Quarterly
Metals Report

Sucden Financial
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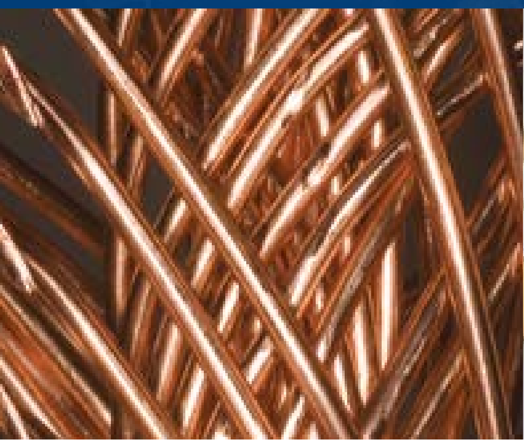
February 2019

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



Q1 2019

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Summary

Long term risks are skewed to the downside, with cracks appearing in some major economies. While we remind investors that growth moderation is not a recession, several PMI readings are flirting with a contraction. We believe US data will hold in Q1, keeping the dollar strong in the near term. However, emerging markets could provide a story for the remainder of 2019 as they grow at a faster rate than developed economies. Metals market sentiment remains hampered by the trade war and we favour selling strength in the near term.

Aluminium – Fundamentally the market looks set to trend lower in the near term with rising stocks, Rusal material coming back onto the exchange, adequate Chinese capacity and increased availability of alumina. We expect aluminium to trade within a range of $1,800/t to $2,000/t, assuming there is no resolution to the trade war.

Copper - Global PMIs moderate with China's Caixin PMI contractionary which may gap gains on the upside in the longer term. Indeed, China's stimulus may also provide tailwinds to prices but in order to sustain a recovery the market needs concessions on key trade war issues such as IP rights. We do not see LME copper prices breaking below $5,800/t this quarter. Further progress on the trade war could set the scene for gains through $6,400/t as risk appetite improves.

Lead - Auto production and sales in China disappointed last year but US sales remained resilient. We anticipate the US auto sector to soften this year as tax benefits die out. German auto manufacturing has weakened, shown by the IFO German automobile production survey contracting to -23.7 in January from +8.6 in December. Key upside levels are $2,131/t and $2,170/t, with robust appetite for prices around $1,950/t.

Nickel - Stocks continue to decline and at this time the market is in a fundamental deficit. The longer term outlook however may provide some headwinds to the market and cap upside gains in the longer term. Tsingshan is at the epicentre of the nickel market and has the potential to swing the market into a surplus. New HPAL and NPI output will not happen in Q1, giving no reason for the correction to continue towards $13,500/t. We expect the market to be well supported at $11,500/t.

Tin – Looking forward demand looks strong due to the so called 'technological super cycle'. Supply side issues present a supportive fundamental outlook for the illiquid metal. We expect momentum to remain on the front foot in Q1 with the majority of trading taking place between $20,000/t and $21,500/t.

Zinc – Risk-on appetite has returned to the zinc market with prices trending towards $2,750/t. We believe the trade war sentiment will continue to cap gains in the longer term despite a moderately favourable fundamental picture. Infrastructure investment, in particular high speed railways, would provide additional support to the market. Ceteris paribus, zinc looks overdone above $2,800/t, but we would expect advances to $2,500/t to be well bid.

Iron Ore & Steel - The Vale disaster triggered a knee jerk reaction with prices surging higher, speculator activity may exacerbate activity. The firm rhetoric has trigger Vale to declare force majeure after activity at their Brucutu mine was suspended. We anticipate this will keep process higher for longer even with a possible supply response from other mines and producers around the globe. The spread between high quality and low quality fines has narrowed but we expect this to remain wider for longer. Demand for iron will be limited during CNY but re-stocking in the coming months could drive the market. We anticipate the majority of trading to take place between $90/t and $75/t.

Gold - Uncertainty across global markets triggered appetite for gold, exemplified by known ETF holdings reaching 73.07moz. The rise in ETF holdings suggests investors have confidence in the rally. Following resistance at $1,326/oz the key level is $1,350/oz, which could be achieved off the back off weaker US data, EU political turbulence and a weaker dollar.

Silver – Industrial demand for silver remains robust with the BNEF forecasting growth of 15% for solar power in 2019. ETF holdings have fallen in recent weeks suggesting investors question the rally. Risk-on appetite and a lack of speculator activity may set the scene for silver to pare gains in the immediate term. We anticipate spot silver to be well supported at $15/oz, with the upper band of our range at $16.50/oz.

Palladium - Q4 saw palladium outperform its peers, even gold, as a tighter physical market outweighed the downside pressures of the market selloff in December. However, the short-term outlook seems more subdued; slowing car manufacturing performance along with bearish outlook on global growth will define the direction of the prices, as the metal's supply remains in a tight deficit. Under these circumstances, we believe prices will be well supported at $1,250/oz, with advances towards $1,500/oz.

Platinum - Bearish fundamentals have set the tone for platinum prices over Q4 and the market has turned to gold amid uncertainty about the global growth prospects. Additionally, stricter environmental regulations set by China have added to platinum decline. We believe that prices will remain broadly in the Q4 range; the metal has been supported at $778/oz and the prices may trend higher towards $855/oz. over Q1. If sentiment breaks this level, further gains could be made at $878/oz.

Market Overview

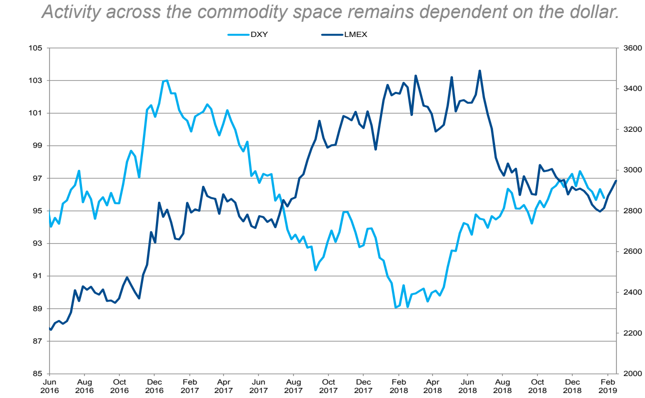
A slowing global economy has played a significant role in driving the markets; Europe's economic risks have a downside bias, while China's growth in Q4 2018 was the worst in a decade. According to the WEO, global growth for 2018 is estimated at 3.7% and 3.5% in 2019. The US Fed Government shutdown, along with global uncertainty triggered an equity market sell-off in mid-Dec and these pressures have carried into Q1 2019. The 10yr Treasury yield closed 2018 under 3% amid dovish Fed comments on 2019 hikes and markets turned to gold as a haven. The most significant uncertainty is coming from the Eurozone, where the ECB has left rates unchanged amid the slowdown of its bloc countries. Germany's headline data has started to show weakness, Italy's debt crisis, France's 'yellow vests' uproar and lack of clarity surrounding Brexit have compounded fears of a slowdown in the EU. Emerging markets have suffered significant losses amid geopolitical tensions; however, strong fundamentals may cause EM to perform at a much faster rate than most of the developed economies in 2019.

Oil market sentiment has been bullish so far in Q1, following OPEC+ partners' 1.2m bpd cut of production, which started in January. Despite that, increased Russian output in Q4 along with fears of a softening demand outlook due to a global economic slowdown, causing prices to test $50/bbl in December. Brent prices have gained 14.2% as of January 29th, as investors believe the market will rebalance; however, we await OPEC+ compliance numbers for confirmation. However, Russia announced plans to cut the production by 50,000-60,000 bpd in January with the aim of achieving this by the end of Q1.

In the US, production hit record levels of 11.7m barrels, a 7.34% increase from the previous quarter. The US plans to keep output at elevated levels, securing its position as the biggest oil producer and potentially setting up the market for another sell-off. The demand looks less favourable; unresolved trade war issues along with slower demand coming from China and Europe will dampen demand growth. As a result, prices may be capped in the near term by US production and the prospect of weaker consumption.

DXY vs LME Index

Activity across the commodity space remains dependent on the dollar.



Source: Bloomberg

Industrial metal prices have trended lower since August, in part due to lacklustre demand from China and downbeat market sentiment due to the trade war. Weak sentiment continued in Q4 '18 and the LME Index recorded an 18-month low of 2801.1 on December 31st. 2018 performance reflected bearish sentiment, and LMEX declined 18.07%, with the biggest shock coming from Q3 performance. At the time of writing the 90-day volatility index stands at 13.82% compared to 18.35% in November. During Chinese Lunar New Year, we expect some restocking demand in the lead up to this event; however, the economy will be in a shutdown mode for the festive period.

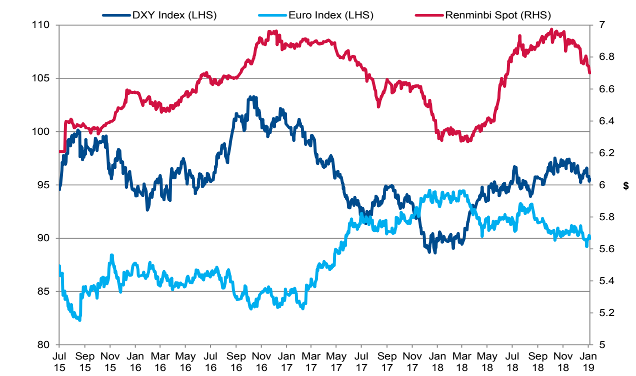
In contrast to the robust pace of Q3, the central theme of Q1 2019 is one of slowdown. US growth is past its peak and is predicted to grow at 2.9% in 2018 and 2.5% in 2019, a much more modest and sustainable rate of growth. The effects of the tax cuts are fading and successful trade negotiations between the US and China might provide a boost for both economies. Strong domestic demand growth will support rising imports and contribute to a widening of the US current account deficit.

At the beginning of 2018, US stock growth was heavily supported by the impact of a tax cuts in 2017. An increase in disposable income caused consumer spending, two thirds of its economy, to post strong gains throughout 2018. However, the pace of monetary tightening came under pressure as trade war sentiment dampened business optimism, exemplified by the decline in the Conference Board Consumer Confidence, from its October high of 137.90 to 120.2 in January. Indeed, greater earnings and higher growth in conjunction with the effect of a fiscal policy change has had on the economy, and the US is heading for a slower growth rate in H1 2019.

The Fed hiked its policy by 25bp four times last year to 2.25-2.50%, but lowered projections for 2019 hikes as it changed its approach to a more dovish stance. The slowdown of the rate hikes along with lower US growth in Q1 will weigh on the greenback in H1 2019; however, the impact might not settle in until Q2 '19. We believe that the dollar level will remain stable for Q1; however, these factors are significant headwinds for the US currency. The 10 yr. yield has edged from 3.25 to 2.45 within the quarter amid dovish sentiment, while the 2 yr. yield lost nearly half of its yearly gain in Q4. A pause in the cycle is different to the end of the monetary policy cycle and investors should be wary of this. However, previous breaks in the cycle have led to increased volatility. Indeed, deleveraging their balance sheet is assisting the Fed in their tightening.

Major Economy Currencies

USD has stabilised in recent months, but remains strong basis majors.



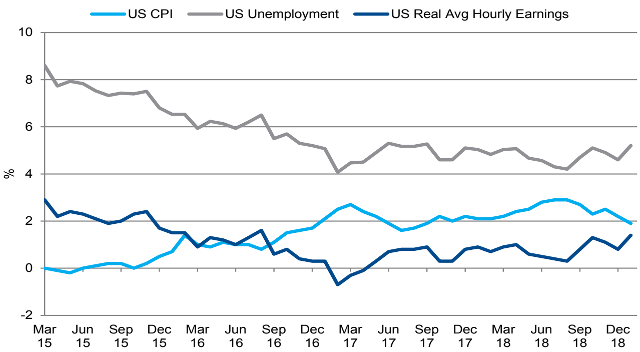
Source: Bloomberg

OPEC and its partners have plans to reduce output by 1m barrels per day. However, we believe that this is not enough to make substantial changes to the prices. The combined effect of an unprecedented corporate tax cut, the oil rally and the impact of trade war tariffs has led to higher inflationary pressures on the economy. Pausing monetary policy tightening may allow the economy to re-gather pace. The standoff between Trump and Pelosi over the building of the wall has created the longest ever Government shutdown. The

White House Council of Economic Advisers has estimated 0.13% of economic output losses for every week of the shutdown. The combination of the global slowdown along with the US Fed Government shut down has set the market for an equity sell-off in mid-Dec. As a result, the Chicago Volatility Index has hit 36 in mid-Dec, up from 15 in summer 2018. A pause by the Fed would give commodities a boost and affirm the inverse correlation with the dollar. Indeed, an increase in risk-on appetite in the near term would help sentiment.

Unemployment level has declined over 2018, hitting a 50-year-low at 3.8% in September 2018. Aggregate demand remains elevated given stronger labour markets. Personal consumption expenditure growth stood at 1.87% y/y in Nov '18, with retail sales and U-3 unemployment at 4.2% y/y and 3.9% respectively. The Investor's Business Daily and TechnoMetrica Market Intelligence, an index of US economic optimism was down 0.3 points in January from December, that is, the lowest level since Dec 2017. However, both economic outlook and personal finance are on the rise with 46.8 (vs 46.4 in Dec) and 61 (vs 60.8 in Dec) respectively.

