-1,750/oz.

Silver (Ag)
Investor appetite for silver continued to improve, however, at a much slower rate, as the CFTC non-commercial net length grew 20.67% in the quarter, from 139% in Q3. Global tensions subsided, yet, market uncertainties prevail in 2020. Weaker dollar should add to silver rally and we expect the precious metal prices to remain on trend towards $19.00/oz.

Palladium (Pd)
After month of fundamentals driving tightness in palladium, we saw a sell-off of the precious metal at the beginning of 2020, after gaining 17.95% in Q4. All ETF holdings are at record highs, supporting further bullish momentum. We see a recovery in demand from the industry and automotive sector, propelled by the US-China deal. With new emission regulation gaining traction, palladium should be supported in the longer-term. Range: $2,300- $3,000/oz.

Platinum (Pt)
Unresolved mining wage issues as well as power outages in South Africa will drive market tightness in 2020, despite continued production in North America and Russia. From an industry standpoint, continuation of lower automobile sales and implementation of emission regulations across Europe should drive the demand away from platinum. However, there are still some tailwinds present for the precious metal. We see investors' demand for platinum strong, driving the prices closer to $830-$950/oz range in Q1.

Market Overview

Global Outlook: In 2019, global real GDP will likely decelerate to 2.9% y/y from 3.6% in 2018, according to the IMF forecast. The slowdown was mostly driven by the manufacturing and export-dependent sectors, as a US-China trade war set the path for global trade flows, weighing heavily on some commodity-reliant economies. In the US and China, consumers drove most of the GDP growth, while manufacturing sectors declined to a decade- and 4-year-lows respectively. Recessionary fears subsided, especially as the usual late-cycle indicators, such as inflationary expansion and monetary tightening do not look threatening; however, it remains a prevalent focus point in 2020. We believe that global growth is slowing in Q1, helped by concern over the novel coronavirus, leading to more negative-yielding debt. However, we would expect a strong risk relief rally given virus fears alleviate.

Now that the UK has left the bloc, some uncertainty has been removed. However, future business sentiment is dependent on what trade deals the UK can negotiate with Europe. Despite new legislation for foreign investors, China continues to grow at a slower pace, and given the impact of the virus, uncertainty persists, and it remains a complex environment to invest in. Given positive outcomes of fiscal policy implementation, China could rebound in H2 2020.

The protectionist rhetoric across the globe continued, as trade disputes persevered and political risks in major economies, ranging from a fallout South America to domestic disputes in the UK, heightened. In 2020, the US-China trade tensions could easily flare up amid accusations of non-compliance with the deal, or the US might begin pushing trade issues more firmly in Europe. Globally, the rapid spread of the virus in China has fuelled concerns over its impact on major economic participants. We also see improvement in global financial markets making an effort to combat the implications of climate change. While the process is slow, we expect this movement to gain momentum in 2020.

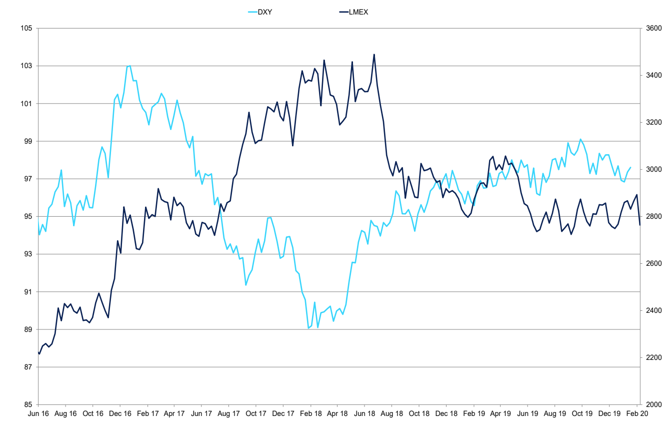
In Q4 2019, the oil market was faced with opposing forces from the supply side, ranging from the attack of Saudi Arabia's oil infrastructure to the continuation of overcapacity in the global oil market. During the quarter, crude futures rallied 21.11% before retreating on the threats of subsiding Chinese demand, to find support at $64/b in January.

In 2020, the EIA forecast an increase in liquid fuels inventories at a rate of 0.2mpb. A continuation of growing production from North America could offset the restrained production by the OPEC as well as a growth in global demand. Future headwinds to oil prevail as Chinese demand dropped by 3.2m barrels, or 25% of total consumption, amid the virus outbreak. The OPEC+ producers push for an emergency meeting to discuss the cartel prospects. However, if no production cuts are to follow, we expect to see a continuation of price declines in Q1.

Industrial metals fluctuated through Q4 2019, with LME Index losing 55.3% in November before recovering most of the losses back to 2,870 in December, as trade deal sentiment, as well as lower uncertainty around Brexit, instilled hopes of better industrial demand from both nations. The US manufacturing readings were pointing to the impacts of slowing global demand as well as low export levels from the economy. Likewise, stronger dollar performance has put a cap on industrial metal performance. We believe industrial metals remain volatile in Q1. From one side, the end-user demand in both the UK and the US markets remain resilient, but the outbreak the coronavirus should have an impact on the demand of the world's biggest consumer of raw materials.

Dollar Index vs LME Index

Activity in the metals market remains dependent on the dollar performance.



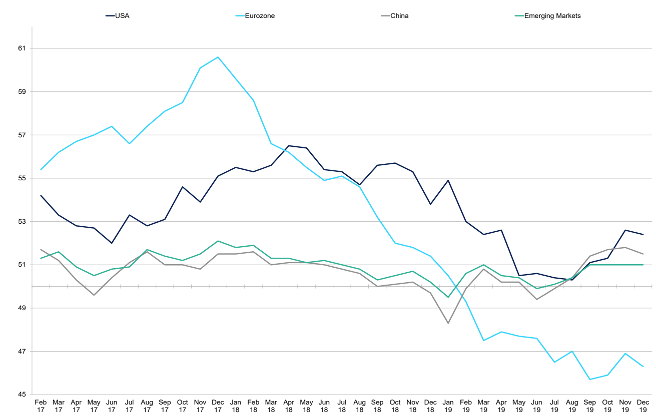
Source: Bloomberg

According to the IHS Markit, the PMI of global manufacturing fell slightly from 50.3 in November to 50.1 in December, growing only marginally. New orders growth remained steady while export orders declined at the slowest pace. We would attribute this to the deteriorating trading relationship between China and the US as well as lower global demand. The PMI for US manufacturing fell to 52.4 in December, down from 52.6 a month prior. Output growth slowed while new and export orders grew at a modest pace. However, Markit noted that US-Sino trade tariffs fed through to higher prices, and reduced global confidence lead to a drop in hiring. Overall, the survey suggests that, despite the signing of the 'Phase 1' deal, the adverse effects of trade constraints continue to take a toll on the US manufacturing sector.

In the UK, the uncertainty about the no-deal Brexit diminished, instilling confidence in the markets. From an industrial standpoint, the UK future is unclear as it is in the process of negotiating trade terms with the European Union that are bound to commence by the end of 2020. At the time of writing, the manufacturing sector continues to exert downside pressures on the economy. The manufacturing PMI fell to 47.5 in December, the lowest level last seen in 2012. The PMI has been in the contractionary territory for eight consecutive months thanks to the low level of both new and export orders. Industrial production remains low, weakening to -1.6% y/y in November.

Global Manufacturing PMIs

Deceleration of activity in Europe is slowing down, building a case for a rebound.



Source: Bloomberg

The Eurozone remains the weakest market in the global manufacturing sector, with Germany especially vulnerable to external shocks. The manufacturing PMI for the Eurozone continues to decline for the 11th straight month further into contractionary territory, with the recent figure at 46.3 in December. Germany had the lowest PMI in the bloc at 43.7, down from the recent uptick in November. Along with other developed economies, new orders fell at one of the fastest rates in seven years. Indeed, this highlights the severity of business confidence in the manufacturing outlook.

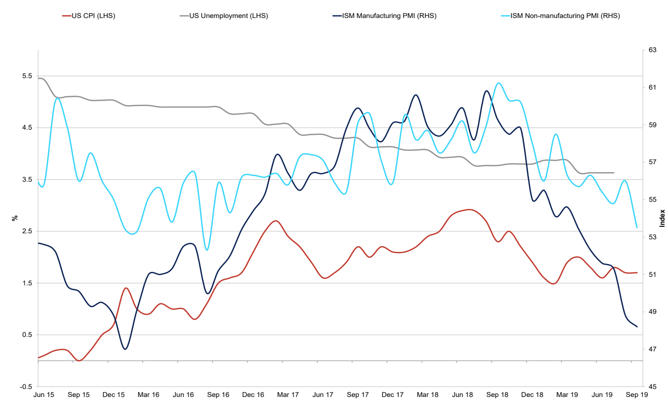
US: The US economy appears to have averted the recession the markets were anticipating after the 10- and 3-year curve inversion in mid-2019. In Q4, the economy is estimated to have grown 2.2% y/y, and 2.3% in 2019. A positive economic backdrop and availability of low-yield credit supported market sentiment and continues to drive equities to new highs. The S&P 500 gained 8.90% in the quarter. The US and China signed the first step of the trade deal, that should prompt higher exports from the US, and stabilise global industrial sector after prolonged periods of low performance. We would expect growth to remain subdued as the impact of the virus impacts both manufacturing and sales alike.

US and China have signed the 'Phase 1' of the trade deal, where China pledged to buy almost $95b worth of additional US commodities, from cereal to crude and natural liquefied gas. This gave rise to commodity indices, with LMEX gaining 5.40% in December; however, markets are concerned with the practicality of such claims. On February 14th, it cut retaliatory duties on some US goods worth $75b of US imports. We would expect the market outlook to improve once these trade indicators recover. According to Goldman Sachs Research, the trade war is having about 0.3-0.4pp off of US growth, as businesses are waiting for the progress of the trade war and overall global sentiment to restart capital expenditures

As part of the Phase One deal, China promised to purchase $200b of goods cumulatively in 2020-2021, which, in markets' opinion, is a difficult target to achieve. In the second phase of talks, we believe that Trump could use the remainder of tariffs as leverage for further negotiations to discuss the topics including Chinese commitments on intellectual property, human right in Hong Kong, currency and financial services.

US CPI vs Unemployment vs Non- and Manufacturing PMI

Record low unemployment continues to support inflation headline.



Source: Bloomberg

Consumer expenditure continued to rise in December up to 0.3% m/m, driven by rising wages and a tight labour market. The winners were the non-durables and service sectors that increased 0.9% and 0.3% respectively, while durables fell 0.8% m/m. The PCE-deflator, the Fed's gauge of inflation, remained broadly unchanged at 1.6% y/y, suggesting that the monetary policy could be paused in Q1. The US's neutral rate of interest, or R-star has dropped from 3.2% at the beginning of 2000 to 0.94% in Q3 2019. This suggests that the US could be approaching the limit of its monetary policy. In the US, strength in consumer spending supported most of the growth, and we expect it to drive the economy in 2020 to balance out a recovery in business investment.

From the balance sheet policy side, the Fed is scheduled to maintain its current bill purchase program until Q2 2020, before moderating it further. The Fed purchased $60bn of short-dated bills in October and injected cash into the repo market in response to the latest market squeeze. As of February 12th, the Fed's balance sheet stands at $4.170m, returning to November 2018 highs. Reports by the Fed concluded that the funds purchasing the newly released Treasures, along with the quarterly corporate tax payments, removed liquidity from the market. According to Jay Powell, once the reserve level is sufficient enough, the Fed will be able to step back from buying more securities.

Eurozone: In Q4, European growth continued to grow; however, at a well below average rate. The bloc was hit by a perfect storm of adverse events: declining manufacturing performance in Germany, lower export levels to China, and uncertainty regarding trade relations with the US, and the UK. At the same time, the labour market was strong, and unemployment levels remain at decade lows of 7.4%, despite Europe being pulled down by negative performance in France and Germany.

With GDP settling at 1.1% y/y in 2019, or 0.1% q/q in Q4, we see signs of stabilisation after months of deceleration. Improved relationship between China and the US, resilient economic demand alongside the reduced uncertainty around Brexit should support the moderate economic growth in Q1. Subdued inflation should help normalise monetary policy rather than ease it further. For the year ahead, the IMF forecast the bloc's performance to improve to 2%.

There is a general worry that an injection of low yield into the market is creating bubbles, especially in the property markets. In Europe, residential property prices have been growing above 4%, exceeding the growth in wages and GDP. We attribute this to rising demand for enterprises and housing loans in Q4. Additionally, the ECB's deposit rate still remains at a record low of -0.5%, the bond-purchasing programme at €20b monthly is continued further, and 'zombie' loan threat is still present in 2020. This leaves the European Union operating at elevated cost structures with no capacity to respond to any potential future crisis. We believe that further provision of liquidity could drive the housing market as well as consumer spending higher into Q1 2020.

From an industrial standpoint, Eurozone industrial production fell by 2.1% m/m in December, with German and Spanish production declining by 3.5% and 1.87% respectively. The exports environment remained subdued in Q4, in part due to a reduction in exports to the UK. However, the manufacturing performance decline might see a sign of a slowdown as Britain maintains the trading relationship with the EU until December 2020.

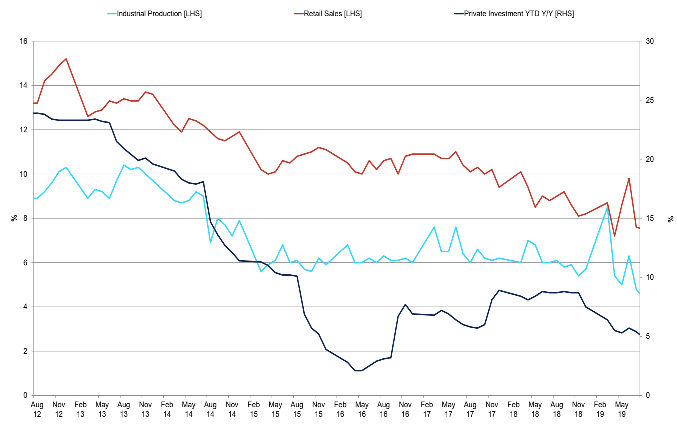
In the UK, the decisive election that gave Boris Johnson the conservative majority has brightened the near-term outlook for the economy. However, uncertainties about the new trade deal adjustment remain in the picture, especially in 2020. The outlook is seen to recover in Q1 2020, with business confidence usually the first to feel the effects of increased certainty in the economy. We would expect a moderate recovery in the business investment in Q1 2020.

The broader economic environment remains positive for households. Unemployment is low (3.8%), and wages look set to continue comfortably outpacing consumer price inflation, with the latest data showing 6.29% q/q and 1.3% y/y growth respectively. The job market grew by 208,000 in Q3, the highest in 50 years. The robust data should ease concerns of an interest rate cut by the BOE at its next meeting on January 30th. Conservative's plan to increase the national insurance contribution threshold should boost household incomes by £2.2b per annum. This, alongside a promised 2% corporation tax cut should aid the growth for both consumer and business spending.

China: In Q4, China continued to grow at a moderate rate of 6.0%, in line with the quarter before. For the year ahead, PBOC has now lowered its growth target to 6.0% instead of previously 6-6.5%, depending on increased government spending on infrastructure to prevent a sharper slowdown. In Q4, equities rallied on the news of resilient domestic demand as well as a possibility of the 'Phase 1' deal with the US. Shanghai Composite rallied 6.98% in the quarter, before losing most of its gains in the first weeks of January, as the impacts of the swine flu and the coronavirus dampened the market outlook. The IMF sees China's 2019 and 2020s growth at 6.1% and 5.8% respectfully; however, we would await some feasible improvements in trade to provide support for any business outlook.

China Production Expenditure vs Private Investment vs Retail Sales

All major indicators continue their slowdown, yet, at a slower pace.



Source: NBS, Bloomberg

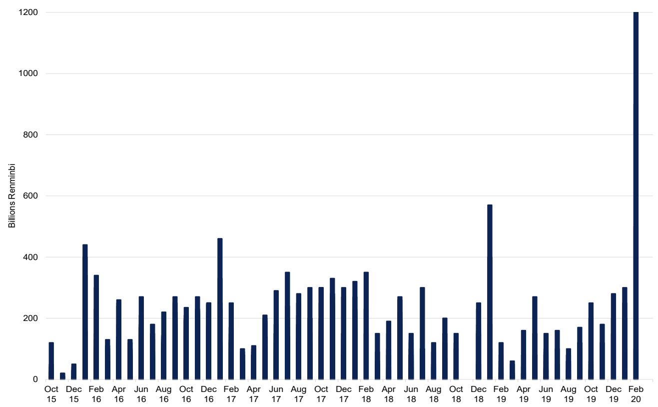
From a monetary policy perspective, we expect an impact of stimulus measures to be profoundly felt in H1 2020, as it mostly comes through direct spending. We believe that in 2020, the policymakers are to take a more conservative approach to stimulus and focus more on sustainable growth and rather than encourage an unsustainable rate of growth. Indeed, the government has been making it easier to finance spending in 2020. With the issuance of the local bonds valued at 3t yuan, as well as raising the cap on foreign ownership in the Chinese national companies, the government aims to boost the economy. While good lending conditions encourage spending and corporate investment, it could also boost the inflationary bubble, which hit a near 8-year high at 5.4% in December. A trade deal could ease those trading pressured off Chinese exporters, providing additional demand from abroad.

Industrial production showed signs of stabilising as it edged closer to 6.9% y/y growth, a figure last seen at the beginning of the year. Retail sales have also supported Chinese growth in Q4 2019, growing 8% y/y, driving retail sales of consumer goods to $5.73t for the first time in 2019. On the other hand, the downside risks still prevail. China's auto industry sales dropped 9.08% y/y in 2019, amid lower export levels. And the property market, a key economic driver of the nation's economy, is also showing signs of struggle.