US CPI vs Unemployment vs Real Average Wage Growth



Source: Bloomberg

US growth is expected to weaken in 2019, and we see GDP at 2-2.5% for this year. PIMCO has forecast the government shutdown will hit Q1 growth by 0.3-0.4%. Accordingly, we see the US and other major economies' GDP converging at a lower rate, confirming the global slowdown. However, we do not envisage a recession this year. US wage inflation is strong with December's average hourly earnings at 3.2% y/y; however, this could be offset by rising productivity growth, increased competition and transparency capping inflation. Bloomberg forecasts see inflation at 1.8% in Q1 2019.

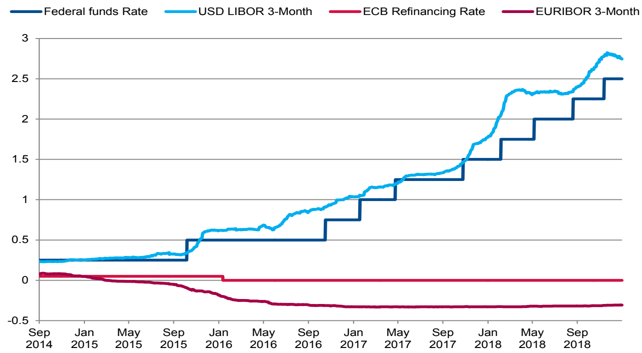
Eurozone growth continued its gradual decline over the last months of 2018, with acute pressures coming from Italy's debt crisis, trade wars, unrest in France and Brexit uncertainties exacerbating the downbeat momentum. Bloomberg forecast 1.9% GDP growth for the Eurozone in 2018 and 1.5% in 2019. Weaker German manufacturing performance came before slower growth in GDP in Q4 and has now entered a contractionary period with Markit PMI falling from 51.5 in December to 49.9 in January, sending the EU manufacturing PMI from 51.4 to 50.5 in the same period.

Business and consumer sentiment have followed a similar trend; The European Commission Economic Sentiment Index for January 2019 stands at 106.2, a 6.84% y/y decrease. We believe that volatile conditions in France and Italy were the biggest drivers of a slowdown in Q4, with French Composite PMI falling from 53.6 to 47.9 within the quarter. Q1 2019 is unlikely to see significant growth as weaker Chinese demand shows no signs of recovery in the immediate term, as consumers hold back purchases.

The ECB policy has kept interest rates unchanged at least until summer of 2019 while maintaining its deleveraging strategy. The ECB has stated that non-standard monetary policy measures will be re-invested past when rates start to rise. Mario Draghi continues to cite poor external demand along with country and sector-specific factors as reasons for poor data releases. Historically, rates are still accommodative, but the long term risk is ominous as the bank starts to tighten as the economy is slowing. Clarity on Brexit may boost business sentiment in the coming months. In January, the euro has been well supported and touched the high of 1.154 for the first time since mid-October, off the back of Brexit optimism as probabilities increase for an extension of Article 50. However, the UK voted to re-open negotiations and uncertainty remains. German car manufacturing figures also compounded headwinds for the Euro.

Western Economy Interest Rates

Divergence in monetary policy is exemplified by borrowing costs.



Source: Bloomberg

Bloomberg polling data predicts an inflation rate of 1.8% for 2018 and 1.6% for 2019 for the Eurozone. Comparisons can be made between Europe and Japan; an unbalanced economy could cap inflation in the long run. The probability of a rate hike this year is highest for December at 40.3%, whereas it stood at 63.5% at the beginning of Q4 2018. The UK has had a much more turbulent quarter with Theresa May facing multiple resignations and rejections of the deal coming from the EU. Many companies have already threatened to transfer their investments out of the country in the case of no deal outcome. In the event of a no deal Brexit, Phillip Hammond is expected to produce a mini-budget which will focus on government spending to help buoy sentiment. The pound regained its strength in January on the news of a potential extension of the Brexit deadline, despite May's disapproval of the strategy. As a result, the currency strengthened to 1.3217 on January 25th.

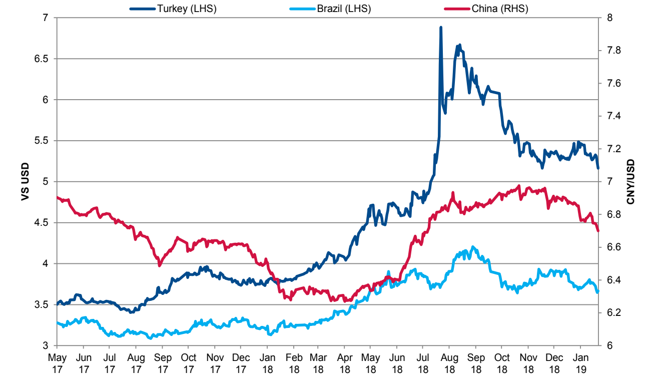
The EU's fragile political structure gives room for uncertainty and disputes between the members of the bloc. Italy's conflicts with the EU commission have sent the 10 yr. bond yields up to 3.686 in mid-October, the highest since 2014. Despite the newly agreed budget plan, Italy has fallen into a recession and the outlook is uncertain. The spread between the Italian 10yr and the German 10yr bond has narrowed slightly to 2.24% after peaking at 2.89% on October 18th; the 2-year average is 1.95%.

Market uncertainty and geopolitical pressures weighed on emerging market performance, which was reflected by the MSCI EM index, tumbling 7.5% in Q4 and 14.6% in 2018. Emerging market currencies holding elevated levels of dollar-denominated debt capitulated in 2018 as the perfect storm of higher interest rates strengthened the dollar. Markit EM manufacturing PMI faced some fluctuations over

Q4, as the index regained its strength from the September lows to 50.8 in November, and immediately lost the gain by the end of the year closing at 50.3, a 3.58% decrease YTD.

Emerging Market Currencies

EM currencies have some of 2018's losses.



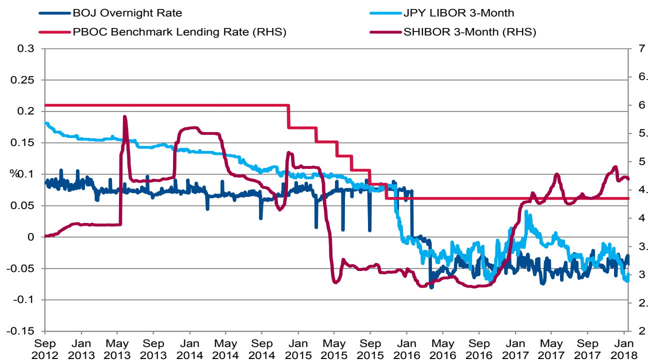
Source: Bloomberg

We believe that many EMs have strong fundamentals (excluding China) to perform at a much faster rate than many of the developed countries in H1 2019. As the Fed proposes a pause in the policy-tightening cycle, the capital flow may move into emerging market economies. Morgan Stanley has upgraded their outlook for MSCI EM, with their base case forecasting an 8% price return in 2019. However, we believe that this will not come true until later in 2019, when the US slowdown is confirmed. The IMF revised the EM economic growth estimates to 4.6% in 2018 along with 4.5% in 2019. Emerging market assets remain relatively cheap, and as growth outpaces major economies once again, capital flows should lead to currency strength.

As internal and external conditions dampen economic growth, China is likely to bear the most significant losses in the Asian markets in 2019. In Q1, inflationary pressures on the EMs will ease with the drop in oil prices made in December. Higher interest rates and a lower dollar-denominated debt level than in previous years will ease the economic transition away from the dependence on US performance. Several emerging market currencies have already made some recoveries from 2018 lows, reflected in MSCI EM Currency index reading 1,638.83, the highest level since June 2018.

Asian Economy Interest Rates

Japanese rates outline the BOJs accommodative policy.

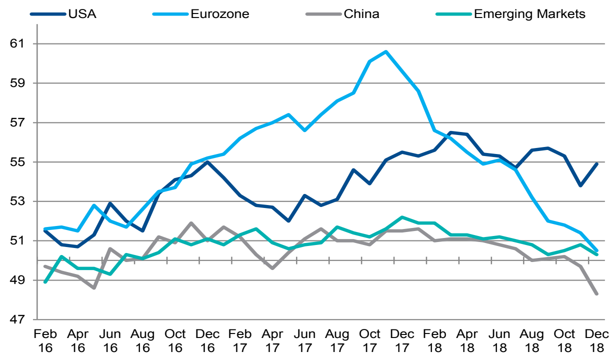


Source: Bloomberg

China entered the bear market in June 2018 due to escalating trade tensions with the US, and further deceleration is forecast for 2019 (6.2% y/y growth by IMF). At the time of writing, CNY spot trades at 6.7165, an increase from 6.48 (27/01/19) at the beginning of 2018. CNY has appreciated nearly 4% since November which could be bullish for base metals as China regains its appetite. The CSI 300 fell to 3,010.65 in 2018, a 26.34% decrease. December talks between the US and China in Argentina softened tensions between the two countries. Both economies have agreed to a trade truce until 1st March 2019. Despite that, the economy will remain under threat from further China-US negotiations and policy uncertainty. To ease the impact of the US tariffs, The People's Bank of China has lowered its reserve requirements for banks and incentivised public investment. The interest rate policy has been put on hold. IMF forecasts for 2018 stand at 6.6%, down from 6.9% in 2017. With Chinese New Year commencing on February the 5th higher levels of tourism and consumer spending are to be expected. However, with growth slowing down, this quarter might reflect worsened performance figures than before.

Markit Manufacturing PMIs

US PMI bucks the trend of growth moderation.



Source: Bloomberg

US Markit manufacturing PMI output gradually declined over Q4, hitting a year low at 53.9. However, January saw PMI data retreat to 54.9 (preliminary figures). With lower projected demand from China along with slower economic growth in the EU, manufacturers saw a decrease in output and new orders. Despite a current trade truce with China, trade negotiations remain the biggest sentiment driver over the coming quarter. Higher inflationary pressures will add to the subdued demand for US goods.

The Eurozone Markit Manufacturing PMI has followed a similar trend to the one with the US, however, sees no signs of retreat as Brexit uncertainty and German manufacturing performance continue to drive the bearish sentiment. The year closed at 51.4, a 15.18% decline since its peak in December '17. According to the PMI commentary, while the growth in consumption levels has accelerated to a stable level, the supplier operating conditions have deteriorated. Italy and France have both entered a contractionary period, of 48.6 and 49.7 by the end of the year respectively. German and Spanish manufacturing performances have cushioned the EU decline where growth has maintained at the modest levels.

China's Caixin PMI has fluctuated over Q4, and despite tariffs, activity has remained expansionary before entering the contractionary territory at 49.7 by the end of the year. Last time China broke below these lows of manufacturing performance was in Q2 of 2017, on the news of slowing demand for Chinese goods. The Caixin index covers smaller private, export-oriented firms, which are likely to suffer as the result of slowing global consumption. The PMI commentary suggests that the total new orders have grown marginally, and we believe that further softer demand is likely in Q1 '19. As a result, companies have decreased their output charges and expanded their purchasing activity on the news of rising costs in 2019. In our view, the short-term risks are skewed to the downside.

Aluminium - Fundamental Headwinds Mount

LME Aluminium, 3MO ($)

Source: Bloomberg, 01.02.19

Summary

Fundamentally, the market looks set to trend lower in the near term, with rising stocks, Rusal material coming back onto the exchange, adequate Chinese capacity and increased availability of alumina. Yet prices continue to rally as the dollar weakens and risk appetite returns to some investors. The macro outlook suggests growth moderation, not a recession. However trade war sentiment continues to cap gains on the upside as civilians hold back purchases. We expect aluminium to trade within a range of $1,800/t to $2,000/t, assuming there is no resolution to the trade war.

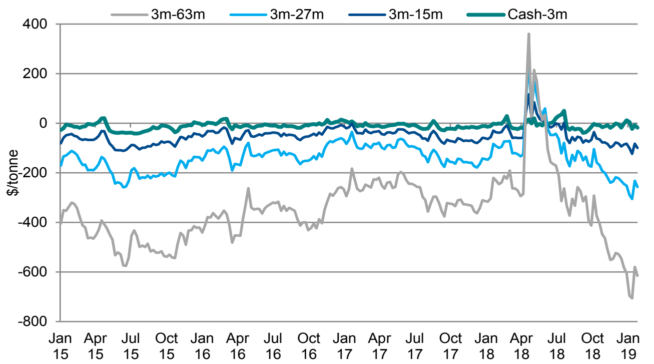
Q4 Recap: Despite the early promise in the opening sessions of Q4, prices trended lower, taking out robust support at $2,000/t. Alumina prices surged after Alunorte prepared to cut 100% of capacity, giving rise to 3-month LME prices; however, the rally was short lived after an announcement that Norsk Hydro had received authorisation to continue production at 50%. Following the Q4 high of $2,267/t, futures trended lower as trade sentiment and declining alumina costs weighed on the market. Uncertainty surrounding the ability of the US and China to resolve their differences sent prices lower and even when a 90-day truce was announced the relief rally was short-lived.

Robust resistance at $2,000/t held firm, and as cracks appeared the US-Sino truce, aluminium prices continued to tumble. The arrest of Meng Wanzhou, CFO of Huawei exemplified the delicacy of relations and risk aversion returned to the market and global financial markets sold off sharply in December. What's more, bearish sentiment was compounded by news of the US Treasury Department's announcement that UC Rusal sanctions would be removed on December 19th. Aluminium declined 5.82% in December as fears of a global economic slowdown and the news regarding Rusal dominated market sentiment

Another severe burden on the market was the inflow of material into exchange warehouses throughout Q4. Global aluminium stocks bottomed out at 926,100 tonnes on October 15th, before rising to close 2018 out on 1.271m tonnes. The cash-3 month spread became backwardated causing a significant inflow of material global LME warehouses the majority of material flowed into Port Klang in Malaysia; we draw attention to substantial inflows of material into warehouses this year.

Aluminium Calendar Spreads

Longer term spreads are in deep contango but Cash-3 sees a tighter market.



Source: Bloomberg

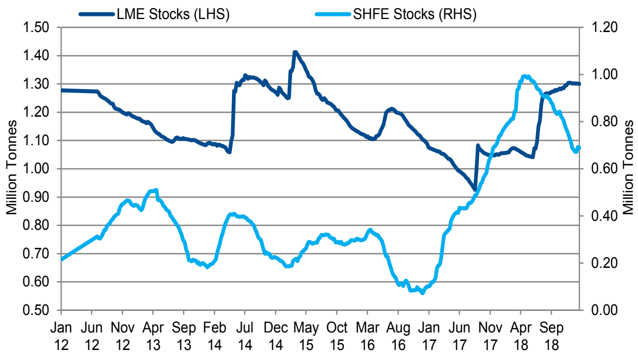
Outlook: The announcement by the US Treasury lifting sanctions on Rusal seemed to be received by the market as bearish. The availability of Rusal material may put downward pressure on the flat price as exchange inventories continue to rise. In recent weeks we have seen significant withdrawals in LME inventory, specifically Port Klang but we do not believe this is due to strong underlying demand, and this will likely go off-warrant.

The macro outlook points to softer demand for primary aluminium in 2019, while we see US data holding firm in Q1. The outlook for European markets is skewed to the downside in the near term due to political uncertainty surrounding Brexit, Italian and French budgets and the ECB deleveraging their balance sheet. The European Markit construction PMI strengthened in Q4 and reached 53.1 in December. The German construction PMI reading was 53.3 after a surge in housing activity. Growth in the commercial sector slowed in Germany, constructor's business confidence for the next 12 months was mild.

Comparatively, while UK construction remained expansionary at 52.8, sentiment was subdued. Political headwinds have triggered softening demand with commercial and housing activity falling in December. We expect this to continue it in the near term as uncertainty surrounding Brexit hinders investment and in turn primary demand and extruders; Wood Mackenzie estimate European consumption in Q1 to be 2.37Mt, a 2.2% rise y/y.

LME vs SHFE Stocks

Exchange stocks diverged in Q4 as LME inventories surged.

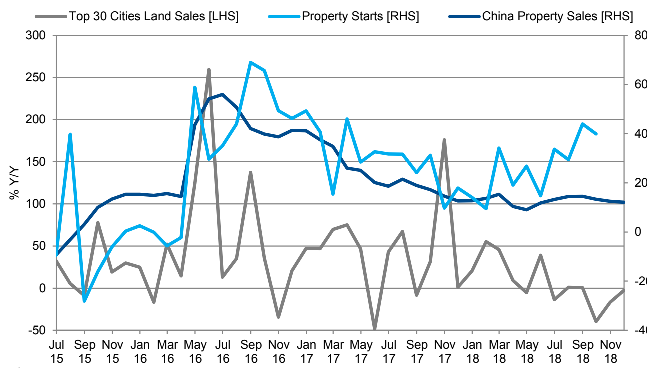


Source: Bloomberg

Dark clouds are forming ahead of the auto industry. Chinese auto sales for passenger cars contracted 16.06% y/y in November 2018, with production falling 18.9%y/y to 2.5m units in the same period and total sales contracted by 6% to 22.7m units in 2018. The market is under pressure as a result of the trade war. Dampened sentiment has caused consumers to hold back purchases, giving rise to inventories. Stimulus from the government may help support sales in the near term, but US-Sino relations need to be resolved for the auto sector to have a chance of rebounding, as citizens hold back purchases due to dampened sentiment.

China Property

A new stimulus package will look to support China's property market.



Source: Bloomberg

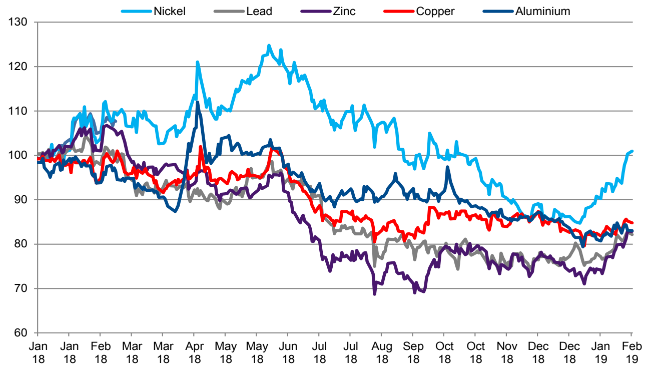
US auto sales trended lower in 2018, closing the year at 17.50m units SAAR for 2018 according to the WARD's automotive group. The performance was due to robust sales to car rental companies, the government and corporates as well as the reduction in income tax. We anticipate sales struggling in 2019 as attractive loan deals abate due to the rising interest rates. The anxiousness from the auto industry was been highlighted by Ford's drop in sales by 9% in December. Indeed, Ford and G.M. are in the process of cutting jobs and costs in the US.

In Europe, auto output has weakened with German production declining 1.9% m/m in November. However, order books are strong, and with financial conditions still accommodative, there is scope for a rebound in the coming months. The recent decline in auto production for the US, China and Europe has prompted weaker demand for aluminium sheet, triggering spare capacity in the European market of approximately 100-150,000 tonnes, according to Wood Mackenzie. Indeed, there was a steady rise in EU exports of flat-rolled products to the US in 2018.

Comparatively, Chinese exports of semi-finished goods into Europe have gathered pace throughout 2018 as pressure mounted for Chinese producers to redirect material away from China. The magnitude of the exports outlines the deficit in Europe and the US and indicates demand for Chinese products despite tariffs. The change in tax rules from Beijing, constituting a VAT tax rebate was raised to 16%, enabling China to continue to export semis to the market. The 839 exemptions from the DOC from section 232 suggest we could see further exports to the US keeping LME prices, especially with 3,500 exemptions pending consideration.

LME 3-month Base Metals Performance since January 2018

Nickel is the only metal to have recovered back above January 2018 levels.



Source:Bloomberg, Sucden Financial

The tightness in the alumina market is abating, and we anticipate Alunorte production to start to increase in the coming months, acting as a headwind to prices. This is exemplified by the Australian FOB price which fell to $380/t on January 24th. Chinese export data outlines their ability to fulfil a shortfall in supply elsewhere in the world. China exported 530,000 tonnes of unwrought aluminium and products in December 2018; a 20.1% y/y increase. Furthermore, December alumina exports reached 177,000 tonnes, a 3,712.5% y/y rise, bringing full-year exports to 1.46m mt according to customs data. The Chinese government has warned of excess alumina capacity which stood at 70.31mt in 2018. Total unwrought aluminium and aluminium product exports for 2018 was up 20.9% y/y, 5.8m mt.

According to Wood Mackenzie on an ingot basis, 40% of ROW smelters are losing money with current LME prices. Intuitively, smelters losing money would be expected to stop production however in practice the cost of closing and restarting and inability to react to a change in prices quickly. While there have been some cuts, we could see utilisation rates fall instead of a complete curtailment of smelter production.

Copper - Positivity Capped By Trade War

LME Copper 3MO ($)

Source: Bloomberg, 01.02.19

Summary

Global PMIs moderate with China's Caixin PMI contractionary, which may cap gains on the upside. Comparatively, China's stimulus may also provide tailwinds to prices, but in order to sustain a recovery the market needs concessions on key trade war issues such as IP rights. TCs/RCs are starting to fall as concentrate availability falls; last year's support for refined copper looks set to continue after China will ban category 6 imports from July 2019. We do not see LME copper prices breaking below $5,800/t this quarter, further progress on the trade war could set the scene for gains through $6,400/t as risk appetite improves.

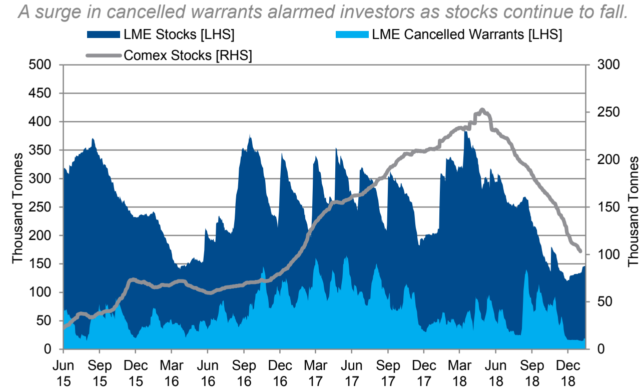
Q4 Recap: Following copper's weak performance in Q3, the red metal consolidated throughout October and November. The 3-month price on the LME closed November down 0.90% from the start of Q4 after finding robust support around $6,000/t. Market participants were buoyed by a 90-day trade truce starting on January 1st 2019 between the US and China at the G20 meeting in Buenos Aires. The arrest of Huawei's CFO rekindled trade tensions highlighting the fragility of the trade truce, while investors also questioned the ability of the two counterparties to resolve their differences. We see the IP issues at the centre of the trade war, and both parties have very different ideologies on this issue.

The omnipresent threat of uncertainty caused financial markets to nosedive in December and copper closed Q4 down 4.64%. Indeed, fears of a slowdown in China were compounded after President Xi delivered a speech which failed to allude to a stimulus package for the economy. The dovish rate hike from the Fed left more questions than answers going into 2019 and left investors fearing for a slowdown in economic growth.

There remained tightness in the physical market, but participants are downbeat on demand in 2019 and premiums started to fall. Inventories continued to decline in Q4 with 66,950 tonnes of withdrawals from LME warehouses. Asian inventories declined 69% (32,925 tonnes) in October to 14,750; a significant inflow of 39,007 tonnes at the beginning of November, causing stocks to rise back to 53,375 tonnes. Following this, stocks resumed their decline to close the year at 12,325 tonnes, highlighting the perceived market tightness.

LME vs Comex Inventories

A surge in cancelled warrants alarmed investors as stocks continue to fall.

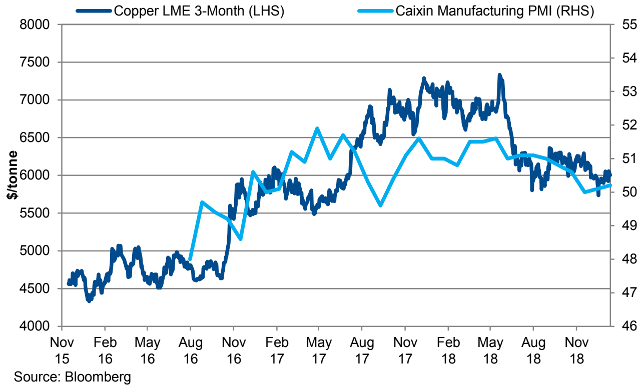


Source: Bloomberg,LME

Outlook: With global manufacturing PMIs continuing to moderate, the outlook for copper demand is weaker for 2019 basis 2018. This was exemplified by the Caixin Manufacturing PMI which contracted for the first time since May 2018 to 49.7. Lack of new orders outlined the weak demand conditions at this time. Concurrently, manufacturing Markit PMIs for other major economies and regions continue to slow. The latest US Markit reading fell to a 15-month low as new business and new orders triggered a drop in business confidence. Investors would do well to remember that US, EU, and EM readings are still expansionary and data from the US remains supportive at this time.

LME 3-Month Price vs Caixin Manufacturing PMI

The contraction in China's PMI does not bode well for copper.



Source: Bloomberg

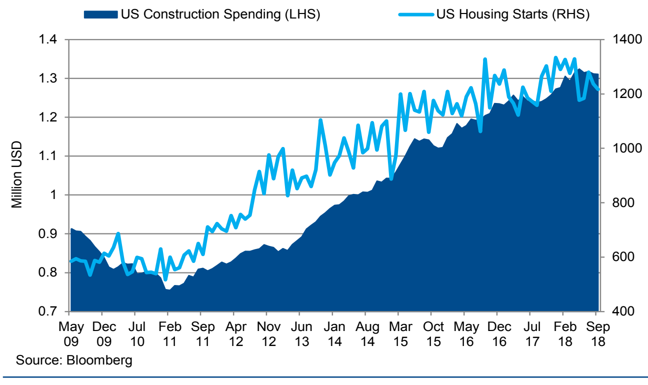
Shanghai Metals Market (SMM) downstream copper industries PMI rebounded in December to 50.14 from 48.24 in November. According to SMM, the sub-index for production also climbed in December to 49.97, with consumption jumping ahead of Chinese New Year. This was due to strong output from home appliances and investment in the power grid. We believe some activity was frontloaded before Chinese New Year. Due to the new scrap rules, refined copper consumption may be supported, similarly to 2018, but the slowdown in the economy may prompt slower consumption growth of refined copper. Wood Mackenzie forecast refined copper consumption to reach 24.31mt in 2019.