The effect of the swine fever and the coronavirus could significantly affect headline inflation, at least until 2Q2020. International businesses from airlines to tech have already limited their operations in China as the impact of the coronavirus crisis exacerbates. With the expectation of Q1 sales in China at a season-low, we would expect the quarterly growth to moderate downwards from 6.0%. Consumption growth may accelerate later in the year, supported by a stable labour market, easier consumer credit and growth in auto sales.

People's Bank of China Repo Injection

CNY1.2t injected into the repo market on February 3rd as markets reopened.

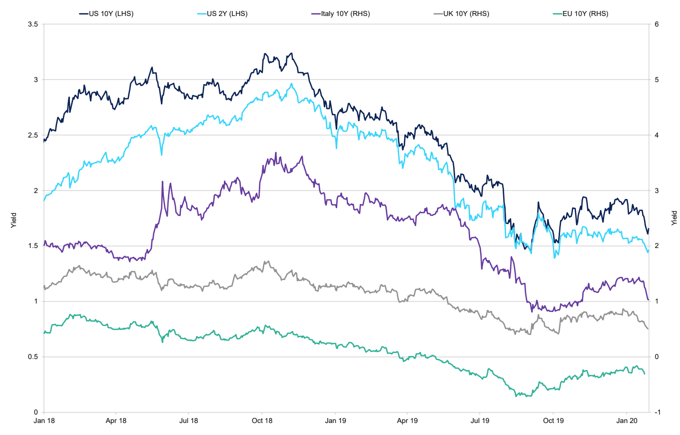


Source: Bloomberg

Emerging Markets: In 2019, the emerging market equities ended the year on a high note, with the MSCI EM index gaining 17.7%. Throughout the year, the asset's declines reflected global uncertainty on trade, economic deceleration, and geopolitics. In Q4, the sentiment improved, as the promise of the trade deal drove the group performance. Indeed, solid growth in the US, buoyed by the tight labour market, supported global growth. However, geopolitical risk is still present within the markets. The protests in Hong Kong, Lebanon, as well as political breakdowns in South American economies set the mood for more volatility in 2020. Looking ahead, the progress of the trade deal, the ease of coronavirus threats, and upcoming re-elections in the US will influence the path of emerging markets.

Developing Economies' Yields

Emerging market yields continue to drop amid global turbulence.



Source: Bloomberg

In 2020, EM equities should benefit most from a turn in global manufacturing, a Phase 1 trade deal, virus recovery in China, and a general rise of trade flows. We expect broad but modest gains made by the emerging market currencies, especially, as the dollar stays at bay in Q1 2020. EM inflation is expected to remain modest, particularly in China, giving rise to additional monetary policy easing. According to the IMF, emerging market economies are expected to grow at 4.1% in 2019, and 4.7% in 2020. In China, the effects of the policy stimulus are likely to unfold in 2020, particularly if a trade deal translates into higher trade movement across the world.

Aluminium – Disruption Risk

LME Aluminium
3MO ($)

Source: Bloomberg, 13.02.2020

Summary

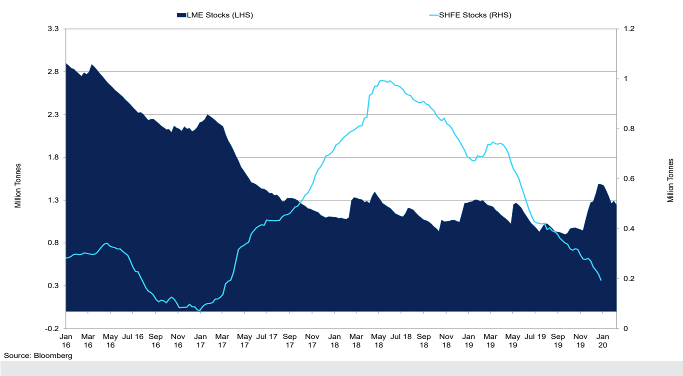
Aluminium downstream consumption remains weak in China and ROW. We could see a bounce from the European construction sector but new tariffs from President Trump and weak economic indicators suggest that any bounce may be short-lived. Primary aluminium Chinese inventories increased in the week leading up to Chinese New Year to 690,000 tonnes, with billet stocks also rising to 100,000 tonnes, according to SMM (Shanghai Metals Market). We expect Chinese bauxite imports to remain high, but the election in Guinea creates a supply risk. In our opinion, the LME flat price looks set to remain under pressure in a range of $1,600/t to $1,850/t.

Q4 Recap: LME 3-month aluminium prices improved in Q4 2019, gaining 5.3%, closing the year at $1,810/t. Capping an unexciting year for aluminium which had a high for the year of $1,951.50/t and a low of $1,705/t. The demand outlook has been weak, and we expect this to stay the case in Q1 2020. The rise in global inventories has compounded downward pressure on LME prices. In Q4 2019, global aluminium inventories increased by 57.6% to 1.475m tonnes, affirming the weak consumption outlook in the market. LME inventories have declined in January which has had little impact on prices. Aluminium ingot A00 in East China has moved to a discount of 90yuan/t while the Shanghai ingot warrant bonded warehouse premium averaged $100/t, this was an increase of $5/t at the start of the year. SHFE prices have performed marginally better, up 2.4% in Q4 2019 to 14,345RMB/t; prices have softened slightly in January by 1.12% to 14,185RMB/t. SHFE inventories declined by 41% in Q4 2019. The SHFE/LME + CIF (Cost, Insurance, and Freight) premium and 13% tax has a differential of $104 for February 2020. As you move further down the curve the differential increases, showing that the SHFE/LME arbitrage is closed.

Outlook: The aluminium market fails to gain a footing on the upside despite a moderately more optimistic macro-economic outlook for China and the U.S. The coronavirus is having a significant impact on supply chain management, inventories at smelters are high and could cause them to curtail production, this would be bullish we demand was strong; but it's not. The virus continues to spread and prevents society from functioning, as usual; compounding downside risk to China's GDP. Data will be patchy from China for some time, making it tricky to quantify the impact of COVID-19. Reduction in refined capacity into China could increase the aluminium deficit in Q1 2020; inventories are sufficient, and this will cap gains on the upside. We anticipate Q1 2020 to be a deficit for aluminium due to reduced refining time because of Lunar New Year.

LME vs SHFE Stocks

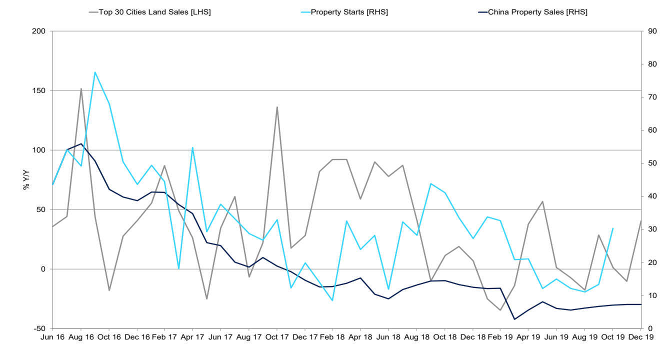
SHFE stocks continue to decline - LME warehouses saw moderate inflows.



Fixed asset investment grew by 5.4% YTD y/y in December 2019, marginally stronger than the 5.2% anticipated. Industrial production and retail sales were healthy at 6.9% y/y and 8% y/y for December 2019. The data has given credence to the idea that China's economy is stabilising; we do anticipate further interest rate cuts to stimulate investment. We expect China industrial economy to be strong towards the end Q1 2020 as demand bites back. According to SHMET (Shanghai Metal Exchange), 28 out of 41 major industrial divisions posted a year-on-year profit. Chinese infrastructure investment has stabilised around 4%, recording 4.04% in November 2019. Chinese residential property starts improved in December to 7.40% y/y. Once again, special bonds issued by local governments are expected to support the economy in the medium term. The upside to the construction sector in China will reduce the global surplus.

Chinese Property Market

Signs of stabilising; however sales remain low on a historical basis.

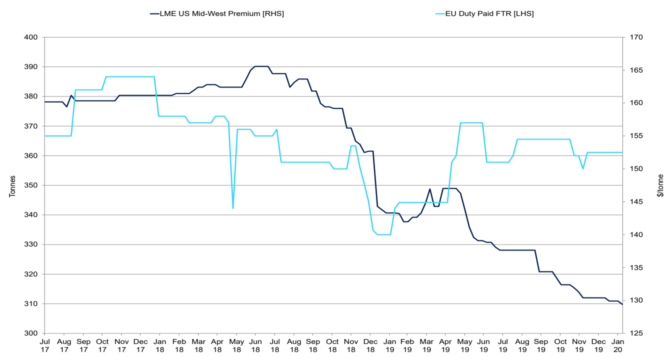


Source: Bloomberg

Demand in Europe looks to be stabilising; this is attributed to soft construction and automotive consumption. Extrusion demand seems set to remain weak, the European Construction Confidence Indicator has stabilised in recent months which is credited to improved optimism from surrounding the phase one trade deal and clarity surrounding Brexit. The Markit Construction PMI has turned into expansionary territory once again, but we need to see business confidence stay positive to keep construction sentiment on the front foot. This could provide a dead cat bounce, however, if President Trump aims for the bloc for his next protectionist tariffs. The ECB has also suggested that countries need to increase fiscal stimulus to help compliment the accommodative monetary policy.

Aluminium Premiums

US-Mid West Premium continues decline, but EU Premiums have held up well.



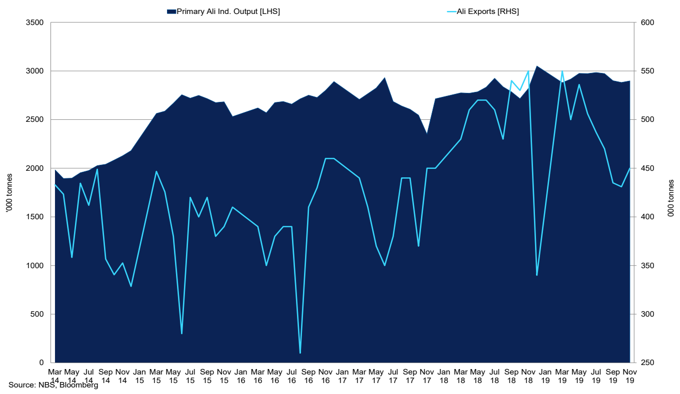
Source: Bloomberg, LME

IFO (Institute for Economic Research) German automobile production business expectation is negative at -27 for January 2020; automobile production in Germany was also negative in January at -21.6, and we do not expect a recovery from the auto sector in Q1, dampening aluminium sheet demand. German exports were down 20.52% y/y in 2019, but the slight green shoot is that German automobile inventory index fell in January to 3.9, a far cry from October's figure of 25.1. Low vehicle inventory, in conjunction with new emission legislation, could improve vehicle production in the coming months but demand remains weak. Unlike the U.S., where the auto industry is transitioning towards more aluminium-intensive car castings; the EU still favours stainless steel. In the U.S. aluminium sheet production fell for the second consecutive month in November by 1.3% y/y but shipments remain up YTD highlighting the trend previously identified.

China has released new standards for its imported scrap; the new regulation will come into scope in July. The minimum alloy content at 100% for recycled aluminium ingot, 98% for castings, and 91% for blocks; the import scrap quotas were implemented last year in an attempt to curb environmental damage and spur recycling. Superseding this announcement, China's environment ministry outlined that aluminium scrap import quota was 275,465. Until July 1st, companies will have to apply for allowances. Production of primary aluminium has continued to improve; according to NBS data, output reached 3.036m tonnes in December, marginally below 3.051m record that was reached in December 2018. December production is seasonally high due to re-stocking before Chinese New Year. The International Aluminium Institute (IAI) saw output at 3.046m tonnes in December 2019. Exports of unwrought aluminium and aluminium products increased in December to 478,000 tonnes, due to the Chinese New Year exports and production will fall for January and February. In the coming weeks, there is an increasing chance of disruptions to bauxite production. This disturbance in Guinea is due to the election. The protests are predominately in urban areas, which could impact exports into China, putting further pressure on aluminium production if the bauxite supply-chain is disrupted.

China Industrial Output - Primary Aluminium vs Exports of Unwrought & Aluminium Products to 3-Month Spreads

Production strong in Q4 2019 - exports slightly lower than previous years.



Source: NBS, Bloomberg

According to the IAI Chinese Alumina production reached 5,775m tonnes in November 2019, down from 5,967m tonnes the month prior. Alumina production had declined in recent months from a high of 6,160m tonnes in July 2019. According to SMM, the Australian Alumina FOB (Free on Board) was $275/t down from $280/t earlier on in the month; imported alumina was 2,520RMB/t as of February 14th according to SHMET, China's alumina output in December was 5.918m tonnes down 5.1% y/y; annual production was 72.474m tonnes, down marginally y/y. NBS data also highlighted that primary aluminium production was down 0.7% y/y to 3.036m tonnes, resulting in primary aluminium output to reach 35.044m tonnes, 0.9% y/y. The alumina price has spiked higher to $285/t as of February14th; this remains low on a historical basis. The coronavirus has injected some positivity into alumina prices, following a reduction in output at Chinese smelters and limited availability of coal and bauxite. If the coronavirus issue in China continues then we expect alumina smelters to cut capacity. Aluminium products output was 5.22m tonnes, up 9.7% y/y; production for the full year was 52.25m tonnes. The seasonal impacts of Lunar New Year dictate that output will fall for January and February; however, this period could be elongated if the coronavirus continues to spread at a rapid rate. SMM indicated that there were 40.69m tonnes of primary capacity built in China up to the end of October 2019, with 35.1m tonnes in operation. According to SMM, aluminium capacity will increase in China to 36.44m tonnes, up 2.5% y/y.

Copper – Patchy Data to Weigh on Prices

LME Copper 3MO ($)

Source: Bloomberg, 13.02.2020

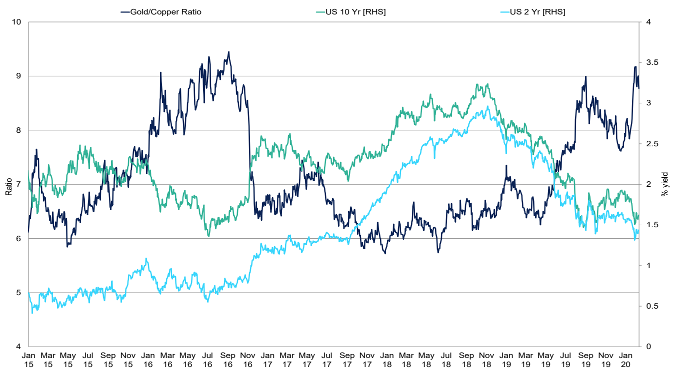
Summary

The coronavirus is clearly not only dictating market sentiment but also the physical market. The logistical woes in China are likely to compound downstream organisation issues. Smelter and social inventories are rising, and smelters cannot shift their product. Sulphuric acid inventories are also growing, which could cause bottlenecks. Economic data will be patchy at best for some time in China, clouding the outlook. There are two main scenarios: the virus is not contained, smelter production is softer and inventory cannot be delivered; or the virus is contained and the industry moves back to normal with Chinese stimulus on 5G, the electric grid to offset weak economic data.

Q4 Recap: : Trade war optimism helped fuel a rally in riskier assets in Q4; copper was one of them. Appetite for prices triggered gains through resistance at $6,000/t to close 2019 at 8.58%. Appetite was exemplified by the decline in the gold/copper ratio, which declined from 9 back towards 7.8 into the year-end. This continued into the New Year as the U.S. and China signed the Phase 1 trade deal. Despite the increasing risk appetite, copper spreads remained firmly in contango outlining the weak demand conditions. There was some moderate tightening into -$6/t contango in December, but the market failed back through -$20/t. Global economic growth was steady in 2019 at 2.9%, but end-user demand is weak despite the accommodative central bank policy. The Federal Reserve total assets balance sheet has been increasing in recent months. We expect credit conditions to remain accommodative in Q1 and Q2 2020.

Copper Ratio vs US 10- & 2-year Bonds

Virus uncertainty has improved safe haven demand with high gold/copper ratio.



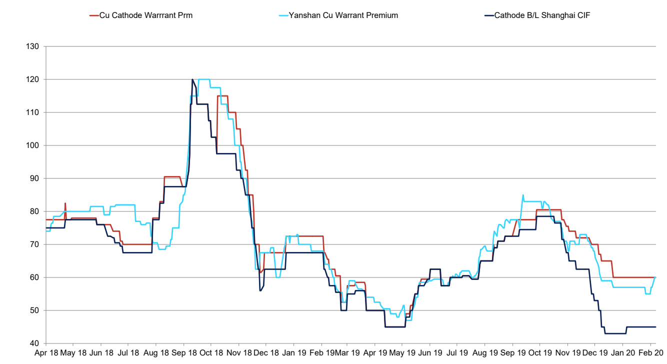
Source: Sucden Financial, Bloomberg

LME and SHFE deliverable stocks have started to increase in January after converging in Q4 2019. This was predominately due to significant withdrawals from the LME warehouses. LME and SHFE warehouse stocks stand at 180,725 and 238,533 tonnes respectively as of February 1st, 2020. Manufacturing PMIs, except Europe, have shown signs of stability which is a boon for copper demand. However, the caveat is that there are fewer participants in the study than years before, suggesting that they are less correlated to the end-user market. The IHS Markit Materials Price Index improved 1.4% into mid-January 2020, but this was attributed to pre-CNY activity.