Indeed, the announcement of fresh stimulus from the Chinese government prompted some optimism; however, we expect uncertainty surrounding the trade war to cap the relief rally. The planned reduction in the reserve requirement ratio (RRR) for companies with a credit line of less than 10m yuan by 0.5% on January 15th, then again on 25th underlines the willingness by Beijing to support the economy and allow investment into the economy. The reduction in RRR, in theory, would facilitate investment and is thought to have released between RMB 400-700bn from the PBOC. We anticipate further RRR cuts to increase liquidity in the market.

Indeed, the Chinese government has pledged further investment into infrastructure for 2019. Indicating China's propensity to stimulate the economy and buoy GDP. However, higher debt levels constrain Beijing's ability to stimulate the economy as it once did. Beijing intends to extend the high-speed rail network by 3,200km in 2019, with China's Railway Corporation outlining plans to add a total of 6,800km of new railway in 2019. According to the copper alliance, high-speed railways use 10 tonnes of copper per km of track; this could create an additional demand of 32,000 tonnes of copper. The pledged investment on infrastructure is likely to support GDP which at this time is on track to moderate in 2019 to 6%.

US Construction Spending vs Housing Starts

US constuction spending and housing starts are supportive for copper.



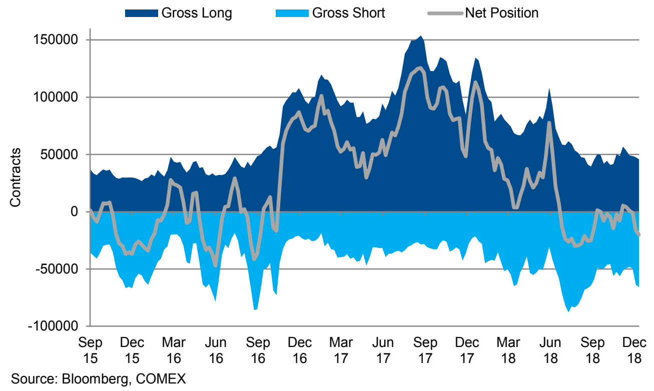
Source: Bloomberg

The omnipresent threat of uncertainty hangs over the market. At the time of writing trade talks are ongoing; however, the lack of clarity is tiring the market. The relief rally from the 90-day truce starting January 2019 was short lived. Relations remain fragile and while there have been some concessions; the market has been repeatedly disappointed as to genuine progress. IP is at the centre of negotiations and the US would do well to remember the little impact US pressure had on Japan in previous decades. While Chinese investors question why their government is entertaining unrealistic US demands, we anticipate China may continue to violate IP rights until it is no longer in its economic interest to do so. However, with both economies slowing now may be as good a time as ever to resolve the trade war.

TC/RCs for 2019 was set at $80.8/t (8.08/lb) at the Asia Copper Week, 2% down on the previous week. Increasing refining capacity will trigger a greater need for copper concentrate and in turn concentrate imports which reached 1.699m tonnes in November. According to the SMM, the imported copper concentrate weekly TC for ≥26% peaked at the beginning of December at $94.5/t, the monthly TC for the same purity has increased in recent months to range $91-96/t as of December 28th. We continue to watch copper concentrate and unwrought imports, in conjunction with cathode output which reached 746,100 tonnes at the end of November 2018. Smelters have sufficient cover for Q1 2019. Accordingly, Freeport's concentrate output is seen to fall in 2019 to 1.2m tons. In Q1 Wood Mackenzie are forecasting a surplus of 506,000 tonnes for refined copper.

COMEX Managed Money Positioning

Investors maintain their short position on COMEX, outlining negative sentiment.



Source: Bloomberg, COMEX

New restrictions on copper scrap come into effect in July 2019. Category 6 equated to 84% of copper imports into China in 2018, according to SMM, who suggest the banning of both category 6 & 7 may cause copper scrap imports to fall by 120,000 tonnes in 2019. The cut in imports could support refined copper consumption and imports of copper products which climbed 12.9%y/y in 2018, assisting the decline in exchange inventories, which should give rise to the flat price.

Lead - Fragile Demand

Source: Bloomberg, 01.02.19

Summary

Auto production and sales in China disappointed last year but US sales remained resilient. We anticipate the US auto sector to soften this year as tax benefits die out. German auto manufacturing has weakened, shown by the IFO German automobile production survey contracting to -23.7 in January from +8.6 in December. Operating rates decreased into CNY and social inventory level edged higher, according to SMM. Key upside levels are $2,131/t and $2,170/t with robust appetite for prices around $1,950/t.

Q4 recap: Lead was substantially more resilient than other base metals in Q4 falling 0.6% on the LME, and was the best performing base metal in December climbing 2.8%. Lead may benefit from its robustness in 2019; the market was reminded of the fundamental tightness following fears of trouble at newly refurbished Nyrstar's Port Pirie smelter.

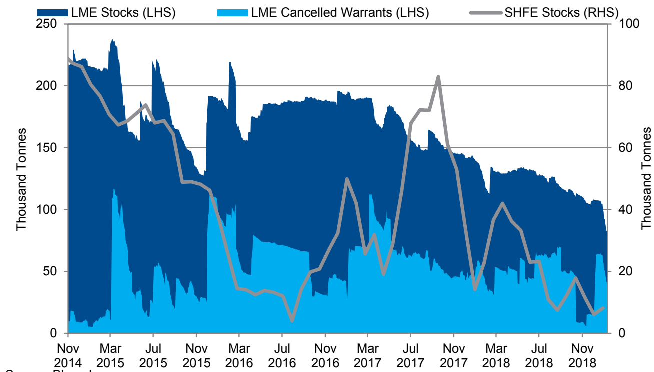
Concentrate availability has improved, and SHFE prices gained 1.50% in Q4 to Rmb18, 550/t. However, prices went into December up 4.24% but resistance at Rmb 19,000/t was strong as Chinese macro indicators pointed to a slowdown and material flowed into SHFE warehouses and prices declined in the final month of 2018.

LME global inventories declined 7.1% in Q4 to 107,450 tonnes compared to SHFE deliverable stocks climbing 35.94%. This could represent the flow of material from LME to SHFE warehouses as traders take advantage of the arbitrage; this was confirmed by China's increase in refined lead imports, which rose to 27,221 tonnes in November.

Outlook: Lead held its value during the selloff in December. The robust nature of the lead is beneficial for the heavy metal and may set it in good stead going into 2019. Activity has remained subdued in the first few weeks of 2019, and the relief rally, due to trade war optimism and Chinese stimulus was short lived. The clouds forming over the global economy are unlikely to excite lead producers. Indeed, automotive markets around the globe are showing signs of weakness. Sales for passenger cars declined 16.06% y/y according to the China automotive information net. Indeed, auto production contracted 18.9% y/y in November.

LME Warehouse Weekly Change vs 3-Month Price

Lead prices remain on the backfoot despite inventory declines in September.

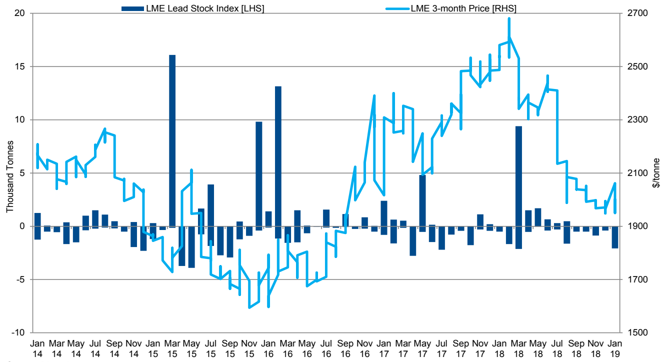


Source: Bloomberg

So far this winter has been relatively mild in Europe, and this may reduce the need for replacement batteries, adding a further headwind to spot lead prices. However, the caveat is that the 'Beast from the East' arrived at the end of February last year suggesting there remains time for a cold weather front on the remainder of Q1. Prices of undrained scrap batteries continued to fall in December with US prices at 30.5-34.5 cents/lb and European prices at $820-860/t. Tight supply continues in N. Europe have caused prices to strengthen slightly in December to a range of $780-820/t.

Lead Warehouse Weekly Change vs 3-month LME Price

Lead prices remain on the backfoot despite inventory declines in September.

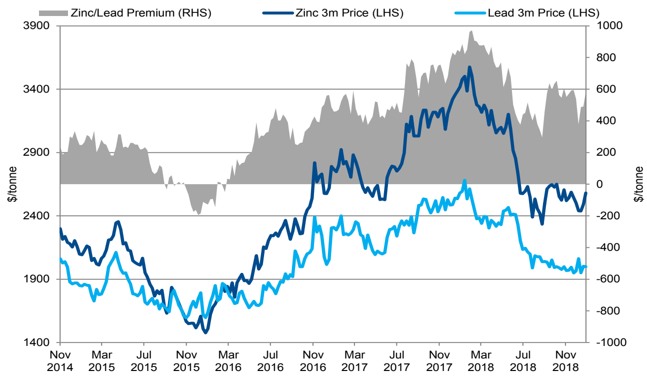


Source: Bloomberg

The price of a lead recycled deep cycle battery has continued to weaken with the market at Rmb 9,650/t as of January 16th. Similarly, the rates of recycled start-type batteries have also declined to Rmb 8,625/t as of January 16th. Chinese demand for replacement batteries was strong as per the most recent data, which shows output at 16.3m kVAh in October rise of 7.5% y/y. Cumulative production reached 141.2kVAh through to October. However, since October, inventories at battery producers have increased suggesting waning demand and winter stockpiling. Stocks reached 17.12 days in December, in keeping with the decline in prices. As the Chinese car fleet continues to grow, we expect this to support lead consumption in the long run. Especially as EVs remain a small percentage of total car sales.

LME Zinc/Lead Premium

Zinc premium has increased as fundamentals attract flows.



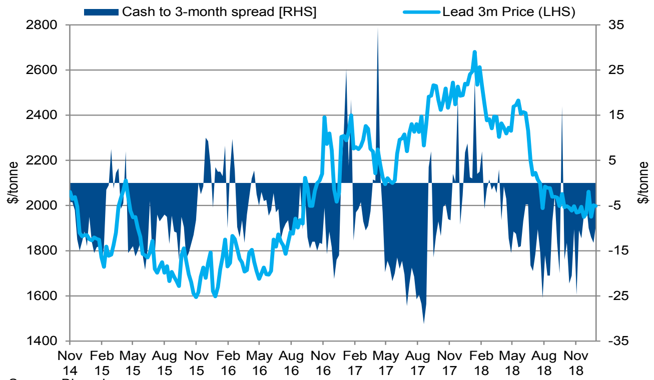
Source: Bloomberg

Chinese imports of refined lead surged in December to 27,221 tonnes according to Chinese customs. As such we maintain our view of fundamental tightness, not just in China but globally. Curtailment of supply due as a result of environmental inspections has inhibited Chinese refined lead production, with Wood Mackenzie suggesting Chinese annual output was down 3.4%y/y at 2,842,000 tonnes. ROW production is set to rise in 2019 helping to alleviate some of the tightness in the concentrate market. The capacity is due to Glencore adding the expansion of McArthur River its base case, and annual production for the mine will be 300,000 tonnes. This is unlikely to have a significant impact on prices in Q1. Although, we watch imports of concentrate into China as ROW production starts to increase; TCs for imported concentrate to China to rise. Indeed, ROW TCs may rise as availability becomes more abundant.

Operating rates are expected to weaken in January as primary smelters start closing down ahead of CNY. SMM estimate a drop of 1.6% to 64.4%, triggering a reduction of primary output by 1.09% to 271,000t. Through to January 11th, secondary lead production is estimated to decline to 158,000t in January. Accordingly, December operating rates for lead mines fell 14.2%m/m to 45.5%. Similarly, operating rates for mines are expected to decline by 13.1% to 32.4%. SMM attribute the decline in operating rates to the CNY and smelters slowing production after hitting their yearly targets, although Chinese secondary smelter profitability was Rmb 2,418.9/t to Jan 11th, down 3.3% m/m.

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

The contango has remained intact in Q4 but demand is stable.



Source: Bloomberg

Cash to 3month spreads is back in contango after tightening to $3.50/t backwardation in the final week of 2018. The reduced activity going into CNY kept spreads in contango as the flat price continues to consolidate in a $1,900-$2,150/t range. Similarly to most base metals, trade war uncertainty is dominating activity. Despite favourable fundamentals and the protracted decline stocks gains remain capped. March optionality open interest favours the upside with the majority of calls above $2,100/t, with February call OI between $2,000 -2,100/t.

Nickel - To Continue To Correct, For Now

Summary

After overextending on the downside, nickel has enjoyed a strong bounce. Appetite for nickel has been exemplified by the short covering from Investment Funds on the LME which has net long of 1,825 contracts. Investment Funds net long reached 25,000 contracts last year suggesting significant upside capacity. The fundamental outlook may cap upside gains in the longer term but new HPAL and NPI output will not happen in Q1, giving no reason for the correction to continue towards $13,500/t. We expect the market to be well supported at $11,500/t.