Outlook: The base metals market and the copper market have been captivated by the issues surrounding the coronavirus. The degree of the impact of the virus on the Chinese economy is uncertain, but it is expected to be significant in China. It is still too early to say the economic impact across the globe and China. The economic impact will be seen in the economic data soon, but we are already starting to see the issues in the supply chain. The first indication of China transferring its focus to the potential economic impacts of the virus came from Xi Jinping when he vowed to hit economic and social goals. In mainland China, towns remain empty with Bloomberg reporting that a large proportion of workers from Honda, Toyota and GM (General Motors) returned to work on February 15th. Retail stores remain shut across China, with approximately 350 Uniqlo stores are closed at the time of writing. We expect this to present a significant downside to retail sales figures which were strong in 2019; the latest reading was 8% y/y in December 2019

China Copper Premiums

Copper premiums in steady decline, but Q2 stimulus may provide some support.

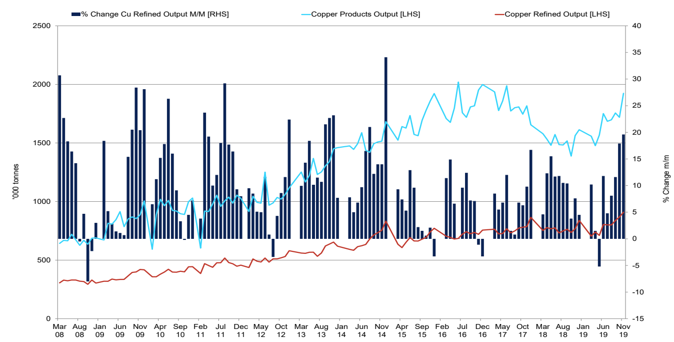


Source: SMM, Bloomberg

The issue for the metals market stretches across the whole supply chain from logistics to trading. BHP was in talks to delay copper concentrate shipments to China in an attempt to reduce the pressure on Chinese companies. There have been some companies declare force majeure, for example, Guangxi Nango. SMM has reported that there was little effect on Chinese smelter production throughout Lunar New Year. Other than BHP, there has been a limited effect on logistics for imported copper concentrate according to the SMM. The SMM copper concentrate monthly index improved to $59/t and the weekly index to $62/t as of February 5th and 7th. Other materials used in the production of copper have run into difficulty this curtailing production somewhat. Finished copper product inventories are rising at smelters, curtailing downstream counterparties. This could lead to an outflow of cathodes from exchange warehouses in the immediate term. Another significant issue being created by the logistical constraints is the build of sulphuric acid inventories. For copper smelters, this impacts profitability, as it establishes bottlenecks at the smelter. According to SMM data, the majority of the inventory pressure is in the North of China.

China Cu Refined & Products Output vs % of Cu Refined

Refined copper and products output has increased - demand remains muted.



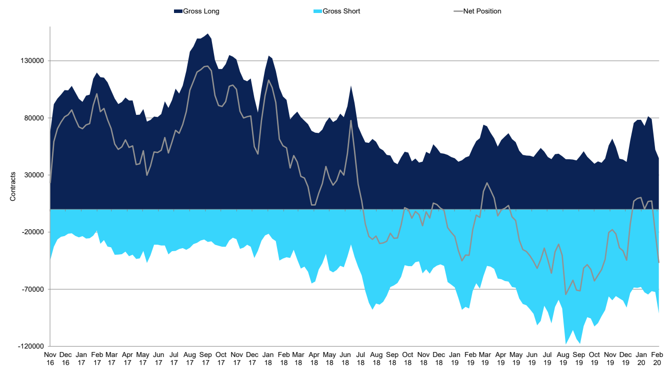
Source: Bloomberg, NBS

In the immediate term, we expect warehouse and social inventories to continue to rise, exerting further downside pressure on LME and SHFE prices. We believe that demand constraints will keep the spread in contango, similar to previous months. Labour looks set to hold back operating rates across metal smelters; however, we expect the majority of workers to be back by the end of January. The delayed demand will keep inventories elevated in the medium term. According to SMM, copper cathode output is expected to be 701,300 tonnes in February, a 2.54% decline year-on-year. Production of 701,300 in February would bring YTD output to 1.43m tonnes. A weak demand outlook would offset this near-term decline in production. On the other hand, the demand could be supported if the Chinese government increases expenditure on copper intensive projects such as high-speed railway, electric grid and 5G projects. In addition to this, the PBOC injected 1.2trn yuans' of liquidity into the market. We expect stimulus to improve demand for copper. The dark cloud remains that of weak economic data, rising exchange rates and social interventions due to the virus.

In our opinion, the market is not pricing in the downside risk of the coronavirus and economic data. We anticipate China to increase stimulus in the near term; however, as mentioned in previous reports, the Chinese government face a dilemma to focus on growth or deleveraging the economy. In line with the recent coronavirus, we expect Beijing to increase stimulus measures in the near term. The Finance Ministry allocated new local government bonds for 2020 at 1.848trn yuan, to improve infrastructure expenditure. The total of 1.848trn is split up into 1.29trn yuan at for special bonds and the remainder to general bonds. According to China Central Depository and Clearing Co Ltd, the local governments have issued 781.14bn yuan so far this year. Since the outbreak, we expect there to be significant upside to bond issuances; especially given that governments issued their quota of bonds well before the end of the year in 2019.

COMEX Managed Money Short

The net short has increased amid virus risk.



Source: Bloomberg, COMEX

Investment in the Chinese grid investment was lower than planned in 2019, and we expect 2020 to fall further. Actual investment for 2019 was 450nbn yuan, reports indicate that grid investment may fall by 130bn yuan in 2020; this was before the coronavirus though. The need for stimulus has increased, but we do not believe Beijing will revert to large property-based expenditure. Market sentiment is weak, and we believe a leg lower is possible, a break of $5,500/t would bring into play $5,300/t. This is entering the cost of production territory for Chinese producers, and we expect this level to be defended vigorously. The COMEX net-short is at 33,181 contracts as of February 2020, last year's maximum was 60,135 net short suggesting the funds have considerable ammunition on the downside. If already short, we favour holding that position until the gap is closed.

The flat price remains tricky to navigate as system funds interrupt headlines, on the day news of a new methodology stating that 15,000 cases were found in China. Copper rallied through $5,800/t, and oil also rallied outlining risk-on sentiment. Options should give you far greater flexibility; we would own puts against selling out the money calls to protect against the downside as we expect weak economic data to soften demand for metals in the medium term.

Lead - US Tariffs Compound Woes

LME Lead
3MO ($)

Source: Bloomberg, 13.02.2020

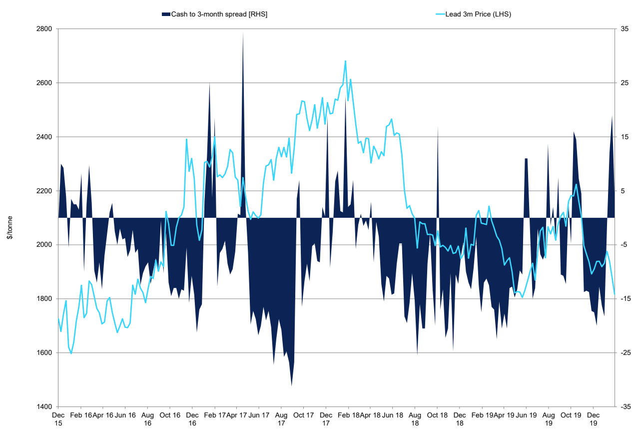
Summary

We expect automobile demand to remain weak in the near term, despite production picking up in Germany on a month on month basis in Q4 2019; it is declining at a slower rate. Business confidence may be starting to improve, but we remain cautious on sentiment. Chinese battery re-stocking and short-covering may provide a short-lived bounce. We expect this to provide a better selling opportunity if anything else. If India scraps all vehicles older than 15 years old, we anticipate this to provide downward pressure on scrap prices in the region. In our opinion, lead prices will remain under pressure and prefer selling rallies.

Q4 Recap: Lead prices corrected aggressively in Q4 2019, the LME 3-month price declined at 14.93%, closing the year at $1,927/t. In keeping with our previous report, weak manufacturing and industrial demand in conjunction with Port Pirie supply coming back online caused lead to buck the trade optimism trend. German auto production remained on the back foot in Q4 2019, November and December were -9.3% and -11.5% respectively. The perfect storm of supply coming back online and lacklustre demand weighed on lead prices and increased the zinc/lead premium. The front-month SHFE prices declined around 12% in Q4 2019 to 15,100RMB/t. Cash to 3-month remained in contango at -$15.75/t as of January 9th; this is expected to continue as weak demand impairs progress in the flat price and spreads.

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

The Cash-3 month spread has weakened in recent sessions to level money.



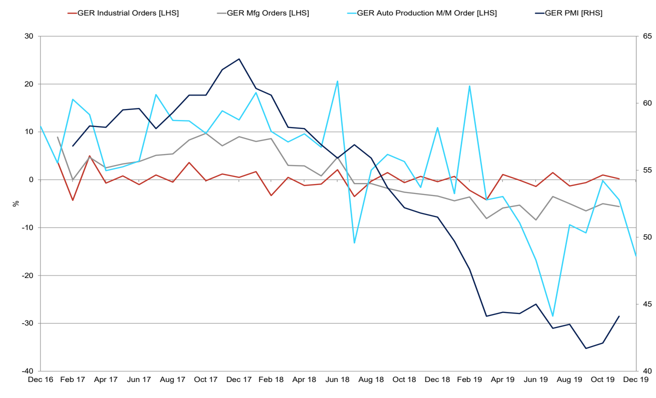
Source: Bloomberg

Outlook: The benchmark re-weighting was relatively benign for lead this year; any activity we saw at the beginning of January was short-lived. We noticed some fresh buying at the beginning of the year, but the spread remains in contango outlining weak demand. Thus far, the western winter has been warm, reducing the chance of battery failures. Furthermore, global automobile figures are firmly on the back foot still, and a case can be made for Europe to find support from further stimulus in 2020; however, we do not expect a strong performance from Europe in Q1 2020, primarily if the U.S. imposes tariffs on European autos. German auto production expectation was still negative in December 2019 at -13.8% m/m, the IFO's current assessment of Germany looks to be bottoming out and has started rising towards 99. Accordingly, the manufacturing export expectation broke above 0 in December 2019 to 2.6% m/m for the first time since May 2019. According to Statista, German auto sales generated €436bn in 2018; gross production value in the German car industry was €498bn for the same year. Approximately 80% of German cars are exported, and there is no doubt that the trade war has severely hampered the German economy. We remain cautious of another intensification of the trade war; while on the surface relations are improving, there is still a strong undercurrent of separation between the U.S. and China.

LME lead inventories have remained constant since October, down 4.16% through to February 14th. After the significant drawdown, we saw in January 2019, arrivals have been muted. Demand for lead has been lacklustre exemplified by the cash- 3-month spread which has averaged around $16.16/t contango since the beginning of December 2019. Following the relative tightness in June, August, and October when cash to 3s reached $42.50/t, $29.50/t and $21.50/t backwardation respectively, there has been little excitement in the market. We do not see this changing in the immediate term as sentiment remains subdued due to weak automobile numbers. At the time of writing, the global winters have been relatively mild, indicating seasonal demand for secondary batteries and scrap material is subdued. Scrap material is well supplied, and prices have remained at similar levels to the end of 2019. European numbers, in particular, have stayed at a constant level since October, trading a range of €115-135/t.

German Manufacturing and Industrial Market

Economic data remains soft and looks likely to remain the case in the near term.

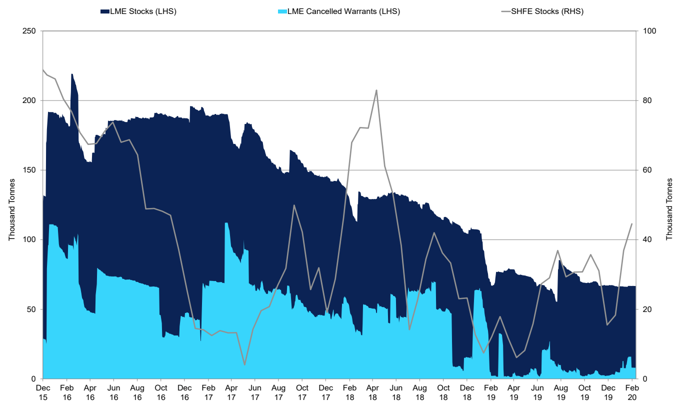


Source: Bloomberg

Price action on the LME has been weak for lead. The tightness we saw going into Q4 has dissipated, and we saw some Lead/Zinc switches unwound. We also expect there were producer selling at higher levels. Appetite for the heavy metal was lackluster, but we saw some buying around $1,900/t in the 3rd week of January. We attribute this to short covering going into the Chinese New Year and CTA (Commodity Trading Advisors) momentum. However, we do not expect this strength to remain in the long run and may see Chinese investors go short when they come back after their holiday in February. The zinc/lead premium has started to increase once again as lead prices have remained low.

LME Lead Warehouse Stocks vs SHFE Deliverable Stocks

Operation rates have fallen at Chinese battery producers.

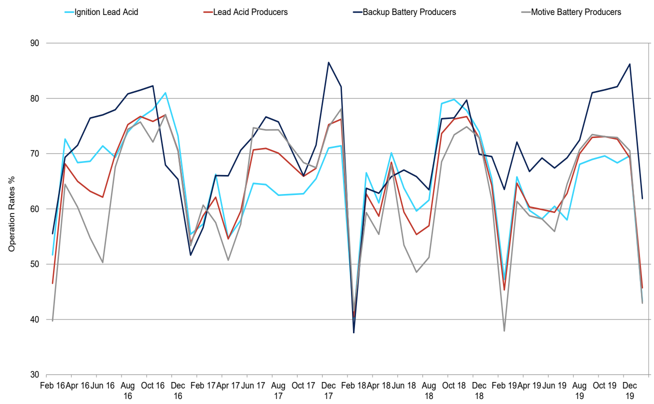


Source: Bloomberg

According to SMM data, TCs (Treatment Charges) for imported lead concentrate have increased to a range of $160-180/t to February 14th, up from an average of $110/t in November 2019. TCs for domestic lead have also improved in recent months to average 2,400RMB/t as of February 14th 2020. If TCs continue to rise, we could see Chinese production continue to increase further from 5.15m tonnes in 2019, +1.5% y/y, according to SMM. We anticipate Chinese lead production to rise again in 2020, and if automobile data remains on the back foot, then on the surface, the fundamentals may not suggest lower prices. Indeed, the decision by China to keep the zinc and lead import duty at 30% may incentivise Chinese production. However, there is a strong demand for lead-acid batteries in the energy storage industry.

China Battery Operation Rates

Rates expected to fall in January and February due to seasonal effects.



Source: Bloomberg, SMM

Lead operation rates are expected to decline in January and February due to Chinese New Year, but this is seasonal, and the impact on lead prices will be subdued. The LME commitment of traders for investments funds has seen significant long liquidations in recent weeks but funds still hold a 3,303 contract net long. When looking at the open interest, it becomes evident, as it declined by 18.05% from November 2019 to December 2019, from 158,054 contracts to 129,511 contracts. As highlighted above, the short covering has caused the LME price to gain support in recent weeks, and an increase in the open interest affirms this.

We expect lead demand to remain muted in the immediate term; concurrently economic data is likely to stay on the back foot, until the time lag for any increase in consumer and business confidence from clarity surrounding Brexit trade deals, and the Phase 1 trade deal between the U.S. and China is run down. We have previously mentioned that battery suppliers in China have maintained low stock, and this is still the case. This may prompt some re-stocking in the immediate term. In India, new emission regulations are set to be introduced in April 2020; this is causing car manufacturers to reduce their inventories. In conjunction with this, the government is analysing new policy measures to scrap all cars over the age of 15 years and would cause a considerable amount of scrap lead to become available.

Nickel - China Stainless Output to Stay Strong

LME Nickel
3MO ($)

Source: Bloomberg, 13.02.2020

Summary

The perfect storm of weak stainless demand across the globe and relentless Chinese production last year outlines the negative sentiment in the stainless market. We expect this trend to continue in the near term. Nickel demand is dominated by stainless, and we expect Chinese production to remain stable in 2020, the near term hit to demand looks to be priced in at the moment; unless the coronavirus is not contained. We do not expect prices on the LME to improve breakout on the upside in the near term.

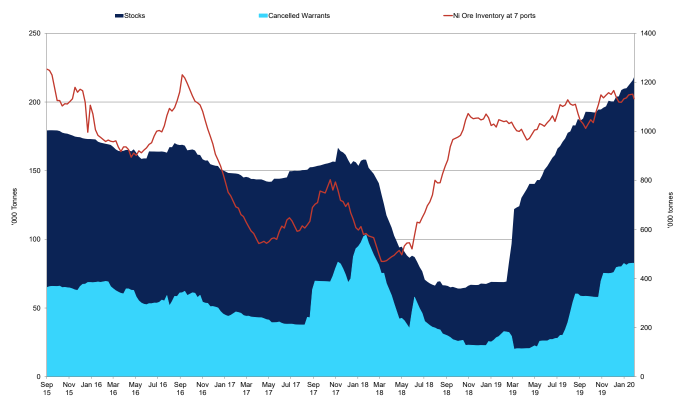
Q4 Recap: Nickel unwound the previous quarter's trading in Q4. Incessant selling pressure caused prices to fall 18.55% in Q4, to close the year at $14,025/t. Downside pressure was compounded by rising LME inventories, as the metal was withdrawn before the Indonesia nickel ban. Inventory movements were considerable in Q4, but from start to finish, they only fell 3.52%. However, in October inventories declined 58% before surging to 150,000 tonnes in December.

Nickel was one of the more turbulent markets in 2019, and this could persist in the near term, as investors look for clarity on the coronavirus and the impact on the Chinese economy. Stainless prices were also under pressure towards the end of last year. The 1st generic price for SHFE stainless declined 8% in Q4. This weakness has continued into 2020 as risk-off sentiment has dominated the markets. SHFE nickel prices fell by 19.3% in Q4 as deliverable stocks increased by 66% to 37,304 tonnes as of January 2020.

Outlook: Stainless steel demand is weak across the globe; the International Stainless Steel Federation (ISSF) demand index for all products has slowed, the index has failed into 180. Incidentally, the demand index is at record highs for all products. However, the consumption index has weakened in recent quarters. The all products consumption index has dropped from 180 to 160 in the final quarter of 2019; the index was benchmarked to 100 in 2010. On a product basis, cold-rolled flat product demand has declined in recent quarters, and we expect this to continue in the near term. The cold and hot-rolled product demand index has weakened to 160.

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

Inventories for both data sets continue to rise, compounding downside sentiment.



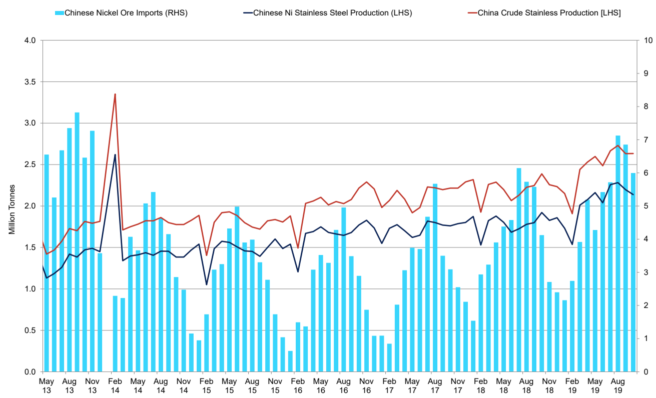
Source: Bloomberg

Conversely, long product stainless steel consumption index has declined to 125. The ISSF has forecast demand to increase in the near term with consumption peaking in Q2. We believe demand will remain on the back foot in Q1 as global consumption is weak.

Stainless production in China was strong in 2019; crude stainless output surged to 2.63m tonnes as of November 2019 and for nickel-based stainless steel 2.09m tonnes. These production figures were off the yearly highs, with the stainless demand outlook remaining weak in the near term. We expect there to be some oversupply within China, especially given the immediate consumption worries surrounding the coronavirus. Nickel ore imports peaked in Q3 2019 as Chinese producers frontloaded imports before the Indonesian ban was implemented. The rise in exchange inventory has compounded negative sentiment in the nickel market. Off-exchange nickel or inventories are also high; the soft demand outlook will cap upside potential in Q1. Nickel ore stocks at China's seven major ports reached 11,52mwmt tonnes; total inventories at Chinese ports were 14.43mwmt as of Monday, February 3rd. According to SMM, Chinese stainless production will increase at a CAGR of 2% for the next three years. Chinese imports of Indonesian nickel ore imports rose 72% in 2019; ferronickel imports reached 34% y/y for December 2019 at 199,800 metric tonnes.

Chinese Nickel Ore Imports vs Stainless Steel Production

Ore imports declined due to ban but Chinese stainless production remained high.

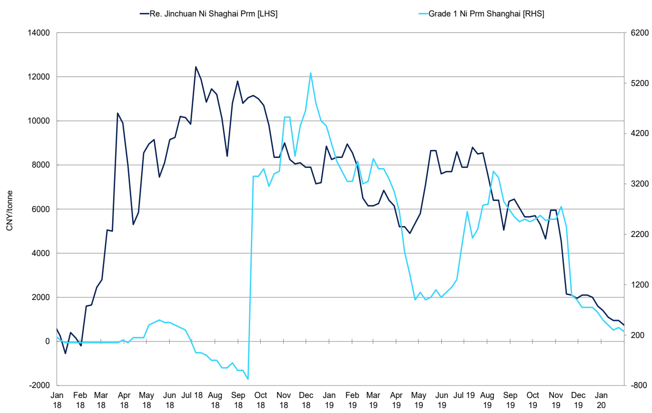


Source: Bloomberg

Nickel pig iron production is expected to fall in China, and we believe this will exert downward pressure on Chinese stainless steel output in H2 2020; once inventories have been drawn down. Indonesian NPI capacity is expected to increase; in theory, some of this material could be exported to China, but the move by the government to impose the ban in the first place indicates that Indonesia wants to export the value-added goods. Indonesia's stainless capacity is expected to increase substantially in 2020, 33% according to SMM. However, production gains may be more modest, due to weak demand and the anti-dumping regulations against Tsinghan and Indonesian exports; and we anticipate production gains to be muted. Tsingshan's exports for S.E. Asia look set to increase in the near term. But Indonesia could focus on nickel for batteries, in an attempt to cement themselves at the centre of the EV and energy storage markets.

Nickel Premiums

Premiums have fallen significantly in recent weeks, due to CNY and the import ban.

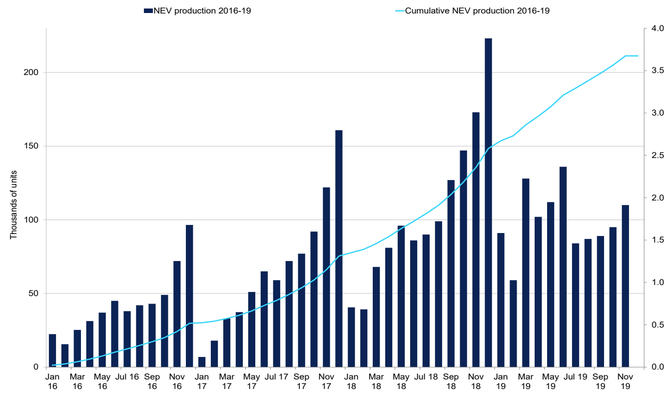


Source: Bloomberg, SMM

Q1 demand is expected to be weaker than the previous quarter. Wood Mackenzie sees total refined nickel consumption at 592,000 tonnes. Bloomberg New Energy Finance indicates that global lithium-ion batteries demand was 106gwh as of December 2019. There is some downside risk to nickel demand due to the soft EV sales figures in recent months with October and November sales down 46.6% y/y and 44% y/y respectively. The subsidy cut in July was the cause for weak sales figures in H2 2019. However, EV car manufacturers are confident that the market will rebound in 2020. China has considered setting a target of 60% of all automobiles sold are EVs by 2035, XPeng President Brian Gu believes that the improvement in the charging infrastructure will improve sales. While there is still contention around the battery composition, the NMC (Commodity Trading Advisors) seems to be industry standard. Increasing the nickel content in batteries enhances the energy density of the, according to the Nickel Institute. Indeed, the Nickel Institute suggests that as of 2025, 58% of cells will contain nickel, up from 39% in 2016. Battery technologies are likely to change, especially given the complexities and issues surrounding the cobalt supply chain; this could increase the nickel content could rise further. Indeed, Tesla has suggested their batteries should be called Nickel-Graphite as the primary cathode is nickel. Furthermore, Nickel Cobalt Aluminium batteries contain 80% nickel.

Chinese NEV production 2016-2019

Cumulative production continues to grow, outlining demand for Nickel.



Source: China Association of Automobile Manufacturers

LME banding shows that there is one long position for February, the spreads have weakened and are in contango. The options market has strong upside open interest for February and March, and we maintain a constructive long term view nickel but the market for SHFE prices have been under pressure since the Chinese have come back from CNY. Demand fears due to the coronavirus have exacerbated issues. Some optimism could be injected into the market with Chinese stimulus, boosting demand for metals. The grade 1 nickel premium to Shanghai declined into CNY; the Jinchuan nickel Shanghai premium has also softened. As expected for this time of year, premiums and futures should remain weak in the immediate term.

Tin - Solder Demand To Improve H2 2020

LME Tin
3MO ($)

Source: Bloomberg, 13.02.2020

Summary

Tin market fundamentals remain constructive for prices in the long run; however, near term demand is on the back foot. We expect to see semiconductor figures to start to improve as we move through 2020. Prices are not at a level which incentivises production; this could have long term repercussions for the fundamentals. We anticipate a supply response from Chinese smelters may be weak due to the coronavirus; this may prompt exchange inventories to fall, but we do not expect a significant on the price action unless the outbreak continues to spiral at an alarming rate.

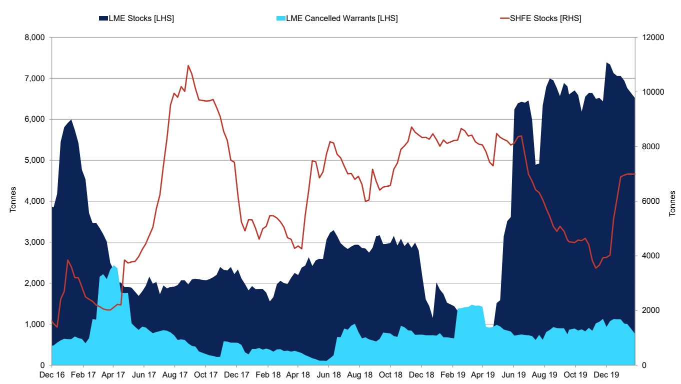
Q4 Recap: Tin prices consolidated in Q4 as robust support at $16,000/t held firm. Prices managed to close on the front foot for Q4 at $17,175/t. The consolidation of prices could set the market in good stead for a rally in Q1 2020. Tin prices failed to rally after news surrounding the Phase 1 deal was agreed in January. Demand for semiconductors was lacklustre on a year-on-year basis but remained steady month-on-month. Tin volumes on the Jakarta Futures Exchange were relatively modest in December totalling 6,335 tonnes for the whole month. This material is expected to be made available for export.

LME inventories have been flat in Q4, only losing 1.15%. However, we saw a moderate inflow of tin into year-end, but the majority of this material has been withdrawn in January. SHFE prices, even more illiquid than the LME have also consolidated in recent months, closing at 140,000RMB/t for 2019. We did see prices spike above 144,000RMB/t momentarily, the correction into year-end coincided with a significant rise in SHFE deliverable stocks from 3,551 to 6,995 tonnes.

Outlook: According to the World Semiconductor Trade Statistics (WSTS), the global market is forecast to be $409bn in 2019, down 12.8% on the previous year. The semiconductor market is expected to improve in 2020 by 5.9%. The Semiconductor Industry Association (SIA) announced sales of $36.3bn for October 2019, a month-on-month increase of 2.9%; once again down versus the same period in 2018 by 13.1%. We maintain the view that the semiconductor market will perform better in 2020. 2018 was a record year for semiconductors; regional sales improved on a month-on-month basis, America and China drove growth at 8.6% and 2.9% respectively. Japan and Europe remained slightly behind the curve in October with sales of 1% and 0.5% respectively. On a year-on-year basis, sales have declined across all major regions; however, we expect this trend to start to turn in 2020.

LME vs SHFE Inventories

We continue to see an increase in exchange inventories.

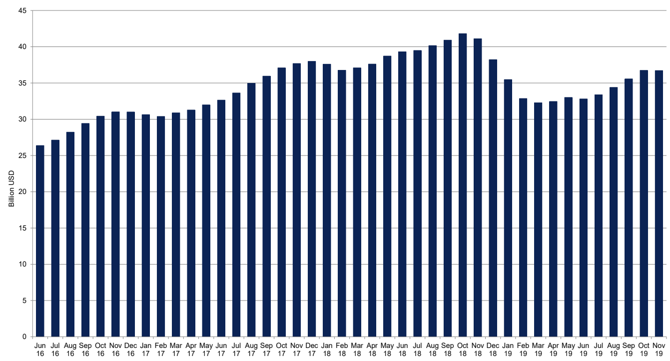


Source: Bloomberg

The Philadelphia Stock Exchange Semiconductor gained 56.6% through 2019; earnings so far this year for semiconductors year have been mixed. Chipmakers such as Samsung have posted weaker than expected revenues, fourth-quarter profit for Samsung dropped to 7.16trn KRW; down from 10.8trn last year. Operating profit for the year as a whole was 27.77trn KRW. Operating profit in the 4th quarter of 2019 for the semiconductor business was 3.45trn KRW. The expansion of the 5G network will support growth for semiconductors in 2020 and, in turn, tin demand. The semiconductor industry remains in the balance despite the Phase One trade deal. We are dubious about the deal and relations between the two countries.

Global Semiconductor Sales

Month-on-month improvement - support for tin demand in 2020?

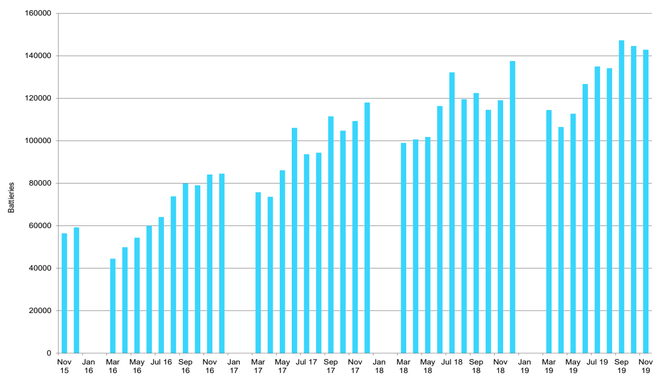


Source: Bloomberg

The solder market represents 50% of tin demand; semiconductors remain the barometer for tin soldering demand. Solder demand is expected to improve in 2020, and this could give rise to tin prices; however, we do not believe this will be the case in Q1 2020. New demand from EVs and energy storage will also support the market in the long term. However, recent EV sales in China have been weaker due to the cut in subsidies. We do anticipate demand for EVs to continue its trajectory in 2020. China and Asia remain the driving force behind the electrification of the auto market as well as energy storage. Cumulative NEV (New Electric Vehicles) production in China is now over 3.5m vehicles; we believe 2020 will see EV sales accelerate. Australia sales more than tripled in 2019, however, remain at a very low base with total sales at 6,718 vehicles. Italian sales for hybrid and battery electric vehicles rose to 13,654 units, with fully electric cars reaching 1,943 in January.

Lithium Ion Battery Production in China

Battery production remains at elevated levels.



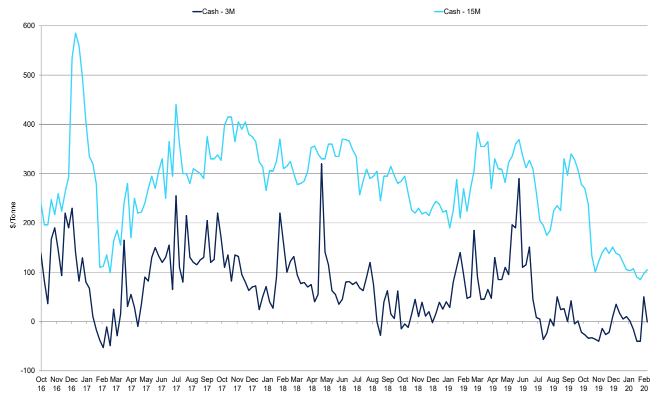
Source: Bloomberg

Volumes on JFX (Jakarta Futures Exchange) have been relatively modest so far this year, January total volumes were 7,280 tonnes and improvement from December's 6,335 tonnes. February volumes were 2,160 tonnes as of February 4th. This material is all expected to be exported from Indonesia. Chinese tin ore imports have been declining in recent years and averaged 14,957 tonnes for the whole of 2019. November's import total fell to 10,153 tonnes, down from 12,654 tonnes. China has a heavy reliance on Myanmar for tin ore imports and exports to China have fallen in recent years due to waning mine capacity; we expect the coronavirus to impact shipments to China following the CNY profoundly. Tin deposits in Myanmar have reduced significantly in recent years, and the issue is yet to be resolved. It could be until the end of February until shipments resume regular service. Tin smelters are in areas where the CNY holiday has been elongated due to the coronavirus. As of February 6th, Yunnan concentration prices declined to 124,500RMB/t, and this could continue if concentrate availability remains weak in the near term.

Refined tin production was expected to decline over the near year, and if smelters continue to run at lower capacity in the coming months may see exchange stocks start to draw. This could keep prices elevated in the immediate term, however until demand starts to increase and we see those stronger solder numbers in headline data, we expect tin prices continue to consolidate. According to SMM, solder bar (60A) prices fell into February 6th to 95,000RMB/t from 97,500/t on February 2nd. The current climate in the tin market remains tricky, with strong headwinds. Fundamentals remain favourable in the long run; the cash to 3-month spread is a $7/t backwardation, was trading at $50/t back as of January 31st but has weakened out too -$20/t contango.

Calendar Spreads

Cash to 3-month spreads have tightened into backwardation.



Source: Bloomberg

Zinc - Finished Zinc Inventories on the Rise

LME Zinc
3MO ($)

Source: Bloomberg, 13.02.2020

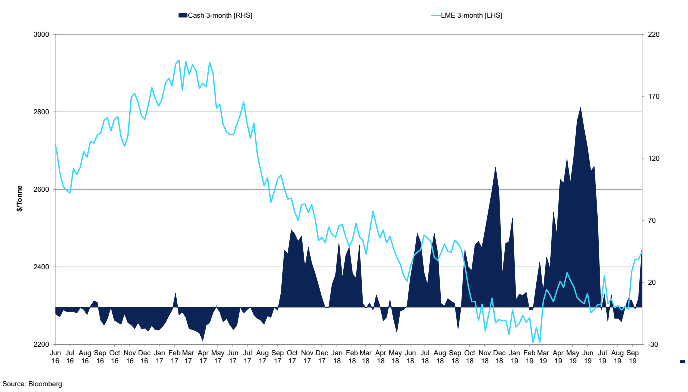
Summary

Galvanised sheet production was strong in China in 2019. Local government bonds frontloaded some of their 2020 allocations into Q4 2019, and China's Cement Association have indicated demand is strong; potentially giving rise to zinc galvanised products. The increased availability of zinc concentrate and improved smelter output is expected to weigh on prices in 2020. While we see an upside to zinc consumption, it remains vulnerable. If the U.S. implements auto tariffs on Europe, this will compound issues within the bloc and presents downside risk to zinc consumption.