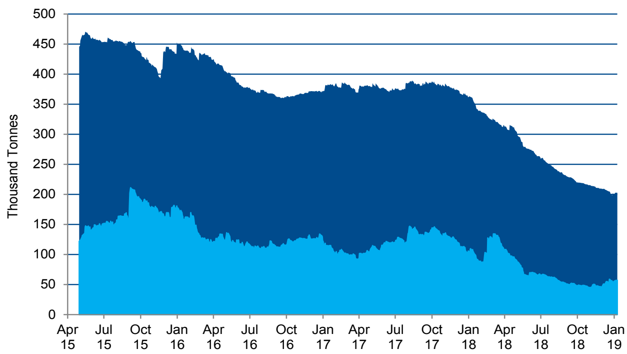
Q4 Recap: Nickel prices declined 14.72% in Q4 as sellers dominated the market. Sentiment was weak as fears of a slowdown in China resurfaced, exemplified by weakening headline data. Weaker stainless demand in conjunction with new HPAL projects from Indonesia compounded downside momentum on nickel. The relief rally following the US-China 90 day trade war truce was short, highlighting a lack of positivity in the market and the fragility of trade relations.

Nickel's year of two halves was exemplified by comparing H1 2018 performance with H2 2018 performance. Market optimism in H1 was demonstrated by strong US data, a fundamental deficit and threat of sanctions, causing prices to rise by 19.84%. Comparatively, LME prices declined 30.1% in H2 following the imposition of sanctions on Rusal and the start of the trade war between China and the US. Unsurprisingly the LME investment funds COT peaked in July at 25,909 net long before capitulating to close the year short 1,386 contracts.

Inventory drawdowns continued despite the dismal price activity highlighting the tight fundamental outlook. Global LME inventories fell 9.15% to finish the year at 207,330t. Stocks fell 43.45% in 2018 as a whole, which equates to 159,282t. The majority of these outflows were in Asia more specifically Malaysia. Going into 2019, trade war anxiety will remain a threat in addition to slowing macro-economic indicators but we do not expect a hard landing in China.

LME Nickel Warehouse Stocks

Withdrawals from LME warehouses continue at a steady clip.



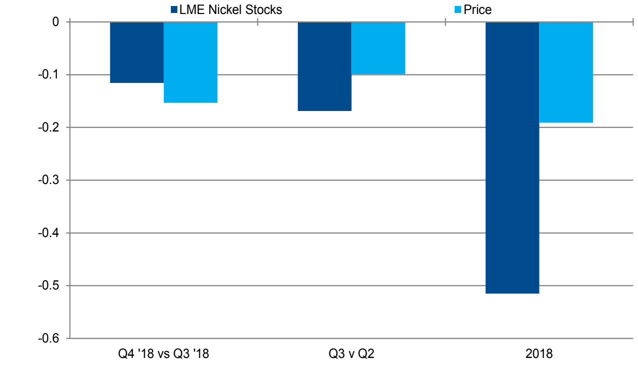
Source: Bloomberg

Outlook: Nickel prices have started the year on the front foot after the continuous decline in Q4, which went further than anticipated. Chinese headline data has disappointed some market participants; however retail sales remain strong at 8.2% y/y. Property investment grew 9.5%, and Fixed Asset Ex Rural YTD y/y increased 5.9%. We anticipated this data to be softer and as such did not come as a surprise.

Bearish influences remain a threat as hydrometallurgical projects help to alleviate some of the supply gap generated from future electric vehicle demand. Indeed, Wood Mackenzie indicate that new plants can produce 200,000 tonnes of nickel which would need further refining for batteries in China. Tsingshan's announcements in Q4 2018 regarding investment into a new 50ktpa facility, which would start producing chemicals for batteries by year-end remains a bold statement which investors would do well to watch. If achieved, market fundamentals would change significantly providing considerable headwinds to the market in the longer run.

LME Nickel Stocks vs 3-month Price

Falling stocks have failed to support prices as the trade war dominates markets.



Source: Bloomberg

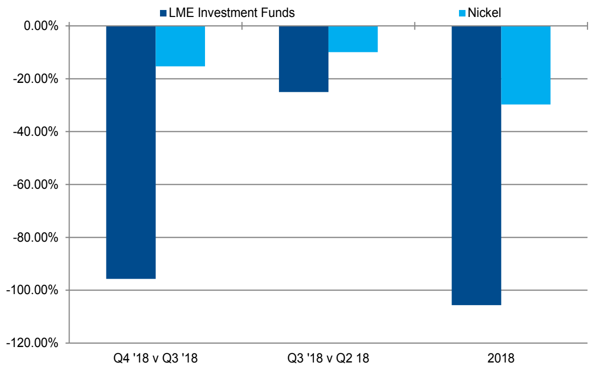
SMM indicate the nickel ore inventories at Chinese ports continue to trend lower, in line with exchange inventories. Chinese port stocks fell by 320,000wmt to 12.91mwmt as of January 18th, but remain high on a historical level. Exchange inventories continue to trend lower with global LME inventories at 200,466, as of January 21st. On warrant stocks are 144,072 tonnes, the majority of inventories are 73,428 tonnes of bagged briquettes in Malaysia. The declining stocks have given rise to the LME 3-month contract in the near term, which is a correction we didn't see in Q4 2018.

Refined nickel supplies are estimated at 572,000 tonnes in Q1 with consumption at 575,000 tonnes translating into a deficit of 1,000 tonnes, according to Wood Mackenzie. We anticipate stock days of consumption to retreat in Q1, giving rise to the flat price.

Fears of a Chinese slowdown remain a threat; however, with CNY activity will be quiet for the remainder of Q1. Weaker demand for 300 series stainless steel could cap upside gains for nickel. As mentioned in previous reports 300 series has higher nickel content than the 200 series, with 304 series containing 8-10% nickel vs 201 series, containing 3.5-5.5%. However, Beijing's propensity to stimulate the economy, through expansion of the railway and refurbishment of current tracks, could support stainless demand at the end of Q1 and into Q2 2019. We anticipate global growth to continue to moderate in 2019 which would provide a headwind to nickel prices.

LME Investment funds vs 3-month Price

Stocks decline has not strengthened prices outlining sentiment driven market.



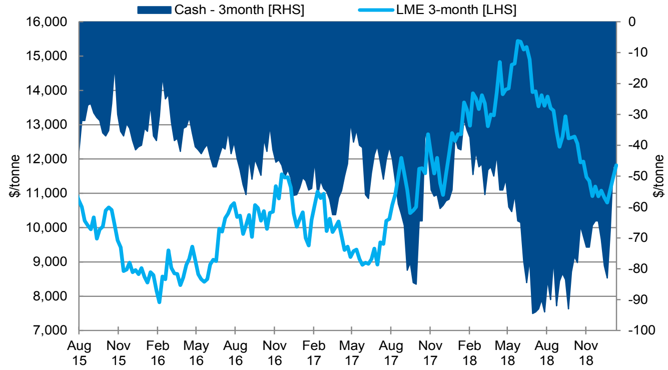
Source: Bloomberg

The US government shutdown is anticipated to hinder US growth in Q1 by 0.3-0.4%. However, as things stand the nickel market is on for another deficit year. We do not expect a sharp reversal of Q4 2018 as the looming cloud of more NPI and HPAL are likely to cap upside gains in the longer term. In the immediate term, sentiment is improving amid Chinese stimulus and reports of productive US-Sino trade negotiations. The market needs concrete details of concessions, on crucial issues such as IP; there is a strong chance that China will only change their IP rights laws when it is beneficial for them to do so, similar to Japan. A concession on Chinese buying of US goods and soybeans, while important for global trade and sentiment, is not the critical issue.

Tsingshan remains at the centre of the market whether that is stainless production or HPAL for batteries. Indonesian shipments of stainless steel from Tsingshan to China decreased in H2 2018. Increasing pressure on European mills who face growing competition from Asian competitors, whose penetration is thought to have reached 28% in 2018. Their cost of production is significantly below the ROW, and this puts them at an advantage. While details regarding the 50ktpa HPAL production has not been released, the likelihood of this production being achieved from the outset is slim, but outlines the rhetoric from Tsingshan.

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

The cash-3-month contango has narrowed.



Source: Bloomberg

While we believe the selloff in nickel was overdone on the downside, dark clouds are forming over the nickel market which may alleviate the long term fundamental deficits. If China increases production of 200 series stainless which has lower nickel content, HPAL projects, increased availability of NPI all provide notable headwinds for the market in the long term. However, these risks are less apparent in the near term, and this could see nickel continue to correct higher for the remainder of Q1 and beginning of Q2. Furthermore, a resolution of the trade war would improve the sentiment-driven market and give rise to LME prices.

Tin - To Remain Supportive

Source: Bloomberg, 01.02.19

Summary

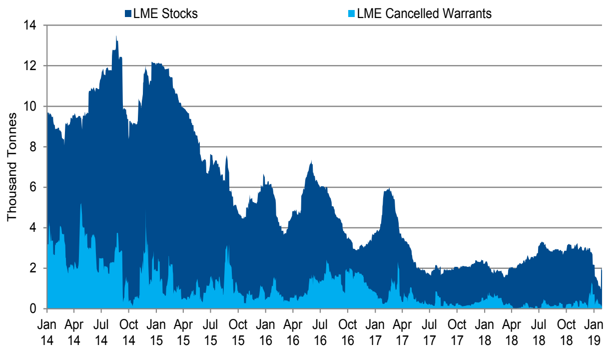
Cash-3 month spreads highlight tightness in the physical market; we expect this trend to continue and any invisible material to be delivered into the backwardation. Looking forward, demand looks strong due to the so called ‘technological super cycle’. Supply side issues present a supportive fundamental outlook for the illiquid metal. We expect momentum to remain on the front foot in Q1 with the majority of trading taking place between $20,000/t and $21,500/t.

Q4 Recap: LME tin prices consolidated in Q4 with prices gaining 3.26% to $19,475/t, bringing 2018 performance to -2.14%. Tin was the best performer last year but is also the least liquid market. As with other base metals, tin was under significant pressure from trade war sentiment. We saw the ICDX private smelter trade halt, in addition to Chinese smelter closures along with maintenance. This gave rise to LME tin prices, in addition to a stabilising dollar. In the closing weeks of the year, tin was disconnected from macro-headwinds outlining its resilience and bullish fundamental outlook.

LME inventories declined 24% in Q4 from 2,865 tonnes to 2,175 tonnes; there were mild inflows of material but nothing significant. Due to the fundamentally tight market, we expect this stock to have gone to market or into SHFE exchange warehouses which climbed 26.9% (1,7453 tonnes), to 8,271 tonnes.

LME Tin Warehouse Stocks

Continue to decline and are below 1000 tonnes.



Source: Bloomberg

Outlook: The fundamental outlook looks increasingly tight despite demand remaining flat in 2018, just above 350,000 tonnes according to the ITA. Softer demand in China was offset by a rise in ROW consumption to 200,000 tonnes in 2018. The economic slowdown in China could trigger a reduction in Chinese white goods demand. As such the ITA estimate that refined tin consumption could fall below 90,000 tonnes in 2019 due to weak white good use, the demand outlook for solder is equally vulnerable with the ITA indicating a decline in consumption of around 5% y/y in 2019.

Semiconductor sales continued to trend higher in Q4, reaching an all-time high at $41.82bn in October. November sales were slightly lower a $41.37bn but remain near record levels on a historical basis. Global trade tensions threaten semiconductor sales as well as other electronic goods as they were included in the August and September tranche of tariffs. Progress in negotiations remain slow, and tariffs are unlikely to be lifted in Q1. However, semiconductor companies have rallied on the stock market so far in Q1 after an abysmal performance in Q4. Trade optimism has buoyed sentiment in tech stocks despite a weakening macroeconomic environment.

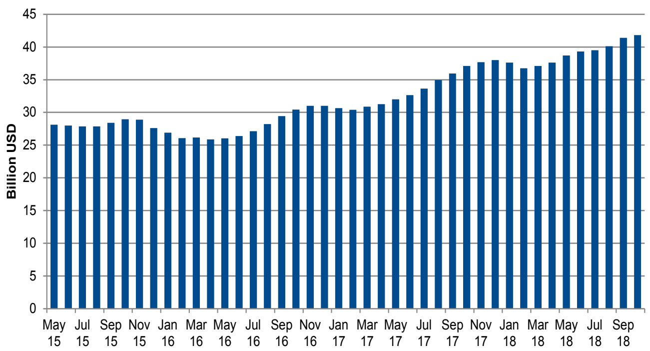
Auto sales around the globe are slowing, Chinese passenger car sales contracted 16.06% y/y in November 2018, and production dropped 18.9% y/y to 2.5m units in the same period. US sentiment is also under pressure after a strong year in 2018 due to tax benefits and significant performance from rental and corporate sectors. Total sales closed last year at 17.50m units SAAR, but as the benefits from the tax cut wear off, we anticipate car sales to soften in 2019.

Tinplate demand in the US remains robust with imports of

57,230 tonnes in October, a modest increase from September of 7,265 tonnes. October imports fell below the 5 year average of 60,000 tonnes. Concurrently, the tail-off in demand is in line with manufacturing PMI softness which we anticipate will continue in the near term. The government shutdown is likely to hinder US growth and the manufacturing PMI.