Q4 Recap: Zinc prices declined in Q4 2019 by 4.14% to $2,267/t. 3-month prices failed into the 200 DMA at the beginning of November. We think this was partially due investors unwinding some lead/zinc switches. Bullish sentiment subsided as longs liquidated their positions through to the end of 2019, the LME commitment of traders for investment funds shows the net length declined by 69.5% to 3,549 contracts. The demand story for zinc remained muted in Q4 2019, and we expect this to continue into Q1 2020. In our opinion, stainless steel demand will be softer this year.

Zinc 3-month Price vs Cash 3-month

Spreads switch back to contango as the weakness in the flat price persists.



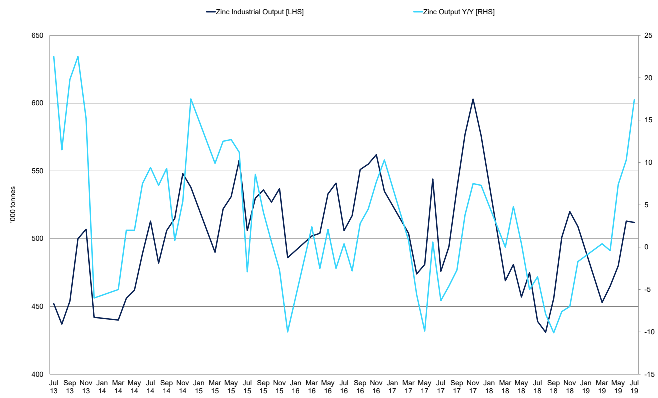
Zinc production in China was strengthening in 2019, and we expect this to continue in the near term. Cash-3month spread has been in backwardation for some time; the spread has averaged at $39.41/t since January 2019. While we do not anticipate a significant increase in demand, the low inventories may elevate spreads. The increased clarity surrounding the trade war has buoyed sentiment in the market, helping to support prices into Chinese New Year. However, we believe the market economic data will remain soft in Q1, which may cap prices on the upside.

Outlook: The signing of the Phase 1 trade deal has injected some positive sentiment into the market, while we still believe zinc prices will remain under pressure for much of 2020. Relations between China and the U.S. appear to be improving, but there remains a strong undercurrent of divergence between the two countries. For example, the recommendation to Congress that Chinese companies that do not meet four criteria, should be delisted from U.S. exchanges. Technology tensions remain high and while President Trump has indicated that a Phase two deal will see the removal of tariffs, a boon for market sentiment but this is not anticipated until after the Presidential election. We believe that Phase two negotiations will be a lot more rigorous as it will cover the issues which both parties disagree on. The Phase One deal has calmed relations, but the logistics of the agreement are economically challenging. We expect progress to be slow, and investors should be wary.

National Bureau of Statistics data outlines the trend that production is increasing, exerting downside pressure on the flat price. Refined Zinc production expanded in December 2019 to 607,000 tonnes, up from 594,000 tonnes the month before. Total output for the year surpassed 6m tonnes to 6.23m tonnes an increase of 9.5% y/y. We anticipate this trend to continue in the near term; refined demand has remained relatively constant in recent month, oscillating between 1.15m tonnes to 1.2m tonnes; global consumption reaching 1.18m tonnes in December 2019. The WBMS recorded a deficit of 174,100 tonnes through the first 11 months of the year, with refined production up 3.1% y/y. Slab production has increased year-on-year through the first 11 months of 2019 to 12.4m tonnes. The increase in refined production is attributed to the rise in smelter output and concentrate availability remains evident after the monthly T.C.s continues to increase. According to SMM, imported zinc concentrate averaged $310/t as of February 14th with domestic zinc concentrate averaged 6,250RMB/t.

Zinc Output vs Zinc Output Y/Y

Increased output and weak demand looks set to continue in the near term.



Source: NBS, Bloomberg

The seasonal up-tick in demand following Chinese New Year was delayed as some provinces lengthened their break due to the virus. The logistical constraints slowed restocking of zinc concentrates at smelters. These regulations are expected to continue in the near term. Conversely, rising stocks of finished products and sulphuric acid is leading to production cutbacks. The impact to the downstream sectors is not fully known at the time of writing, creating further uncertainty. From a consumption perspective, the recent uptick in residential housing completions in China may give rise to zinc through household appliances. Residential completions looked to have bottomed out, and December 2019's reading was 3%, the first positive reading since August 2017. Land sales for the top 50 cities have struggled to gain traction despite reaching 7.4% y/y in December 2019. The data point has oscillated between positive and negative in recent years, and we expect growth to be in the lower-tier cities. Weakness to housing sales and starts could present further downside to stainless demand.

Production of the galvanised sheet was stronger in China YTD through to the end of November at 9.3% y/y. Other significant producers saw production decline YTD through to the end of November with U.S. shipments down 2.5%, Japan, and South Korea down -5.9% and -1% respectively, according to Wood Mackenzie. Zinc consumption has declined in recent years, and we believe there is some upside to demand this year.

Zinc Operation Rates

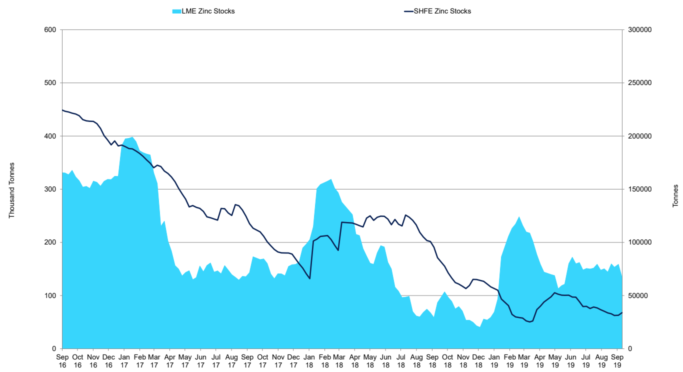
Rates are expected to fall due to the coronavirus.

Source: SMM, Bloomberg

China's infrastructure investment through special local bonds is expected to support demand for zinc. Furthermore, the automotive industry across the globe was weak in 2019, and we see an upside to this market in 2020. The U.S. consumer is in a strong position at this time, and Chinese consumption is supporting the economy. Production of passenger NEVs started to improve at the end of 2019, November production improved by 24% y/y; we anticipate year-on-year auto figures to begin to improve in China in conjunction with the German automobile production improvement we saw in the back end of 2019. The strong caveat is that if President Trump directs his protectionist attention to Europe; this would compound industry woes.

LME Stocks vs SHFE

Inventories continue to decline but the market remains muted.



Source: Bloomberg

In terms of inventory, off-exchange inventories incessantly declined through Q2, Q3, and Q4 in 2019 from 226,000 tonnes to 105,000 tonnes as of December 2019. Exchange stocks have declined by 42% since January 2019 and now stand at 74,825 with on-warrant stocks standing at 73,375 tonnes as of February 14th. Shanghai #1 zinc prices have softened since mid-February to 17,100 yuan per tonne as of February 14th; the premium stands at 60RMB/t; indeed, the zinc ingot bill of lading has been constant at $80/t since mid-December. The weak demand outlook can be outlined by the relative weakness in the spread and flat price despite the low exchange stocks. Options open interest for June 2020 favours the downside with 2,000 lots at $2,000/t, $2050/t, and $2,250/t each. Even though we could see further short covering in the immediate term, and there is an upside to zinc demand. In our opinion, the uptick provided a selling opportunity and a chance to enter the market at a higher level. SHFE prices held up relatively well at the beginning of January; with an appetite for prices below 18,000RMB/t. Exchange inventories have improved in recent weeks to 40,433 tonnes.

Iron Ore & Steel - Lack of Seaborne Ore

1st Generic SGX 62% Fe

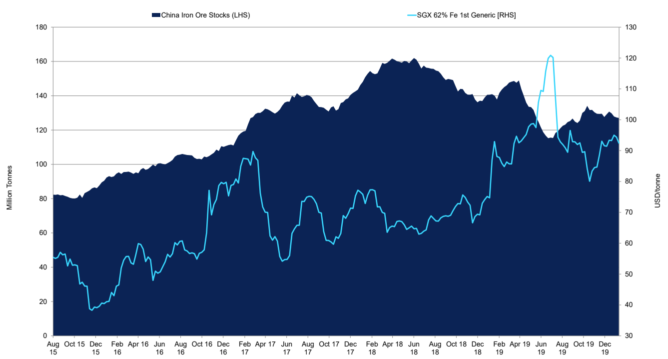
Summary

Vale production is expected to recover in 2020 after the Brumadinho dam collapse in January 2019, giving rise to Brazilian exports to China in 2020. The Chinese government remains keen on local governments issuing special bonds to boost infrastructure projects. World steel demand is forecast to grow at a slower pace in 2020. In the immediate term, stronger profit margins for HRC (Hot Rolled Coil), is expected to boost supply for HRC. We anticipate iron ore to remain firm in the immediate term, with prices softening towards $75/t towards the end of Q1 2020.

Q4 Recap: SGX (Singapore Exchange) 62% iron ore prices remained well supported in Q4 as optimism surrounding the trade war, prompted market sentiment to improve. Prices of the 1st generic SGX 62% Fe grew 8.71% in Q4 2019, as prices found support at $80/t. The 'phase one' trade deal, signed on January 12th, the agreement has given investors hope that relations between the world's two leading economies will improve in 2020. However, we remain cautious about the latter, and as a large proportion of tariffs stay in place, and technological tensions remain escalated.

Steelhome China vs SGX 62% Fe Price

Inventory decline has stabilised, aiding the rise in iron ore prices in Q4 2019.



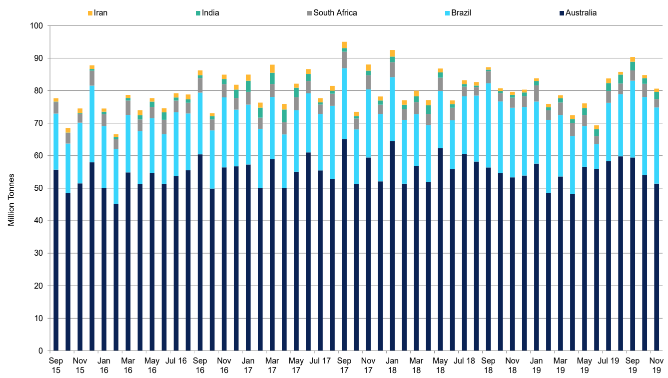
Source: Bloomberg

Steel prices were also well supported in Q4 2019 with rebar prices gaining 9.48%, throughout the period. Rebar prices were bid below 3,200RMB/t and closed 2019 at 3,550RMB/t. We attribute this to optimism surrounding the trade war and a more positive outlook for H1 2020. The threat of trade war re-escalation is prominent but the move from China to change their foreign investor laws, as of January 1st 2020, helps open up China to international markets and business. The yuan has strengthened accordingly, which should provide support to the base and industrial metals.

Outlook: The Foreign Investment Law came into effect in January 2020, which could improve the ease of doing business in China. However, labour-intensive industries and manufacturing are starting to relocate to ASEAN (Association of Southeast Asian Nations)countries. Indeed, there has been a shift in the sectors in which foreign direct investment has been targeted. The allocation of FDI (Foreign Direct Investment)has changed in recent years towards more hi-tech industries, according to MOFCOM (Ministry of Commerce). For example, throughout the period assessed, FDI into manufacturing and real estate declined by 5.6% and 14.2% respectively; comparatively, IT and software FDI increased by 147.8%. This highlights a shift in resource allocated away from steel and iron ore.

Top 5 China Iron Ore Importers

Imports from Australia have fallen but we expect Brazil exports to rise in 2020.



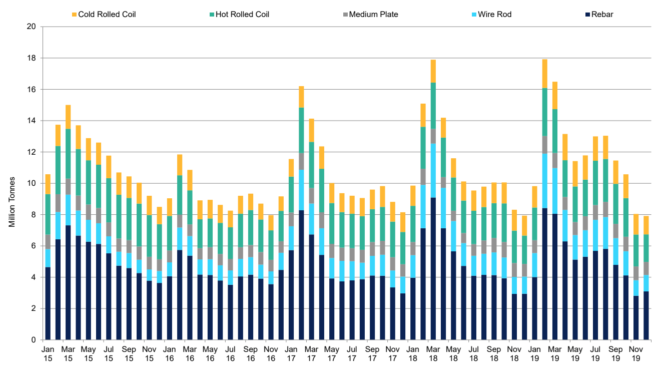
Source: Bloomberg

Chinese iron ore imports from Brazil declined 12.7% in 2020, a decline of 49.3m tonnes, according to Brazil's ministry of trade, industry and services. This is attributed to the Vale disaster in January 2019, which triggered a reduction in Vale iron ore production. In December, Brazilian ministry data outlined that they exported 24.7m tonnes of iron ore, down 25.7% y/y and 9.5% m/m. Despite most monthly year-on-year figures in 2019 being below 2018 values, figures started to rebound in April. Vale production has restarted, and the company has completed the emergency contamination works in Brumadinho. Vale has built integrated structures designed to reduce the flow of sediment into the Paraopeba River. We expect Vale production and therefore Brazilian exports to recover in 2020 putting downward pressure on Brazilian fines prices and also the SGX 62% contract. In the immediate term, progress may be slow helping to cap losses in the SGX contract. As material flows from Brazil, we anticipate Steelhome port stocks to increase from 130.65 tonnes as of February 14th but the coronavirus has clouded shipments.

At the time of writing the most recent NBS data shows that November 2019 output for steel rebar was up 17.7% y/y. This equates to 22.4m tonnes of rebar and according to NBS means rebar was 21.5% of the country's total finished steel output in November. Despite rebar production being strong on a year-on-year basis, demand was equally as strong. Indeed, Chinese rebar inventories have declined significantly to a multi-year low at 2.9m tonnes. Furthermore, the total finished steel inventories broke below 8m tonnes, this is seasonal, and we expect stocks to increase in Q1.

Chinese Finished Steel Inventories

Finished inventories remain low - coronavirus could have impacted re-stocking.



Source: Bloomberg

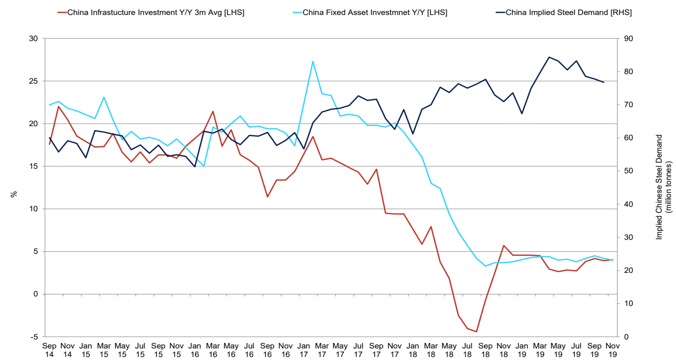
We anticipated macro-economic optimism to come to the foreground in Q1 2020, as investors believe the likelihood of a hard landing in China and the U.S. economy is steadying around 2% growth. This is more applicable to assets highly correlated to macro-economics. Exemplified by Chinese crude steel output growing at 7% in 2019, according to Mysteel despite the numerous trade intensifications with the U.S., exports declined by 6.5% in the year. While we expect the Chinese economy to slow moderately in 2020 to 6%, we do not anticipate a hard landing due to healthy domestic consumption. President Xi Jinping has called for a 'contingency plan' to limit the slowdown; we expect this to support steel demand in Q1.

China's Banking and Insurance Commission, indicates that 90% of China steel market is consumed domestically, outlining the industry's dependence on domestic economic growth; 50% of their export market in the ASEAN region. Through the first 11 months of 2019, infrastructure investment was up 4% y/y and expectation is that infrastructure project may support the Chinese economy again in 2020. The ministry of finance highlighted that local governments should increase bond issuances, even though they have issued 1 trillion yuan of 2020's allocation in 2019. The PBOC have injected a record amount of liquidity in the first week of February due to downside risks as a result of the coronavirus.

The World Steel Association also sees Chinese steel demand as positive for 2020 at 1,270m tonnes, a modest 1.8% increase compared to 6.2% for 2019. Accordingly, Worldsteel association forecast global steel demand to improve by 1.7% in 2020 to 1,805.7m tonnes, China accounting for 1,270m tonnes, equating to 70% of the worldwide market. Crude steel output in China was softer on a month on month basis in November, declining from 81.52m tonnes to 80.29m tonnes. However, production was stronger year on year by 4%; comparatively, global crude steel production was 1,478m tonnes in 2019, a 1% increase y/y. Chinese crude steel demand has been moderating in recent months, November implied steel demand was 76.57m tonnes as down from 77.76m the previous month. There was limited impact through Lunar New Year at mills. Steel mills delayed returning to work due to the virus, in Hubei EAFs (Electric Arc Furnaces) were closed and this could be extended through February 14th. However, the longer-term production trend remains on the upside, and we expect output to remain elevated in H1 2020.

China Investment vs Implied Steel Demand

Implied demand has softened in recent months as investment remains steady.