Global Semiconductor Sales

Semiconductor sales continue to trend higher despite tariffs.

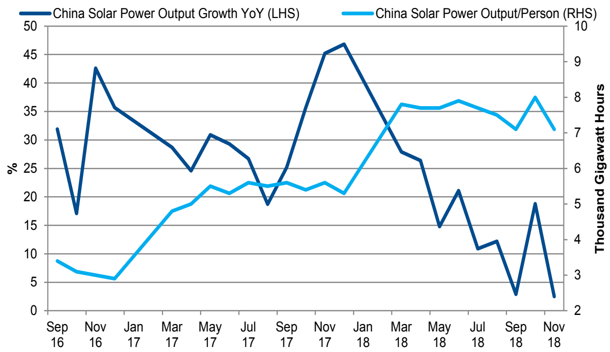


Source: Bloomberg

Solar demand has been forecast to grow 15% in 2019 by Bloomberg New Energy Finance (BNEF). Installations could reach 125GW this year, up from 109GW in 2018. However, China's Photovoltaic Industry Association has suggested that installations are set to decline 18% y/y to 43GW following the 531 New Deal. Weaker PV demand in China exemplified by Q3 earnings reports from Chinese manufacturers reported weaker profits and in the case of ZJ sunflower considerable losses. According to the Indian government solar power generated 22.8Gw of power in 2018 with installations just shy of 61GW, indicating they are on track to achieve 100GW by 2022. India's cumulative achievement in MW was 24,312MW as of October 31st 2018 up from 2,631.9MW on March 31st 2014.

China Solar Power

YoY growth has weakened but the global market remains supported.



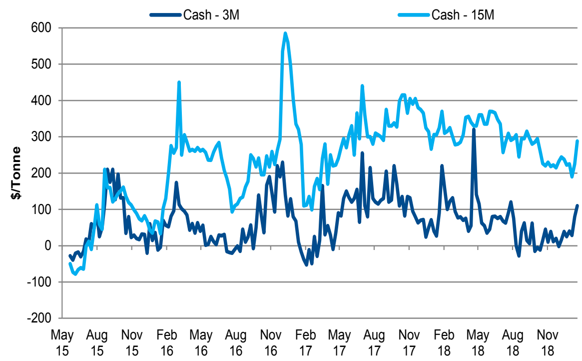
Source: Bloomberg

On the supply side, the ITA indicates that Chinese imports through to November fell by 11% y/y to 49,800 in addition to the 10,000 tonnes of destocking. The reduction in imports was in conjunction with the drop in refined metal output due to lack of ore. Supply-side issues spread into Indonesia, as exports contracted 56% y/y to 3,494 tonnes in November. December exports improved slightly to 5,260 tonnes, but the police investigation into PT Surveyor Indonesia to ensure exports comply with Indonesian regulation hinder exports, providing significant tailwinds for prices on the LME in Q1. Tin concentrate prices have increased so far this year and reached a range of 131,500-132,500rmb/t. However, Myanmar fell by 26%y/y to 184,000 tonnes (bulk weight) through to October last year.

This comes at a time when consumption, in the long run, looks strong. New demand channels such as robotics, solar power, EVs and autonomous vehicles and energy storage are developing in the technological supercycle. The ITA projects that a total of 55,500 tonnes of tin will be needed for 2030 to facilitate new demand.

Calendar Spreads

Spreads show tightness in the market with strong backwardations.



Source: Bloomberg

Zinc - Bottlenecks A Key 2019 Trend

Summary

Risk-on appetite has returned to the zinc market with prices trending towards $2,800/t. We believe the trade war sentiment will continue to cap gains in the longer term despite a moderately favourable fundamental picture. Rising concentrate availability is creating bottlenecks at smelters which are running at near record utilisation rates. Infrastructure investment, in particular high speed railways, would provide additional support to the market. Ceteris paribus zinc looks overdone above $2,800/t, but would expect advances to $2,500/t to be well bid.

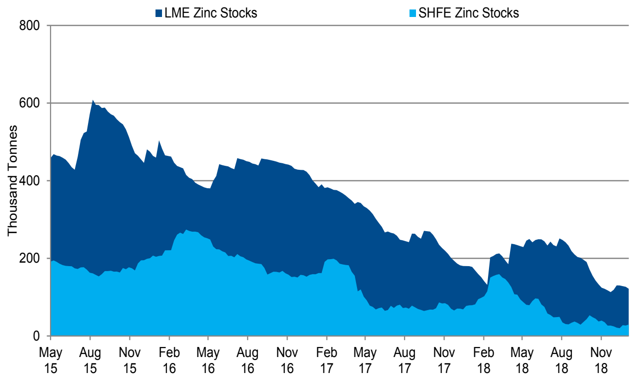
Q4 Recap: Zinc started Q4 on the front foot as optimism about a trade war resolution prompted the market to test resistance at $2,728/t. This level remained key throughout October; however, the robustness of resistance set the scene for zinc prices to trend lower as buying pressure abated and renewed uncertainty surrounding the trade war, China's economic health and European uncertainty gripped the markets. The cash-3 month spreads swung viciously and reached $129/t back before weakening into $40/t on December 31st.

Futures broke through support at $2,600/t to challenge $2,400/t and closed Q4 and 2018 on the back foot at $2,467/t, -4.79% for Q4. Similarly, the 1st generic SHFE zinc fell -7.93% to Rmb 21,175/t. Supply-side fears gave rise to SHFE prices in October as the 1st generic price reached Rmb24, 815/t on October 15th, however, momentum failed to last, and the market trended lower for the remainder of Q4.

Contrary to the falling price environment, SHFE deliverable stocks declined 4.47% to 27,898 tonnes throughout the month. However, October saw a net inflow of material, with deliverable stocks reaching 53,479 tonnes due to the cutback in Chinese smelter production. What followed as a sustained period of outflows until the end of December. LME inventories declined in Q4 by 35.95% to 129,325 tonnes; stocks reached the lowest point since 2008 in December at 110,700 tonnes on December 5th.

LME vs SHFE Warehouse Stocks

Divergence between SHFE and LME stocks suggests a tighter Chinese market.

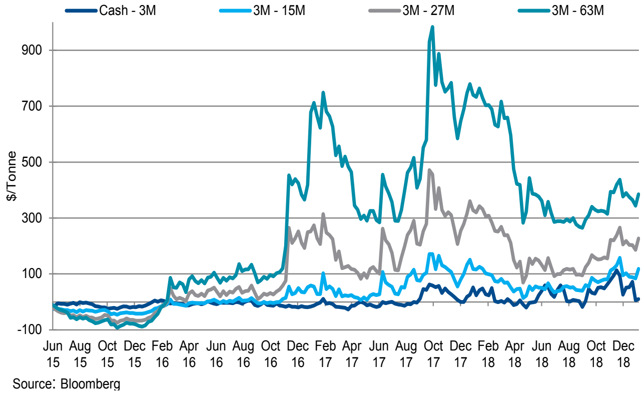


Source: Bloomberg

Outlook: According to the National Bureau of Statistics (NBS), 450,000 tonnes of capacity at the Zhuzhou was taken offline. The replacement smelter, with a capacity of 300,000 tonnes, is yet to be finished and Zhuzhou closed last month. Indeed, capacity for the year peaked in November at 520,000 as a result of the environmental cutbacks down 13% y/y. We believe the market dynamic of a concentrate surplus and the refined market in a deficit is set to continue. TCs for imported concentrate into China climbed throughout H2 2018 and reached a $170-190/mt as of January 1st, helping to confirm the increase in concentrate availability, with a concentrate surplus of 611,000 tonnes forecast in 2019. Smelter income for imported concentrate was $306/t in December basis $341/t for domestic TCs.

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

Cash-3-month spread spiked into a $124/t back in December.



Source: Bloomberg

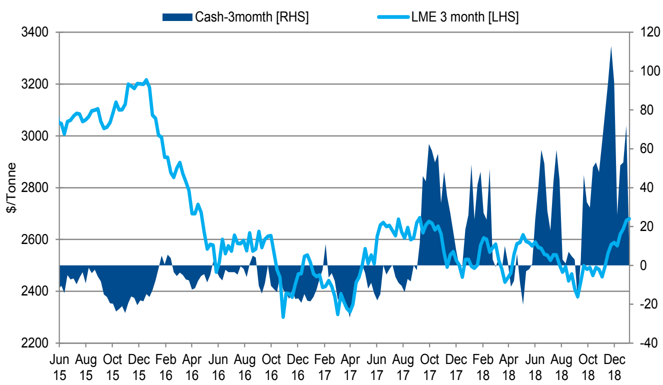
The sentiment depressing trade war continues to cap the market. Any resolution to the dispute may cause investors to look at the fundamentals. Accordingly, the decline in exchange inventories in H2 2018 for the LME and the majority of 2018 for SHFE should support prices. The continuous decline should bring invisible stocks back into the exchange. Indeed, Shanghai bonded warehouse stocks fell for the first time in 11 weeks through to January 11th; zinc ingots fell by 2,500 to 75,000 tonnes. Comparatively, inventories across Shanghai, Guangdong, and Tianjin were 106,800t as of January 14th according to SMM, up 2,000 tonnes from the Friday before.

The softening Chinese economy is translating into weaker demand, exemplified by poor utilisation rates at galvanising plants. Indeed, December utilisation rates were down by 3.2% m/m at 78.4%. Similarly, operating rates at zinc oxide plants fell to 52.9% in December, down 0.72% m/m according to SMM. Operating costs for zinc alloy producers was also low in December at 46.9%, down 3.14% m/m. New orders fell in December as producers faced liquidity issues, according to SMM who suggest operating rates across Chinese zinc alloy and die-castings are at set to fall by 13.08% m/m in January.

We anticipate utilisation rates to trend lower into CNY, before ramping up production in March, but believe the market will continue to be starved of refined zinc in the near term. However, port concentrate stocks continue to trend higher, with Lianyungang inventory at 140kt as of January 11th, up from 45,000 tonnes on September 28th 2018. Accordingly, the tightness in refined metal may set the scene for vicious swings in the spreads, as we saw in Q4 2018 when cash to 3s reached $125/t backwardation. The cash to 3 has come back into $5 contango as of January 15th.

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

Cash-3-month spread spiked into a $124/t back in December.



Source: Bloomberg

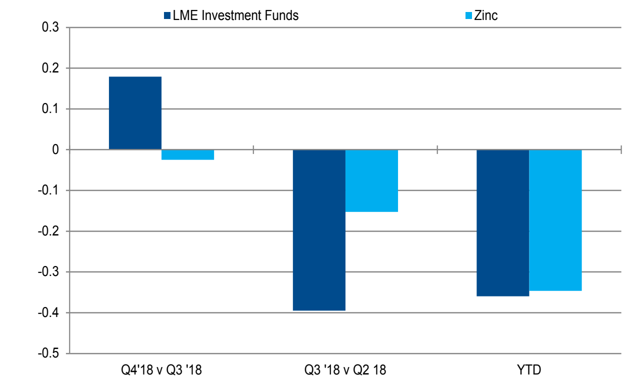
Galvanised sheet and metallic coated sheet production was weak in the first 10 months of 2018. Chinese production declined 15.1% through to the end of October. Output in Japan and South Korea also fell by 3.3% and 2.3% respectively in the same period. Electrogalvanized steel was weak for Japan at -7% with shipments out of the US also declining by 7.3% in the first 11 months of 2018. Hot dip is more zinc intensive, the galvanised coat is thicker, making it longer lasting but also more expensive. Intriguingly, Brazilian electro galvanised sheet production grew 44.1% to November 2018, but remains a small market.

Chinese investment in infrastructure should support zinc consumption in 2019, with transport representing around 20% of zinc end-use consumption. NBS suggest that China fixed assets investment in infrastructure, less electricity improved to 3.9% y/y in November 2018. Despite the 15.9% decline through to October, Chinese production of metallic coated sheet steel increased 2.8% y/y in the same period. However, due to environmental issues and poor margins output reached 41.6m tonnes. This is likely to remain supported as Chinese stimulus plans materialise; however, the high-speed railway is zinc intensive could support demand.

European consumption is set to suffer as the economy slows. Despite the Markit construction PMI strengthening in December to 53.1, civil engineering has struggled which is harmful for zinc consumption. Manufacturing PMIs remain expansionary but have slowed with new orders struggling. The deceleration of the construction PMI is most worrying for zinc consumption as this sector is approximately 50% of end-user demand. In the long run industrialisation and urbanisation will support zinc demand; however, cracks have emerged. In Q1 we expect construction PMIs to remain in growth supporting zinc consumption, but data is trending lower and this could trigger weaker zinc demand later on in 2019.

Investment Funds Net Position vs LME 3-month Price

LME prices have consolidated despite the increase in bullish sentiment.



Source: Bloomberg

Optionality open interest on the LME for February and March is weighted to the downside, with the majority of strikes below the market. We anticipate an increase in upside cover in the coming months. Zinc LME net position for investment funds declined from 22,973 long to a 8,601 long as of January 18th. However, the recent rally has seen investment funds increase their upside exposure by 78% to a net length of 15,314, there remains capacity for investors to increase upside exposure. Chinese investors may return from CNY with strong selling pressure following their weak PMI data on February 1st which may prompt a correction of zinc prices to $2,500/t.