Source: NBS, CEIC,Bloomberg

Hot rolled steel profits have strong in recent months as HRC prices have surged 11.68% since the end of October to 3,625RMB/tonne as of the beginning of January. According to SMM, profits for HRC were 140RMB/tonne as of December 30th 2019; CRC (Cold Rolled Coil) ranged between 200-300RMB/tonne. This caused some mills to favour producing HRC over rebar which should have supported HRC production in January. Comparatively, the spread between HRC and CRC has widened with the CRC premium favouring HRC order. Demand for rolled steel is mostly dependent on whether or not the automobile demand can increase in 2020.

Gold - Global Uncertainty Persists

Spot Gold
$/Oz

Source: Bloomberg, 13.02.2020

Summary

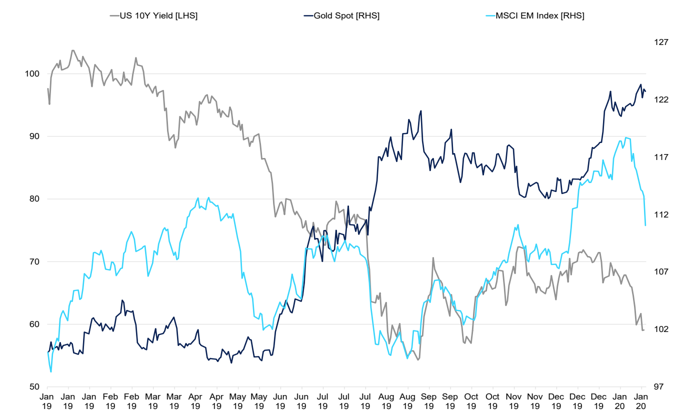
Persisting downbeat economic outlook, driven by uncertainty about the 'Phase 1' trade deal as well as a more pronounced global slowdown, edged gold prices closer to $1,508/oz, gaining 4.5% during the quarter. The support of the precious metal was driven by investment flows into the ETFs as well as continued central bank buying, however at a slower rate relative to Q3.The global economic slowdown impacted industrial and jewellery demand in China and India. In Q1, we see lower central back purchases as they approach their reserve limits, as well as negative growth in jewellery sales as the impacts of coronavirus dampen the demand for gold in China.

Q4 Recap: Gold had its best year since April 2013, gaining 22.87% in 2019, finding support at $1,540/oz. It outperformed major bond markets and emerging market indices over the period. Bullion grew at the fastest rate in Q3, as global uncertainty and lower interest rates across the world, spurred the demand for the safe-haven asset. In Q4, gold increased by 4.54% as the promise of the trade deal calmed market nerves. Similarly, the ETF flows only grew modestly in the last quarter of the year, from 81.12m to 81.39m. In January, gold found support once again on the back of tensions in the Middle East linked to the US-Iran confrontation, rising to $1,611/oz. The subsequent comments by President Donald Trump eased concerns, pushing the price of gold down to $1,536/oz, still above the 2019 closing price. Central bank buying and strong ETF inflows were the most prominent supporters behind the gold rally, despite growing at a slower rate in comparison to Q3 2019.

According to the Gold Council, support for gold prices in Q4 was attributed to the investment flows into ETFs. In 2019, gold demand grew modestly to 4,355.7 tonnes thanks to the prominent ETF inflows (401.1 tonnes), edging closer to Q1 2013 highs. In Q4, ETF flows increased by 141 tonnes, while North American and European regions added the most, 70.5 and 64.7 tonnes respectively. Central banks buying remained strong (650.3 tonnes); however, there is a general trend of a slowdown in buying. In H2, global reserves declined by 38% y/y due to diminishing interest in gold purchases. The continued strength in prices coupled with geopolitical and economic uncertainty hampered demand from jewellery and technology sectors, -6% and -2% y/y, respectively.

US 10 Year Yields vs Spot Gold vs MSCI EM Index

Gold is seen outperforming emerging markets as well as US yields.

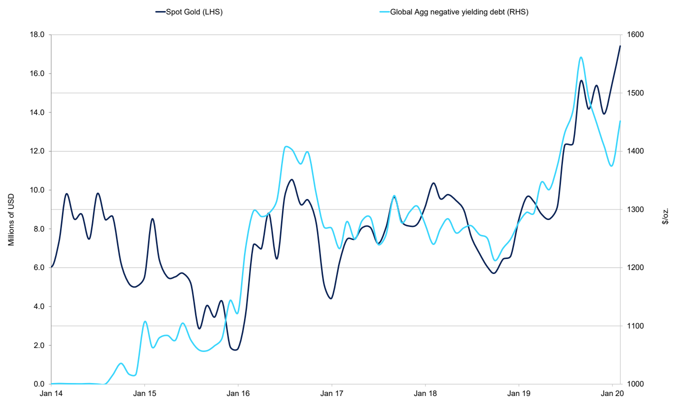


Source: Bloomberg

Outlook: Despite low levels of interest rates keeping the assets at an elevated level, markets have increased their exposure to safe-haven assets in the face of adversity. With 90% of developed market debt trading in negative real rates, the opportunity cost of holding gold diminishes. This could be illustrated by the correlation of negative-yielding debt vs gold spot price. In 2020, we believe this trend continues: central banks are cutting rates at the same time as expanding quantitative easing and stimulus programmes. This should provide further tailwinds to gold. With the US monetary policy currently on hold, we could still see growth in gold, however, below the 2019 rates.

Spot Gold vs Global Negative Yielding Debt

Negative yielding debt is driving investors towards a safe-haven..

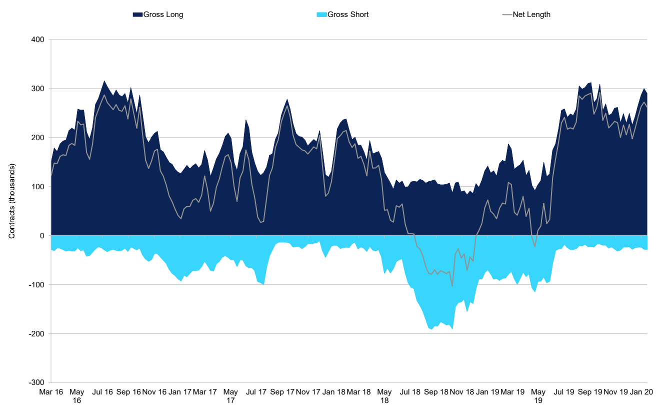


Source: Bloomberg

Since the outbreak of the coronavirus in China, we have seen gold trading lower day-on-day. This, alongside falling Chinese equities indicates that investors are rushing to sell both risky and safe-haven assets in a bid to receive cash and capture the profits. The potential promise of a new drug being patented to treat the coronavirus-impacted patients should spur the return of risk appetite, given the trials are successful. From the non-commercial positioning, the number of positions declined however remains above December highs, indicating elevated investor interest in the commodity. Looking ahead, we anticipate elevated ETF flows due to uncertainty and the impact of lower interest rates on the opportunity cost of buying gold should bolster investment demand. On December 3rd, COMEX non-commercial net long positions were tracing above 290,000 contracts, before rising to 330,000 as of January 28th, as markets witnessed heightened uncertainty. However, despite elevated gold prices, we saw a decline in 90-day volatility, down 25.35% in the same time period. We believe that global deceleration, along with continued recessionary fears and a more pronounced slowdown in China, will spur the demand for the safe-haven, driving the volatility higher into Q1 2020.

COMEX Managed Money Net Positions

Global uncertainty adds to the growth of gross long positions.



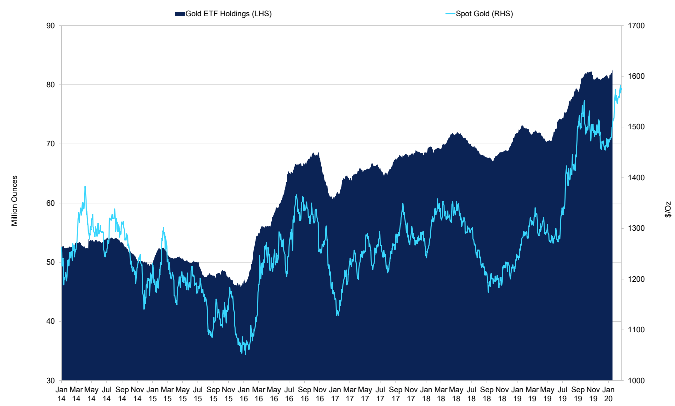
Source: Bloomberg

From the industry standpoint, we see a softening in jewellery and technology demand for gold, as global growth continues its path of weaker growth in 2020. The slowdown of Chinese growth, along with elevated levels of inflation, 4.5% y/y as of December 2019, will continue to squeeze consumer budgets. And while the trade deal with the US may restore some confidence, uncertainty lingers. This, alongside, the impact of coronavirus, which should deteriorate jewellery demand in China drastically. The Lunar New Year is the biggest season for jewellery purchases; however, we might see a significant dip in sales in Q1 2020. In India, rising gold import duty, from 10% to 12.5%, should also pose headwinds to jewellery demand.

By the end of January, total ETF gold holdings have risen to record highs as the impact of the coronavirus pushed on market sentiment. As of January 29th, the ETF flows stand at 82.557m, close to overriding December 2012 highs. Similarly, CFTC total open interest picked up to 1.189m contracts in the same period, in line with September highs. Indeed, gold prices have gained in 2020 as the outbreak of the Wuhan-originated virus threatened to dampen the world economy, injecting uncertainty into investors' sentiment due to conflicting headlines. Investors' appetite for gold should offset the declines in demand from the jewellery sector, especially, as the virus will dampen the celebratory purchases of gold in Q1.Central bank purchases continue to demand the gold for their reserves, driving the prices for gold even higher. In the first half of 2019, central bank demand was at the highest level since becoming net buyers in 2010. Their net purchases rose 47% y/y to 244.4t in Q2. Continued gold buying is a clear indication of the central banking community's mindset towards gold. Amid ongoing global struggles, emerging market banks were the biggest gold buyers, with Russian gold reserves increasing 38.7t in Q2 and Chinese growing 74t in H1 2019.

Gold ETF Holdings vs Spot Price

We see record investor interest in gold amid global uncertainty.



Source: Bloomberg

Likewise, the weakening in bar and coin demand was driven by the high price of the precious metal. In Q4, bar and coin investment declined by 222.9 tonnes, resulting in total 2019 demand at 870.6 tonnes, 20% down y/y. The Indian economy, the biggest coin and bar buyer, has been under pressure, as a struggling banking system, lower consumer demand, and rising unemployment are denting the nation's growth as well its propensity to consume gold jewellery. However, there is a glimmer of hope for gold demand in the long-term. According to the survey conducted by the World Council, 75% of Indian investors still trust gold more than currencies, while in China and the US, this number stands at 69% and 60% respectively.

Central bank purchases continue to drive gold demand, albeit, after years of de-dollarisation, we see a trend of a global slowdown in central bank buying. Russia, whose central bank buys the most gold for its reserves, is losing interest in the precious metal. In the first 11 months of 2019, it bought 149 tonnes of gold, 44% less than the year before. As Russia is approaching the proportion of gold it wants to keep in the foreign exchange reserves, we would expect a much slower uptake in Q1 2020. Additionally, high precious metal prices should ease the purchases of gold. China, however, currently holds 3% of its reserves in gold, could see additional purchases in order to diversify away from the dollar.

Silver - Chinese Demand Under Virus Threat

Spot Silver
$/Oz

Source: Bloomberg, 13.02.2020

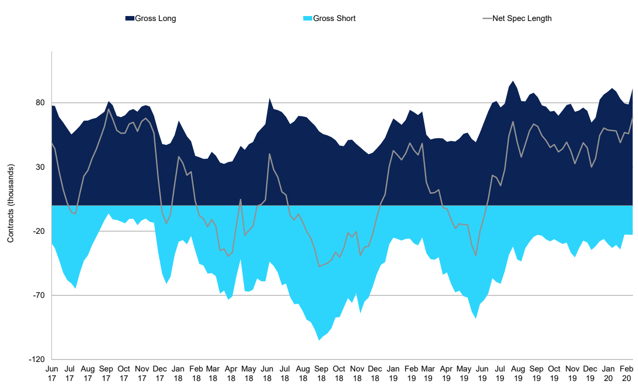
Summary

As global sentiment lacked clarity, speculators demand remained stable in 2019. Silver ETFs, however, remained lacklustre as investors remained cautious about investing in the precious metal. The impacts of the trade war impacted industrial and electronics demand, especially for Chinese exports. The suspension in new tariffs should ease those demand pressures, especially as we see a case for automotive demand building in 2020. We expect silver demand to remain strong, mainly prompted by greater investor demand as it catches up with other precious metals.

Q4 Recap: Silver whipsawed through Q4 2019 as global market sentiment lacked clarity, ranging from slowing global growth performance to risks of re-elections in Britain. The real driver for the precious metals, especially silver, has been trade-war risk and, later, the de-escalation as the 'Phase 1' got approved in Q4. Silver was especially well bid at the end of Q4 2019 and beginning Q1, as economic outlook worsened and the conflict between Iran and the US added uncertainty to the markets. Silver prices gained 7.40% in Q4, rallying 18.39% y/y in 2019 to $18.1475/oz. In January, there has been a modest pullback in silver prices as fears of a broader conflict in the Middle East abated.

COMEX Managed Money Positioning

We see an increase in gross long positions, as silver tries to catch up with gold.



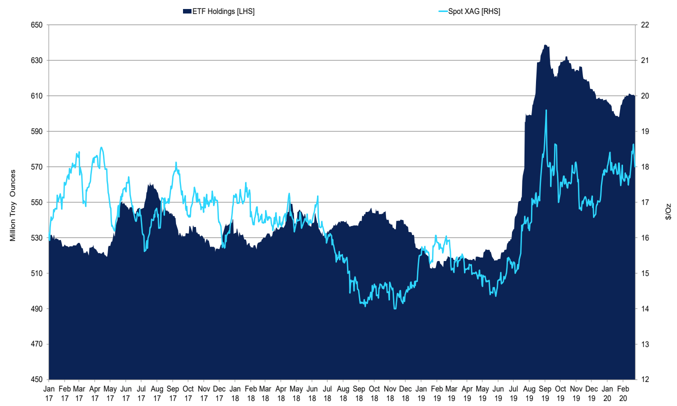
Source: Bloomberg

Throughout the quarter, the CFTC silver non-commercial combined net length has increased by 12,336 positions up to 72,023, the highest since May 2017. However, the price retraction in January coincided with a marginal decrease in net positions, indicating that most investors are not ready to exit their positions just yet. US data shows that the economy kept growing at a modest rate closer to the end of 2019, while the deterioration in manufacturing employment dragged the tight job market conditions across the country. Unemployment stood at a half-century low at 3.5% in December. Inflation has been below the central bank's 2% target at 1.58% y/y as of December 2019. As of January 27th, the implied probability of an interest rate pause stands at 87.7%. The VIX, however, has risen by 50% since the beginning of the month on the threats of coronavirus impacting global performance. We expect the US economy to continue to grow at a moderate rate; however, the implementation of the 'Phase 1' deal could help drive the trade in both countries.

Outlook: We expect silver demand to remain strong, and we believe the biggest macro drivers for silver will be the US-China trade deal and growth performance in the US, especially as a softer dollar could prompt the precious metal in Q1. In 2019, demand significantly suffered in the electrical and electronics sector, as the US imposed most of its tariffs on Chinese electrical appliances. The 'Phase 1' deal, however, witnessed a suspension in new tariffs on $160b in Chinese-made consumer electronics, and China vowed to buy $75b worth of manufacturing goods in return.

Silver ETF Holdings vs Spot Price

ETF holding levels remain subdued as investors are cautious.



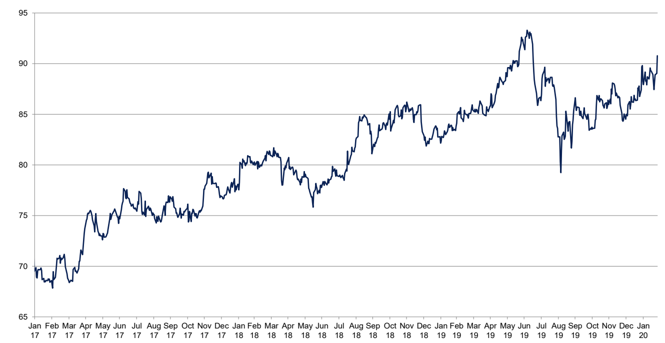
Source: Bloomberg

Appetite for precious metals has been strong in 2019, exemplified by the inflow of funds into ETFs and rise in net longs on the commitment of traders. This, however, did not follow through with silver as known ETF holdings decreased by 3.27% in Q4 2019, falling from a record high to 0.607bn troy ounces on December 30th. In January, this trend continues, and ETF holdings continue to fall while gold posts another round of highs. We believe that gold, as both an inflation hedge and alternate currency, has become a favourite during the times of increased uncertainty, especially in the US.

The gold-to-silver ratio moderated higher up to 86.5 on January 20th, as gold continued to outperform silver. In Q4, the ratio gained 3.24%, as gold rallied through $1,500/oz. We believe that the ratio could soften in H1. While gold is reaching for new highs, silver has yet to follow suit and, at the time of writing, it is yet to break the September 2019 highs. As mentioned before, as countries around the world make efforts to stimulate growth and manufacturing, demand for silver could skyrocket.

Gold/Silver Ratio

The ratio is seen trending higher as gold outperforms silver.



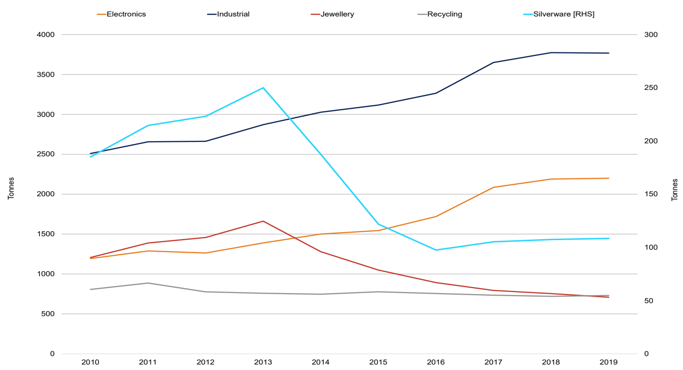
Source: Bloomberg

The silver managed money net length increased in Q4 by 19.22% to 60,365 contracts. In January, the pullback in prices can be attributed to an increase in short positions; according to CFTC data, the number of short positions has been increasing since the beginning of 2020, from 26,113 to 33,091. At the same time, a number of traders have exited their long positions, with 175 still betting long as of January 20th from a recent peak of 185 in the first week of the year. The number of open interest positions has increased only marginally, from 0.263m to 0.270m. This suggests that investors liquidated their positions after the recent spike, amid the de-escalation of tensions. Investors remain cautious by not entering into new strategies.

From the industrial demand standpoint, new solar capacity installations in China in Q3 2019 slumped to 4.6GW, making the total for 2019 reach 16GW (Q1-Q3) - the lowest figure since 2017. AECEA (Asia Europe Clean Energy Advisory) forecast the total capacity for 2019 to stand in the 20-24GW range. While NEA (Nepal Electricity Authority) continues to approve new solar capacity projects, a cut in renewable subsidies from the Chinese government adds pressure on private investors to contribute to new capacity.

China Silver Demand by Sector

Most silver-requiring sectors see demand slowdown for precious metal in 2019.



Source: Bloomberg

Demand for precious metals in recent months is outlined by the Philadelphia Gold & Silver Index, which has gained 27.23% YTD, the index gained 23.5% in Q3 to a high of 102.29 on August 28th but failed to hold onto gains softened to 88.40, up 6.75% for the quarter.

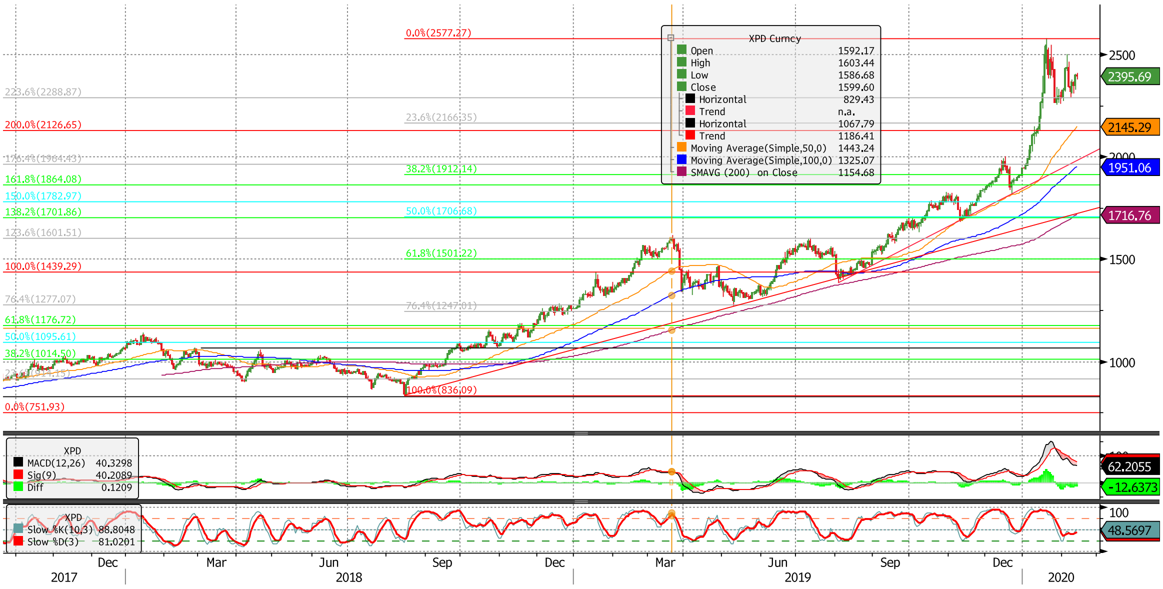
According to the secretary-general of the China Photovoltaic Industry Association, 40GW of new solar capacity is to be added in 2020. This is well below the record of 53GW in 2017, and policy setbacks, shortages of capital and grid connection problems are the cause of the continued softening. The new solar policy included the removal of quotas, as well as the introduction of a tariff auction system, aided to the delays in the new installed capacity as well as payment hold-ups. We believe that this uncertainty will weigh on investment decisions until the new 5-year plan is to be published in 2021.

China's decelerating export growth reflects deteriorating demand conditions for electronics in the global sector. The subdued global demand for electronics could extend further into 2020, hurting demand for Chinese products. Avoidance of Chinese-made electronics companies by overseas consumers could pose additional headwinds to production. In Q1, as the impact of the virus crisis intensifies, the demand from domestic companies will suffer. Indeed, international businesses including airlines, tech, and automobile industries have already curbed their operations within mainland China as fears intensify.

Despite producers' promises of an increase in mining production globally, community protests and strikes across South America have weighted on total mine production. According to MetalFocus, global production in 2019 is expected to fall by 0.7% to 849.3Moz, the fourth year of production declines. The demand for precious metals in recent months is outlined by the Philadelphia Gold & Silver Index gained 57.07% in 2019, finishing the year on a 3-year high at 108.35. Later, it failed to hold onto gains, softening to 99.61.

Palladium - ETFs Beating New Records

Spot Palladium
$/Oz



Source: Bloomberg, 13.02.2020

Summary

Palladium keeps breaking through new highs, with prices finding support at $970/oz by the end of the year. With palladium now 2.5 times more expensive than platinum, we would expect automakers to consider shifting the autocatalyst loadings away from palladium. However, with new emission regulations taking pace, palladium should still be in demand in 2020. From the investors' side, we have seen a marginal pickup in total ETF holdings, as new traders enter the market to profit from a new-found rally.

Q4 Recap: Palladium prices have continued to break record highs, and as of the first month of 2020, the precious metal has already surpassed $2,000/oz. and $2,500/oz. levels. Spot palladium gained 17.95% in the last quarter of the year, and 55.97% in 2019, making it 2.5 times more expensive than platinum. Throughout Q4, the CFTC net non-commercial combined positions fluctuated moderately from 13,877 highs in October to 11,015 lows by the end of 2019. In the last two weeks of December, some investors liquidated their positions to take the profit as palladium reached the $1,900/oz trigger level. Additionally, the news of power outages and maintenance at smelting operations in South Africa added to the support of PGMs.

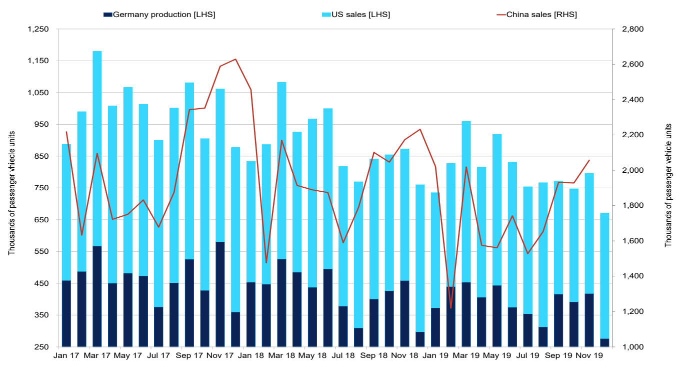
South Africa released data showing that the mining production in PGM for November 2019 fell by 13.5% y/y. However, sales of PGMs increased by 36.5% in the same time period. At the same time, China customs show the total palladium imports as of November 30th stood at 92,140koz the highest value since 2016. We believe this could be attributed to China expectations of higher electronics production and exports in H1 2020.

Fundamental tightness in the palladium market encouraged outflows from the ETF holdings. Since October, we have seen a marginal pick up in holdings as prices increased and new traders entered the market. In January, the number of open positions has rocketed past 26,000. However, the ETF holdings levels are still at decade lows suggesting that speculators remain cautious.

Outlook: We maintain a cautious outlook for palladium for Q1. There is a modest increase in automobile and industrial demand, given that newly-signed trade deal shows signs of improvement. However, the possibility of auto tariffs imposed by the US on the EU could pose as headwinds to industry demand. The most recent rally in January can be explained by a sudden change in the lease rates, suggesting tight availability and that buyers fear a lack of ready supply. We believe that the speculators have driven the price well above the trend line, creating a potential bubble that could trigger a massive sell-off.

The US, China and Europe Automotive market performance

Major auto hubs saw significant declines in vehicle sales and production.



Source: Marklines, VDA, CAAM

From the biggest automotive market, German sales performance continue to disappoint, especially as the latest passenger vehicle production figure hit a 22-year low. Exports, in particular, suffered the worst as 2019 showed a decline of 20.52% y/y. We attribute this to lower global demand and loss of confidence in German manufacturing performance. Despite a long preparation window given to companies toadjust their models to Euro-6 regulation, we have already seen car makers release the non-compliant models along with compliant ones in 2020. We believe that in the medium-term, as companies start facing fines, more palladium will be demanded by European carmakers.

In the US, the passenger vehicles sustained a drop in 2019, as the number of vehicles sold edged to 4.92m, a decline of 10.25% y/y. In the first 11 months of 2019, China's total passenger-car sales declined 10.45% y/y; however, new energy vehicle sales were up 2.02% y/y in the same time period. We would expect the slowdown to tail-off given the improvement of trade with the US.

Platinum - New Safe Haven Emerging

Spot Platinum
$/Oz

Source: Bloomberg, 13.02.2020

Summary

Platinum prices found their strength once again, as investors sought a safe-haven metal alongside silver and gold. In the quarter, platinum prices rallied 12.5% as non-commercial positions reached new record highs. The power outages in South Africa should continue to pose as additional tailwinds to precious metal prices. Most of the major automotive hubs, including China, Europe and the US, are set for another quarter of negative growth in sales. However, the case for another rebound seems to be more likely in 2020.

Q4 Recap: Platinum prices were well supported once again in Q4 2019 as weaker global data and US-China trade negotiations placed the precious metal alongside gold and silver, and investors sought an alternative to well-established safe-havens. In Q4, platinum gained 12.47% q/q and 25.09% in 2019, breaking through the $1,000/oz benchmark for the first time since February 2018. From the supply side, power outages and mining issues in South Africa were cited as tailwinds for the platinum prices. In Q3 2019, mining production fell in South Africa, Zimbabwe, and Russia by 11%, 4%, and 6% y/y respectively. However, for 2019, global supply is forecast higher due to better supply performance in H1; yielding a total of 8,195koz, and 30koz total deficit for 2019.

CFTC net non-commercial combined positions extended the rally, and, since our last report, the net position increased from 26,191 long in October, up to 67,039 on January 14th, a new record high. In a similar vein, the total open interest data rose from 85,255 to 109,000 in the same period, and fresh longs have been established.

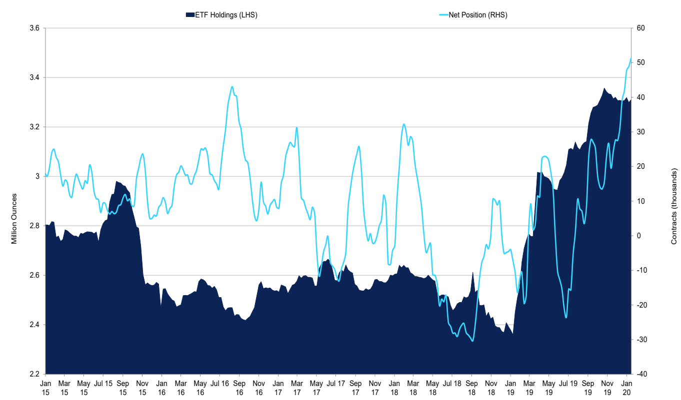
Outlook: For 2020, the World Platinum Investment Council (WPIC) forecast the investment demand to come down from 2019 highs, thus, yielding net global balance of 670koz in surplus. After record ETF buying in 2019, we expect the investors' interest to remain elevated in Q1 2020, as macroeconomic volatility prevails. Refined global production is forecast to contract by 2% y/y to 6,110koz, largely as a result of shaft closures in South Africa implemented during the year.

Sales in India remains weak, as tighter credit conditions and more rigorous lending criteria make it harder for many people to finance a car purchase.

Indeed, while diesel car sales in the EU contracted by 14.1% y/y in Q3 2019, diesel car sales in Germany increased 4% y/y. As this transition takes place, diesel models are being replaced by electric ones, and a share of petrol types dominates the European market.

ETF Holdings vs Platinum Net Positions

ETF holdings have been seen reaching new record highs in January 2020.



Source: Bloomberg

As the final stages of Euro 6 are implemented in January 2020, all class vehicles are now required to follow the emission tests, driving the share of diesel vehicles further down in the long-term. In China, with China-6 regulation set for July 2021, car manufacturers are already adjusting some of the existing models to comply with regulatory standards. We anticipate that this would attribute to higher demand for platinum use for catalytic converters, as diesel models would require higher content of platinum autocatalyst loading. However, this demand will be well below the one of its alternative, palladium, as economies shift away to petrol models in the long-term. Jewellery demand for platinum is down 4% y/y at 545koz in 2019, as demand in China continues to shrink. The ongoing pullback in Chinese jewellery demand continues as the industry adapts to changing consumer habits towards lower prices points. Additionally, disturbances from Hong Kong and the outbreak of the coronavirus could impact tourism and sales in the area.

Appendix

Global

Global Manufacturing PMI

Source: Bloomberg

Date	USA (Markit)	China (Caixin)	Eurozone (Markit)	Japan (Nikkei)	Emerging Markets
Feb-2017	54.2	51.7	55.4	53.3	51.3
Mar-2017	53.3	51.2	56.2	52.4	51.6
Apr-2017	52.8	50.3	56.7	52.7	50.9
May-2017	52.7	49.6	57.0	53.1	50.6
Jun-2017	52.0	50.4	57.4	52.4	50.8
Jul-2017	53.3	51.1	56.6	52.1	50.9
Aug-2017	52.8	51.6	57.4	52.2	51.7
Sep-2017	53.1	51.0	58.1	52.9	51.3
Oct-2017	54.6	51.0	58.5	52.8	51.2
Nov-2017	53.9	50.8	60.1	53.6	51.6
Dec-2017	55.1	51.5	60.6	54.0	52.2
Jan-2018	55.5	51.5	59.6	54.8	51.9
Feb-2018	55.3	51.6	58.6	54.1	51.9
Mar-2018	55.6	51.0	56.6	53.1	51.3
Apr-2018	56.5	51.1	56.2	53.8	51.3
May-2018	56.4	51.1	55.5	52.8	51.1
Jun-2018	55.4	51.0	54.9	53.0	51.2
Jul-2018	55.3	50.8	55.1	52.3	51.0
Aug-2018	54.7	50.6	54.6	52.5	50.8
Sep-2018	55.6	50.0	53.2	52.5	50.3
Oct-2018	55.7	50.1	52.0	52.9	50.5
Nov-2018	55.3	50.2	51.8	52.2	50.8
Dec-2018	53.8	49.7	51.4	52.6	50.3
Jan-2019	54.9	48.3	50.5	50.3	49.5
Feb-2019	53.0	49.9	49.3	48.9	50.6
Mar-2019	52.4	50.8	47.5	49.2	51.0
Apr-2019	52.6	50.2	47.9	50.2	50.5
May-2019	50.5	50.2	47.7	49.8	50.4
Jun-2019	50.6	49.4	47.6	49.3	49.9
Jul-2019	50.4	49.9	46.5	49.4	50.1
Aug-2019	50.3	50.4	47.0	49.3	50.4
Sep-2019	51.1	51.4	45.7	48.9	51.0
Oct-2019	51.3	51.7	45.9	48.4	51.0
Nov-2019	52.6	51.8	46.9	48.9	51.1
Dec-2019	52.4	51.5	46.3	48.4	51.0
Jan-2020	51.9	51.1	47.9	48.8	51.0

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	15718	14268	1451	93	1849
	Q2	15967	16201	-233	81	1911
	Q3	15709	16113	-404	80	2011
	Q4	16035	16594	-558	75	2100
	Total/Average	63430	63175	255	78	1968
2018	Q1	15910	14763	1147	90	2158
	Q2	16076	16845	-769	75	2259
	Q3	16317	16727	-409	74	2055
	Q4	16145	17191	-1045	67	1967
	Total/Average	64449	65526	-1077	69	2110
2019	Q1	15818	14785	1033	82	1859
	Q2	16112	16892	-780	68	1792
	Q3	16133	16769	-636	65	1761
	Q4	16195	17220	-1025	58	1754
	Total/Average	64258	65665	-1408	61	1791
2020	Q1	16126	15063	1063	72	1762
	Q2	16596	17202	-607	60	1760
	Q3	17000	17078	-78	60	1750
	Q4	17325	17547	-222	57	1730
	Total/Average	67047	66890	157	61	1751
2021	Q1	16871	15492	1379	73	1700
	Q2	17246	17715	-469	62	1690
	Q3	17707	17596	112	63	1720
	Q4	17845	18094	-249	60	1760
	Total/Average	69669	68897	772	63	1718
2022	Q1	17482	15992	1490	76	1710
	Q2	17720	18298	-579	63	1680
	Q3	18034	18178	-144	63	1725
	Q4	18089	18701	-612	58	1770
	Total/Average	71325	71169	156	61	1721