Iron Ore & Steel - Tragedy Causes Short-term Spike

Source: Bloomberg, 01.02.19

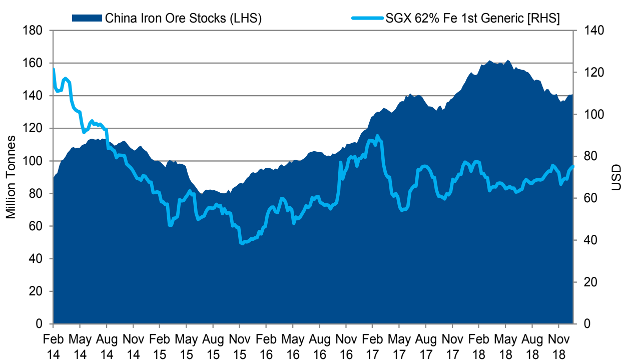
Summary

The Vale disaster triggered a knee jerk reaction with prices surging higher, speculator activity may exacerbate activity. The firm rhetoric has trigger Vale to declare force majeure after activity at their Brucutu mine was suspended. We anticipate this will keep process higher for longer even with a possible supply response from other mines and producers around the globe. The spread between high quality and low quality fines has narrowed but we expect this to remain wider for longer. Demand for iron will be limited during CNY but re-stocking in the coming months could drive the market. We anticipate the majority of trading to take place between $90/t and $75/t.

Q4 Recap: The 62% Fe SGX Asiaclear 1st generic strengthened in Q4 2018 by 4.43% q/q, capping off a mixed year for the ferrous metal. After a strong start to the year, fears of overcapacity, softening Chinese demand and trade tension caused iron ore prices to capitulate and posted a low for the year of $62.20/ t on August 7th. We maintained our directional view for Q4 but we were optimistic in our level as the SGX 1st generic contract only managed a low of $64.10/t. Iron ore prices on the Dalian exchange also climbed in Q4 by 6.9% to RMB573.5/t.

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

Port stocks declined in Q3 as steel production jumped despite cutbacks.

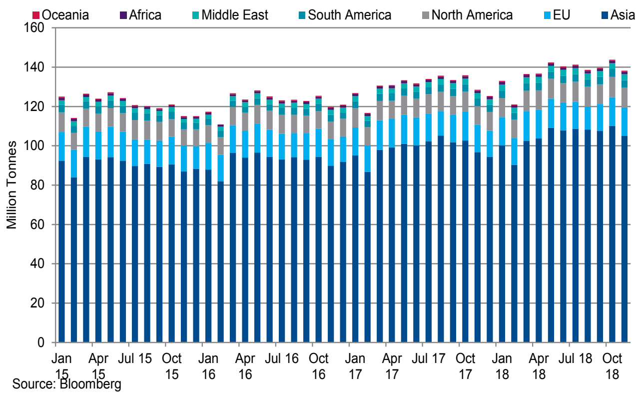


Source: Bloomberg

The performance of iron ore prices in 2018 caught investors off guard as strong steel margins in Q3 provided significant tailwinds to iron ore prices. Iron ore closed out the year down -3.59% at $71.12/t. As mentioned in our previous report Platts recorded margins for HRC and Rebar at 53% and 78% respectively at a point last year. We hear reports that for some Chinese steel companies EBITDA was 20%, with margins around RMB1000/t. However, in the final quarter of 2018 steel margins declined and crude steel output averaged 78.7m tonnes, down from 80.80m tonnes in Q3. Steelhome port inventories fell 4.6% in Q4 to 139m tonnes.

Crude Steel Output

Asian crude steel production remains strong despite softer margins.



Source: Bloomberg

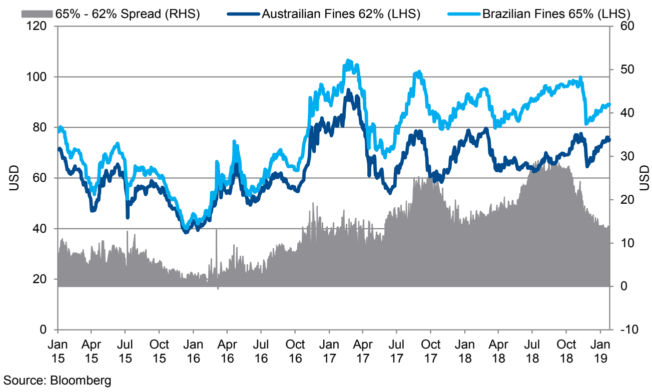
Outlook: The Vale iron ore disaster has led prices to post a 16-month high. The dam collapse has caused Vale to halt production at Corrego do Feijao. The futures market has surged but the physical market might remain subdued as activity over CNY drops off. The mine producers higher grade ore which is in high demand in China due to the environmental rhetoric explained in previous reports. This could trigger the spread between premium and lower grade ore to widen. The longer term impact is unclear after Vale invoked force majeure after it was ordered to suspend activity at Brucutu. Total output loss for Vale may total 50m tons this year which would keep prices elevated in the longer term however, this remains dependent on how long Brucutu is closed for. The sustained rally could trigger an output response from less efficient producers with higher costs, elsewhere around the world.

Chinese imports of iron ore average 16.36m tonnes in the final quarter of 2018 up from 16.19m tonnes in Q3, according to customs data. However full year imports were the lowest since 2010. China's domestic production is predominately poor in quality, with some grades as low as 20%. Upgrading this material is therefore expensive and not in line with the environmental rhetoric of Beijing. Accordingly, it is easier and often more cost effective to import higher quality fines from Brazil and Australia.

We maintain our view of mills preferring to consume higher quality ore due to steel margins as well as it being more environmentally friendly. This is exemplified by the continuous rise in the weekly iron ore 64% fe import price, which has risen to RMB550/t in the last 6 months, an increase of 19.6% from the beginning of July 2018 to January 29th 2019. However, the spread between the 65% Brazilian Fe iron ore and the 62% Australian Fe iron ore narrowed to $13.5/t on January 26th, after being as wide as $30/t in July. This rise in the lower grade ore is demonstrated by the increase in Australian lump 62% fe to Tianjin Port price by 32% to RMB825/t as of January 28th 2019. We believe the spread will remain wider for longer but may reach $30/t for some as the industry was experiencing unprecedented steel margins. Therefore, the lower steel margins may prompt mills to use lower iron ore grades, as steel profitability will determine wideness of the spread

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

The spread has narrowed but we expect it to remain wider for longer.



Source: Bloomberg

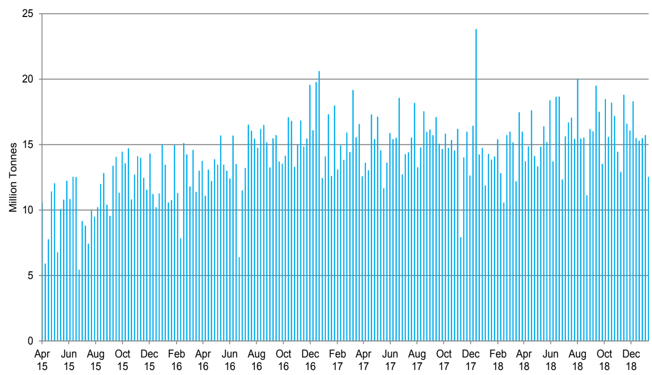
According to Mysteel, the environmental rhetoric is still paramount to the Ministry of Ecology and Environmental (MEE) as they persuade steel producers to upgrade their mills in order to achieve 'ultra-low' emissions. The standards were assigned by China's cabinet; steelmakers are permitted to complete the necessary adaptions by 2020. However, we hear reports that Beijing will push for modifications in 2019. The financial commitment necessary is significant and according to the Chief engineer at the department of energy and environment at Baoshan Iron & Steel co investment needed to achieve lower emissions is $11.8bn for the industry as whole. According to the China Iron & Steel Association, the modifications may increase the cost of production for mills by Yuan 300/t. We do not believe this will impact Q1 activity but it could reduce steel production in 2019 as steel mills undertake modifications, reducing demand for iron ore. Indeed, Tangshan's government have suggested curbing output for sintering machines and blast furnaces further into 2019.

Chinese steel demand plateaued in 2018 after peaking at 82.552m tonnes in October, with consumption declining to 76.120m tonnes in December, according to The World Steel Association. The same thing happened in 2017 and in 2015, suggesting it is a seasonal decline. Chinese steel exports continue to decline and was 5.560m tonnes in December, a marginal increase on November but lower than the 2018 high of 6.940m tonnes. We expect demand to trend lower into CNY before jumping back towards the end of Q1 and beginning of Q2. The decline in demand has caused the China steel PMI index to fall below 50 to 45.50 as of December 31st 2018. Rebar prices have strengthened in January amid renewed optimism surrounding infrastructure expenditure.

The traditional de-stocking has taken place with Chinese finished steel inventories falling to around 8m tonnes in November (latest data). This is fractionally above the level last year. We believe restocking at steel mills will increased into CNY, causing port inventories of iron ore to deplete. Throughout CNY we expect stocks to increase as downstream purchases drop and seaborne material gathers at ports. According to SMM, inventories across the 35 major Chinese ports fell by 1.1m tonnes to 129.88m in the week ending January 25th. Indeed, average daily deliveries of iron ore leaving the 35 ports climbed 27,000mt to 2.73m tonnes. We anticipate prices to remain range-bound throughout CNY.

China Iron Ore Imports

Chinese imports tailed off towards the end of 2018.



Source: Bloomberg, Custums data

Gold - Strong Haven & Central Bank Demand

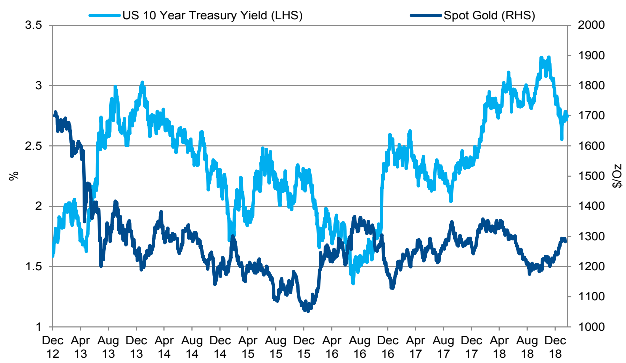
Source: Bloomberg, 01.02.19

Summary

Uncertainty across global markets triggered appetite for gold, exemplified by known ETF holdings reaching 73.07moz. The rise in ETF holdings suggests investors have confidence in the rally. Central bank purchases remain strong with China increasing their reserves for the first time since October 2016. Long term macro risks are mounting and this helps appetite for bullion. Following resistance at $1,326/oz the key level is $1,350/oz which could be achieved of the back off weaker US data, EU political turbulence and a softer dollar.

Q4 Recap: At the time of writing, gold spot stands at $1305.25/oz, a 9-month high. Recent gold demand has been heavily driven by fear buying amid rising economic weakness: China's manufacturing contraction, the slowdown of the economic growth in the US and the effect of Brexit on Europe. For most of 2018 the dollar was sought out for as a safe haven, however, with worsening global conditions, investor appetite for gold returned in Q4 '18. The precious metal is at its highest levels since May 2018 and has outperformed the S&P 2-to-1.

US 10-year Treasury Yield vs Spot Gold



Source: Bloomberg

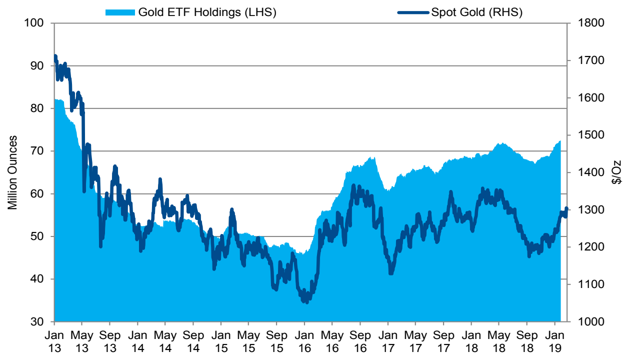
US market sell-off in December resulted in short-covering, and gold has ended the year at $1,282.49/oz, 7.7% higher than at the beginning of Q4. The government shutdown has added to the January rally. Another potential economic risk that could fuel the gold rally is global debt. The US has $1tn to refinance in 2019 and China is flooded with property and local-government debts. Furthermore, we draw attention to the correlation between CNY and spot gold, which has provided support for prices in the near term.

Outlook: Gold will likely continue to act as an investment haven as the US economy faces further economic headwinds. 10yr bond yields remain low, below the pre-crisis levels, providing a minimum safety net for investors in case of higher volatility in the market. The US Economic Policy Uncertainty Index has edged up to 276, a 9-month high. Additionally, increased protectionist measures faced by the US and China, in particular, will add to inflationary pressures, dampening the possibility of long-term growth. Lastly, we believe Europe's worrying growth signals and Brexit uncertainty will add to gold demand from the European side of the market. French social unrest along with Italian populist government issues will continue to highlight the conflicts within the Eurozone over Q1. Central banks will continue to purchase gold amid continued geopolitical and macroeconomic tensions.