Aluminium Forecasts

Source: Wood Mackenzie

Global (Mt)	2017	%	2018	%	2019	%	2020	%	2021	%	2022	%
Alumina Production (SGA)	121.8	7.6%	121.8	0.0%	123.8	1.7%	129.7	4.7%	134.6	3.8%	138.6	3.0%
Aluminium Production	63.4	7.5%	64.4	1.6%	64.3	-0.3%	67.0	4.3%	69.7	3.9%	71.3	2.4%
Consumption	63.2	6.0%	65.5	3.7%	65.7	0.2%	66.9	1.9%	68.9	3.0%	71.2	3.3%
Metal Market Balance	0.3		-1.1		-1.4		0.2		0.8		0.2	
Stock Days of Consumption	78		69		61		61		63		62	
Alumina Market Balance	-0.8		-2.6		-0.2		0.4		0.4		1.4	
Stock Days of Requirement	44		35		35		35		34		37	
Prices												
Cash Aluminium ($/t)	1968		2110		1791		1751		1718		1721	
(c/lb)	89		96		81		79		78		78	
Spot Alumina ($/t)	354		474		333		308		320		310	

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	9042	7164	1878	109	1971
	Q2	9195	8795	400	94	2023
	Q3	8850	8897	-47	93	2316
	Q4	9123	9563	-440	83	2306
	Total/Average	36210	34419	1791	89	1867
2018	Q1	9096	7568	1529	118	2247
	Q2	9203	9316	-112	96	2271
	Q3	9350	9454	-104	94	2112
	Q4	9184	10182	-997	78	2003
	Total/Average	36833	36519	314	85	2154
2019	Q1	8960	7679	1281	114	2002
	Q2	9150	9468	-317	91	2055
	Q3	9064	9598	-534	85	2005
	Q4	9082	10321	-1240	68	1992
	Total/Average	36256	37067	-811	73	2013
2020	Q1	9088	7884	1204	99	
	Q2	9347	9701	-354	78	
	Q3	9583	9831	-248	75	
	Q4	9835	10576	-741	63	
	Total/Average	37854	37993	-139	68	
2021	Q1	9560	8168	1392	93	
	Q2	9798	10058	-261	74	
	Q3	10101	10199	-98	73	
	Q4	10201	10974	-773	61	
	Total/Average	39660	39399	260	65	
2022	Q1	10093	8494	1598	92	
	Q2	10236	10460	-225	73	
	Q3	10454	10607	-153	72	
	Q4	10482	11413	-932	59	
	Total/Average	41264	40975	289	63	

Copper

Copper Forecasts

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Total Mine Production	20775	-0.1	20983	1.0	21931	4.5	23023	5.0
Total Smelter Production	19755	1.3	20008	1.3	21140	5.7	21930	3.7
Refined Production	23573	0.5	24062	2.1	24718	2.7	25380	2.7
Consumption	23526	0.0	23946	1.8	24495	2.3	25072	2.4
Concentrate Stock Change	-100		-50		150		250	
Metal Market Balance	47		116		223		308	
Metal Stocks - Days of Cons	68		69		70		73	
Prices								
Cash LME Price ($/t)	5999		6200		6100		5975	
(c/lb)	272		281		277		271	
Contract TC/RCs (c/lb excl pp) for 30% Cu Conc	20.7		15.9		19.6		21.9	
Contract Blister Europe ($/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	2019	2019		2020
	Ave	Ave	Ave	Ave	Ave	Q4	Q4	Nov	Dec	Jan
T/C ($/tonne Conc.)	82.25	80.80	62.00	73	76	52	47	45	43	48
R/C (c/lb Cu)	8.23	8.08	6.20	7.3	7.6	5.2	4.7	4.5	4.3	4.8
PP (c/lb Cu)										
Combined (c/lb) +	23.8	23.4	17.9	21.1	22.0	15.1	13.6	13.0	12.4	13.9
Combined (c/lb) #	21.1	20.7	15.9	18.7	19.5	13.4	12.1	11.5	11.0	12.3
				Chinese smelter buying terms (CIF basis)						
				2017	2018	2019	2019	2019		2020
				Ave	Ave	Q4	Q4	Nov	Dec	Jan
T/C ($/tonne Conc.)				84	85	65	59	58	57	59
R/C (c/lb Cu)				8.4	8.5	6.5	5.9	5.8	5.7	5.9
PP (c/lb Cu)										
Combined (c/lb) +				24.3	24.6	18.7	17.1	16.8	16.5	17.1
Combined (c/lb) #				21.5	21.8	16.6	15.2	14.9	14.6	15.1
+ 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	5794	5286	509	75	6214	282
	Q2	5856	6046	-190	72	6112	277
	Q3	5923	6202	-279	68	5802	263
	Q4	6001	5992	8	68	5881	267
	Total/Avg	23573	23526	47	68	5999	272
2020	Q1	6001	5282	719	78	6150	279
	Q2	6007	6143	-136	76	6200	281
	Q3	6024	6363	-339	71	6250	283
	Q4	6031	6159	-127	69	6200	281
	Total/Avg	24062	23946	116	69	6200	281
2021	Q1	6177	5442	736	78	6050	274
	Q2	6179	6268	-89	77	6100	277
	Q3	6180	6484	-304	72	6150	279
	Q4	6182	6301	-119	70	6100	277
	Total/Avg	24718	24495	223	70	6100	277
2022	Q1	6345	5583	762	80	5950	270
	Q2	6345	6428	-83	79	6000	272
	Q3	6345	6651	-307	74	6050	274
	Q4	6345	6410	-65	73	5900	268
	Total/Avg	25380	25072	308	73	5975	271

Lead

Global Quarterly Supply/Demand Balance And Price Forecasts

Source: Wood Mackenzie

		Refined Prod'n	Cons'n	Balance	Stock Days	$/tonne	c/lb
2017	Q1	2923	2863	60	40	2278	103.3
	Q2	3109	3211	-102	33	2164	98.2
	Q3	3177	3169	8	33	2333	105.8
	Q4	3253	3292	-39	31	2493	113.1
	Total/Avg	12462	12534	-73	33	2317	105.1
2018	Q1	2919	2909	10	36	2522	114.4
	Q2	3120	3266	-147	28	2387	108.3
	Q3	3195	3228	-34	27	2102	95.3
	Q4	3268	3352	-84	24	1963	89.0
	Total/Avg	12502	12756	-254	25	2243	101.8
2019	Q1	3029	2896	133	32	2036	92.4
	Q2	3225	3252	-27	27	1885	85.5
	Q3	3295	3215	79	30	2029	92.0
	Q4	3385	3342	43	30	2038	92.4
	Total/Avg	12934	12706	228	32	1997	90.6
2020	Q1	3106	2938	168	39	1942	88.1
	Q2	3306	3298	8	35	1950	88.5
	Q3	3383	3258	125	39	1925	87.3
	Q4	3474	3383	91	40	1950	88.5
	Total/Avg	13269	12877	392	43	1942	88.1

Lead Forecasts

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Mine production	4694	1.2	4716	1.9	4482	0.5	4563	-5.0
Refined production	12934	0.3	13209	3.5	13231	2.1	13306	0.2
Consumption	12706	1.8	12877	-0.4	12860	1.3	13087	-0.1
Concentrate balance	83		58		39		36	
In days of requirement	34		38		43		45	
Refined market balance	228		332		371		219	
In days of requirement	32		41		52		57	
Prices								
Cash LME Price ($/t)	1997		1942		1906		1900	
(c/lb)	90.6		88.1		86.5		86.2	
Realised TCs ($/t conc)	100		175		232		261	

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	589	590	-1	12385	562	1354	207
	Q2	591	608	-17	12259	556	1337	200
	Q3	618	618	0	15602	708	1338	199
	Q4	623	595	29	15367	697	1366	211
	Total/Avg	2421	2411	11	13903	631		
2020	Q1	630	574	56	13440	610	1422	223
	Q2	636	628	8	13411	608	1431	207
	Q3	625	628	-2	14146	642	1428	209
	Q4	636	644	-8	14550	660	1421	203
	Total/Avg	2528	2474	54	13887	630		
2021	Q1	637	624	13	14881	675	1433	207
	Q2	643	659	-16	15800	717	1418	196
	Q3	634	651	-17	15506	703	1401	198
	Q4	649	671	-22	15726	713	1379	189
	Total/Avg	2563	2605	-42	15478	702		
2022	Q1	666	644	22	15212	690	1401	196
	Q2	677	679	-1	15322	695	1400	188
	Q3	681	668	13	14661	665	1413	195
	Q4	685	688	-3	14146	642	1410	188
	Total/Avg	2711	2679	31	14835	673		

Nickel Forecasts

Source: Wood Mackenzie

Global (kt)		2019		2020		2021		2022
Mine Production	2461	+8.0%	2424	-1.5%	2628	+8.4%	2822	+7.4%
Smelter Production	2344	+7.1%	2429	+3.6%	2454	+1.0%	2588	+5.4%
Refined Production	2421	+8.5%	2528	+4.4%	2563	+1.4%	2711	+5.7%
Consumption	2411	+4.9%	2474	+2.6%	2605	+5.3%	2679	+2.9%
Market Balance	54		-42		31		-187	

Cash LME price				
($/t - Current)	13903	13887	15478	14835
(c/lb - Current)	631	630	702	673

Tin

ICDX & LME Tin Price

Source: LME, ICDX

	ICDX	LME Cash	LME premium to ICDX
01-Aug-16	17,950	17,865	-85
01-Sep-16	19,000	19,165	165
03-Oct-16	20,150	20,060	-90
01-Nov-16	20,500	21,015	515
01-Dec-16	21,350	21,315	-35
03-Jan-17	21,100	21,094	-6
01-Feb-17	19,950	19,814	-136
01-Mar-17	19,300	19,500	200
03-Apr-17	20,100	20,084	-16
02-May-17	20,100	20,015	-85
02-Jun-17	20,425	20,420	-5
04-Jul-17	20,000	20,240	240
01-Aug-17	20,700	20,650	-50
04-Sep-17	20,880	20,985	105
03-Oct-17	20,700	20,954	254
01-Nov-17	19,650	19,535	-115
04-Dec-17	19,600	19,582	-18
02-Jan-18	20,100	20,112	12
01-Feb-18	21,820	21,550	-270
01-Mar-18	21,800	21,755	-45
02-Apr-18	21,100	21,252	152
01-May-18	21,375	21,340	-35
01-Jun-18	20,800	20,795	-5
02-Jul-18	19,850	19,825	-25
01-Aug-18	20,100	19,925	-175
03-Sep-18	19,200	18,895	-305
01-Oct-18	19,150	18,970	-180
01-Nov-18	19,180	19,115	-65
03-Dec-18	18,690	18,871	181
02-Jan-19	19,525	19,508	-17
01-Feb-19	20,750	20,985	235
01-Mar-19	21,790	21,710	-80
04-Apr-19	21,515	21,524	9
02-May-19	19,685	19,639	-46
03-Jun-19	18,770	19,350	580
01-Jul-19	18,840	18,890	50
02-Aug-19	17,280	16,971	-309
02-Sep-19	15,775	16,812	1,037
01-Oct-19	16,030	16,228	198
04-Nov-19	16,515	16,398	-117
04-Dec-19	16,750	16,772	22
03-Jan-20	17,120	16,801	-319
04-Feb-20	16,250	16,337	87

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
2018	Q1	3,172	3,472	-300	36	2,702	122.5
	Q2	3,344	3,549	-205	30	2,762	125.3
	Q3	3,453	3,493	-40	29	2,345	106.4
	Q4	3,524	3,514	10	30	2,384	108.1
	Total/Avg	13,494	14,027	-534	30	2,546	115.5
2019	Q1	3,493	3,505	-12	29	2,325	105.5
	Q2	3,537	3,583	-46	28	2,300	104.3
	Q3	3,552	3,526	26	29	2,300	104.3
	Q4	3,613	3,548	65	30	2,400	108.9
	Total/Avg	14,196	14,162	34	30	2,331	105.7
2020	Q1	3,584	3,561	24	31	2,500	113.4
	Q2	3,651	3,640	11	30	2,550	115.7
	Q3	3,590	3,582	8	31	2,600	117.9
	Q4	3,625	3,604	21	31	2,635	119.5
	Total/Avg	14,450	14,386	64	31	2,571	116.6
2021	Q1	3,607	3,622	-14	31	2,700	122.5
	Q2	3,686	3,702	-16	30	2,700	122.5
	Q3	3,673	3,644	29	31	2,700	122.5
	Q4	3,718	3,666	53	32	2,700	122.5
	Total/Avg	14,684	14,633	51	32	2,700	122.5

Price Forecasts and World Quarterly Supply/Demand Balance

Source: Wood Mackenzie

Global (kt)	2019	%	2020	%	2021	%	2022	%
Mine Production	13310	3.1	13917	4.6	13778	-1.0	13721	-1.0
Refined Production	13494	1.9	14196	5.2	14450	1.8	14684	1.8
Consumption	14027	-1.1	14162	1.0	14386	1.6	14633	1.6
Concentrate Market Balance	462		465		177		-103	
Metal Market Balance	-534		34		64		51	
Prices								
Cash LME Price ($/t)	2546		2331		2571		2700	
(c/lb)	115		106		117		122	
Realised TCs ($/t concentrate)	242		302		344		355	

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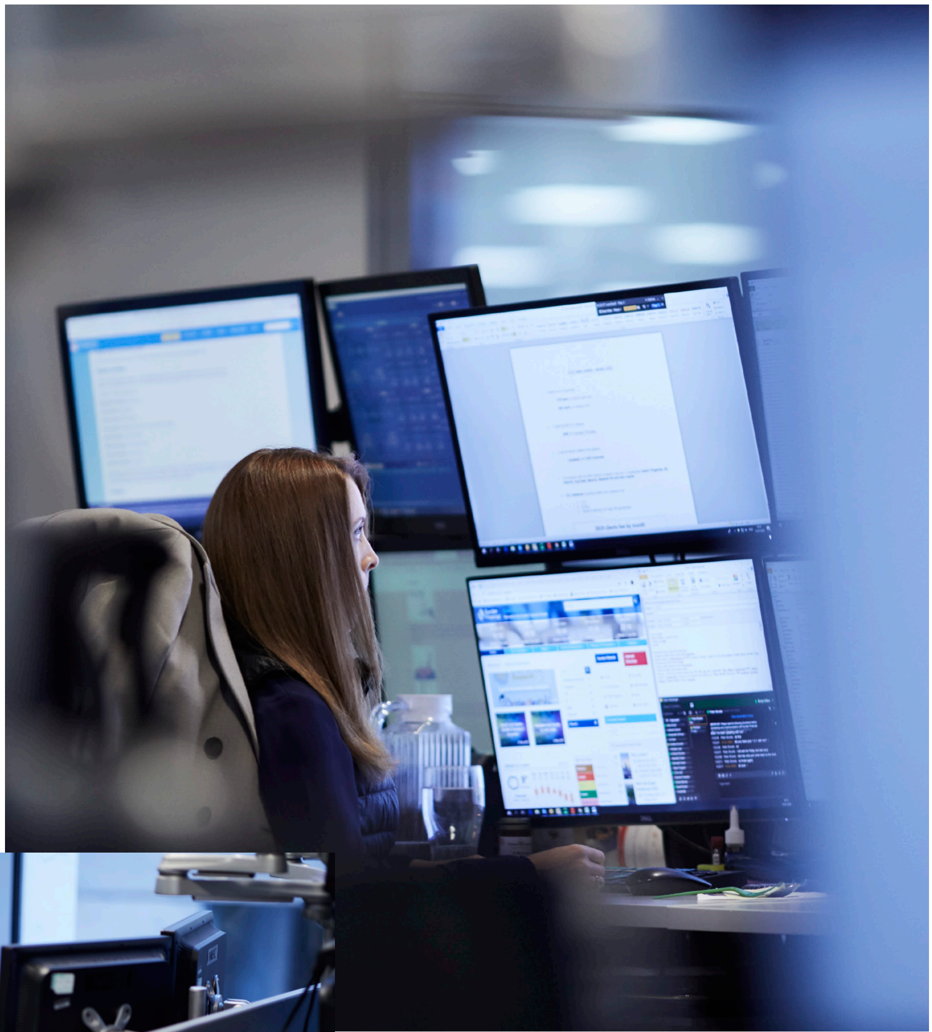

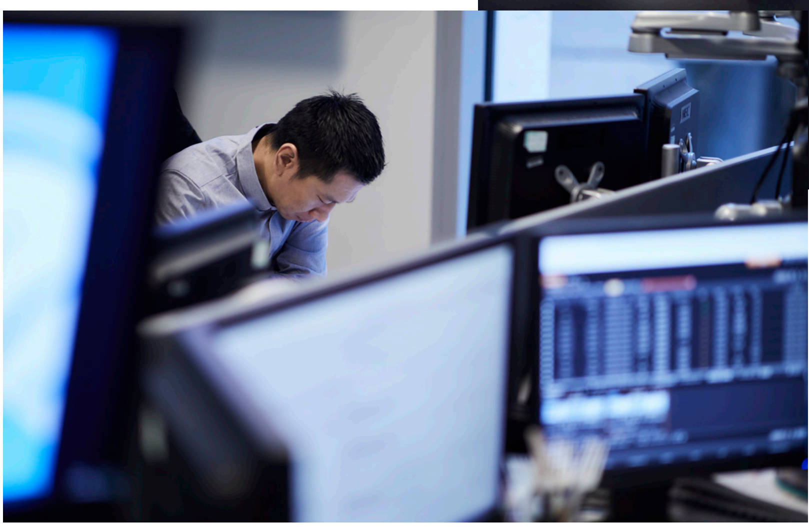

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