ETF holdings have risen drastically over the Q4 as market sentiment has shifted away from the dollar. At the time of writing, known gold ETF holdings reached 72.52m oz, a 5-year peak, as the effects of a market sell-off have fed through to Q1. Bullish sentiment is supported by strong macroeconomic fundamentals, despite a drop in the CPI figures across China (1.9%), EU (1.6%) and the US (1.9%). Interest rate policies have been put on hold as lower growth continues through to 2019. As much as lower inflation figures should have turned investors away from purchasing gold, lower predicted growth have driven the positive buying momentum.

Gold ETF Holdings vs Spot Price

ETF holdings have increased as investors demand haven assets.

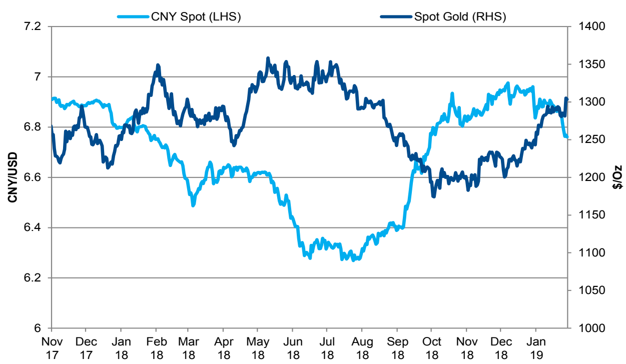


Source: Bloomberg

Fear-buying will remain a prevalent investment strategy, as negotiations between the US and China continue later in Q1. The bullish sentiment reached a record high of 86.67% of respondents in December, in line with the market sell-off. At the time of writing, the value stands at 45.45%. The CMX CFTC Net Non-commercial Combined Positions stand at 87,497 contracts, up from -35,201 at the start of the quarter. However, we believe that the aggressive buying rate will slow down during Q1 as strong fear-buying fades away to a more neutral stance.

Gold vs CNY Spot

Gold price activity mirrors the USD/CNY exchange rate.



Source: Bloomberg

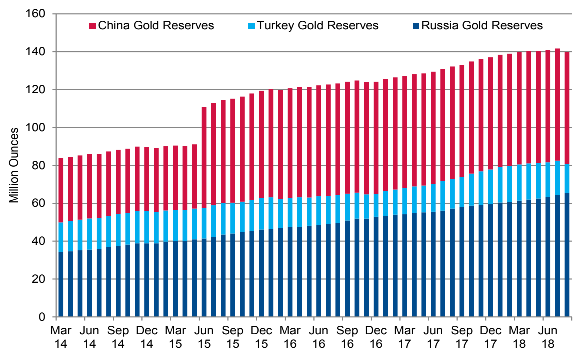
Central Banks demand remained a key commodity driver in Q3. World Gold Council data shows that the gold demand reached 964.3t, a 6.2t higher Y/Y. Central Banks net purchases peaked at 148.4t in Q3 ’18, the highest since 2015, and we believe that the positive momentum would have continued in Q4. China raised their reserves for the first time since October 2016. Turkey and Russia remain active in the bullion market with net purchase increases of 18.5t and 92.2t respectively. Stronger demand is likely to continue as weaker Lira and Ruble seek a financial cushion in case of higher volatility in 2019.

From the South American front, Venezuela has been heavily dependent on foreign reserves for years which are valued at $8,833m of foreign exchange reserves. Nicolas Maduro has requested to withdraw $1.2b worth of gold reserves from the Bank of England amid the fears of losing the presidential power to the opposition, led by Juan Guaido. Venezuela has deposited most of its oil wealth into gold in times of economic slowdown, using the commodity as a means of raising funds. Gold reserves in Venezuela stood at 161.2 tonnes in Q4 ’18, a fall from 164.2 in Q3.

According to the Ministry of Finance, Russia’s gold production has increased to 290.3t in the first eleven months of 2018, a 1.7% increase from the same period in 2017. The significant boost was reportedly due to increased volumes of ore processing in several of the country’s gold mines. The country is expected to become one of the top largest producers due to the further increase in output. Russian foreign gold reserves have grown by 14.9% or 273.7t in 2018 and have amounted to a record high of 2.11 thousand tonnes by 1st January ‘19. Russia continues its strategy of de-dollarisation and has successfully transferred almost a quarter of foreign reserves into euros, yuan and yen.

Central Bank Gold Reserves

China added to their gold reserves for the first time since October 2016.



Source: Bloomberg

With Chinese New Year and Indian Festivals approaching, the physical demand for the yellow metal is expected to rise. However, demand for gold in India is falling as the result of a fading appeal for younger generations. Consumption has dropped 23% from 2010 and is likely to continue the trend in 2019. World Gold Council data places Q3 ’18 retail demand at an increase of 13.7t from Q2, bringing YTD purchases to 21.8t. That is due to the Indian CB incentive to transfer the investment towards a digital transaction system to encourage cash flow instead of gold as a means of money storage. A further “80:20 Scheme” introduced by the Indian Central Bank forces the domestic bullion suppliers to repurpose imported gold in products like jewellery to reduce the trade imbalance. This scheme was initiated to re-export 20% of all imported gold and 80% to be left for consumption.

World Gold Council data indicates that jewellery consumption stayed strong in Q3, reaching 535.7t, a 6% Y/Y increase. India saw a 10% increase up to 148.8t along with China’s growth of 10% to 174.2t in Q3. Bar and coin demand have also benefitted from lower Chinese growth figures with a 28% increase y/y globally and 25% y/y in China. According to the Global Gold Council, while China’s slower growth might dampen the demand for luxury goods in Q1 2019, India’s economy is expected to grow by 7.5% in 2018 and 2019, outpacing most global economies and showing resilience to geopolitical uncertainty.

Silver - Speculators Cautious Of Rally

Summary

Industrial demand for silver remains robust with the BNEF forecasting growth of 15% for solar power in 2019. ETF holdings have fallen in recent weeks suggesting investors question the rally. Risk-on appetite and lack speculator activity may set the scene for silver to pare gains in the immediate term. Indeed, the non-yielding asset may face headwinds as investors view opportunities in other asset classes which could push prices back to $15/oz ,with the upper band of our range at $16.50/oz.

Q4 Recap: Silver remained volatile in Q4, but prices remained range-bound for the majority of the period. The markets remained cautious ahead of the G20 summit in Buenos Aires, as the market remains focused on macro-economic drivers and geopolitics instead of the fundamentals. As we moved into December, uncertainty captivated the market, stoking demand for precious metals. Silver rallied 9% in December alone as the dollar stabilised, fears of a slowdown in China returned, European political risk returned the US government shutdown.

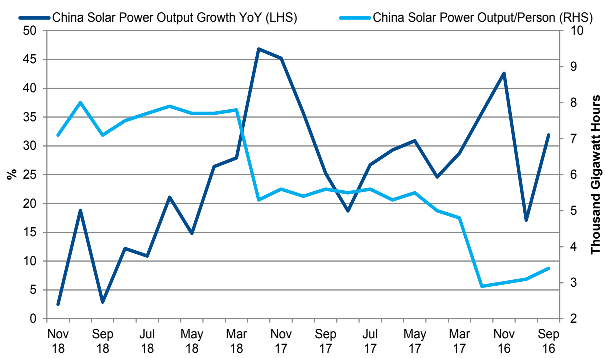
The COMEX commitment of traders saw investors cover their short to 1,912 net long on the 18th of December. Since the government shutdown, there have been no COT reports but as the rally continued we expect the net length to have increased although, we remind investors that liquidity is thin over Christmas. The gold/silver ratio retreated from its record high of 86.56 to 82.88 on December 31st. We attribute this to the softening dollar and the rally as due to haven demand. Accordingly, known ETF holdings of fell 3.74% to 515,348,664/oz at the end of 2018 as retail investors sold the rally.

Outlook: Solar demand has been forecast to grow 15% in 2019 by Bloomberg New Energy Finance (BNEF). Installations could reach 125GW this year up from 109GW in 2018. However, China's Photovoltaic Industry Association has suggested that installations are set to decline 18% y/y to 43GW following the 531 New Deal. Weaker PV demand in China exemplified by Q3 earnings reports from Chinese manufacturers which reported weaker profit and in the case of ZJ Sunflower, considerable losses. Wacker Chemie, a major polysilicon producer, was considerably impacted by the new legislation. Demand has been hit causing sales of €825m in 2018, a decline of 27% y/y.

The new legislation triggered apprehension about global installations and in turn silver demand. However, consistent investment into the solar sector has facilitated the decline in solar prices as such World ex-China consumption offset the decline in the Chinese market and support global demand. This trend may persist into 2019, according to BNEF with regions such as Europe, Turkey, India, the Middle East and North America. Indeed, the rhetoric from the World Economic Forum is bullish sustainability and environmental policy which may facilitate strong demand for photovoltaic cells. Furthermore, the extension of the Renewable Energy Tax Credit into 2019 may incentivise frontloading projects this year.

China Solar Power

YoY growth has weakened but the global market remains supported.



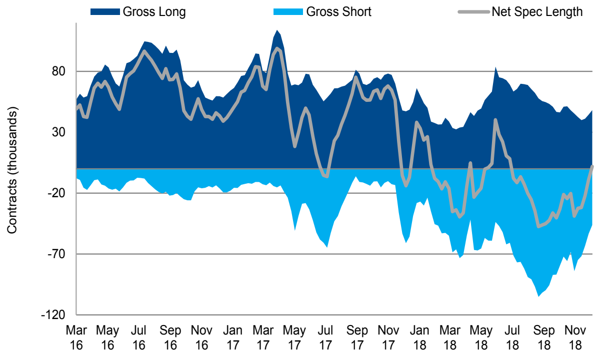
Source: Bloomberg

The Indian government outlined that solar power generated 22.8Gw of power in 2018 with installations just shy of 61GW, indicating they are on track to achieve 100GW by 2022. India's cumulative achievement in MW was 24,312MW as of October 31st 2018 up from 2,631.9MW on March 31st 2014. However, Q1 capacity additions declined, according to Bridge to India. Indeed, according to India Ratings and Research, costs will increase to around 30-35 paise per unit with tariffs of Rs2.44per unit. India cannot facilitate its demand, and the new scheme to incentivise developers to set up factories has had little impact.

Sentiment in the silver market waned in January, as prices have pulled back from the high at $15.85/oz. The flight to safety in remains a threat. Silver has struggled as the US 10 year yield rises back towards 2.80%. However, the yield curve has flattened which is not an immediate risk. If we see an inversion in the US 2 year and 10-year yields like we have seen for the 2-year and 5-year briefly in January, this would confirm a global downturn.

COMEX Managed Money Positioning

Investors liquidated their net short in Q4.

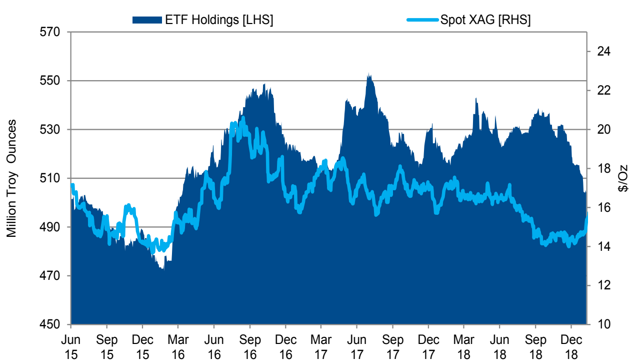


Source: Bloomberg

The Commitment of Traders Report has not been released since December 18th when the CFTC CMX managed money net long was 1,912 contracts. At this point, the short covering rally had not finished, but the net short had dissipated from a 38,846 short to the 1,912 long, as such we'd anticipate the net length to have expanded. Silver went on to rally an additional 6.25% for the remainder of December, and the open interest also trended higher. The caveat is that liquidity was low and this exacerbated the move but on the upside. However, dark clouds are forming over the global economy and tensions between countries could escalate in the coming months. The US government looks to be inching towards ending the shutdown; we anticipate volatility around this time as investors digest a month's worth of COT reports. The key is the differential between market expectations of the CFTC net position and the actual position.

Silver ETF Holdings vs Spot Price

ETF holdings have started to fall suggesting lack of confidence in the rally.



Source: Bloomberg

We are seeing investors remaining optimistic above silver and continue to hold their long positions, although some profit has been taken off. This sentiment has been mirrored with investors holding ETFs. Known ETF Holdings have declined 6.32% (34,000,000 troy ounces) suggesting investors do not believe the rally has conviction at this time. We saw a similar pattern in 2017 when investor used rising prices as an opportunity to liquidate ETF holdings but when the rally regained conviction holdings increased once again.

Obstacles are forming and this could trigger some flight to safety. We believe the US government shutdown will prompt US GDP growth to surprise to the downside in Q1, especially if it continues for a considerable time longer. The dollar remains strong, and we anticipate this to continue in Q1 acting as a headwind to silver.

Gold/Silver Ratio

Gold/silver ratio has come back slightly but it remains near historical highs.

Source: Bloomberg

Palladium - Tightness To Continue

Summary

Q4 saw palladium outperform its peers, even gold, as tighter physical market outweighed the downside pressures of the marketwide selloff in December. However, the short-term outlook seems more subdued: slowing car manufacturing performance along with bearish outlook on global growth will define the direction of prices, as the metal's supply remains in a tight deficit. Under these circumstances, we believe prices will be well supported at $1,250/oz, with advances towards $1,500.00/oz.

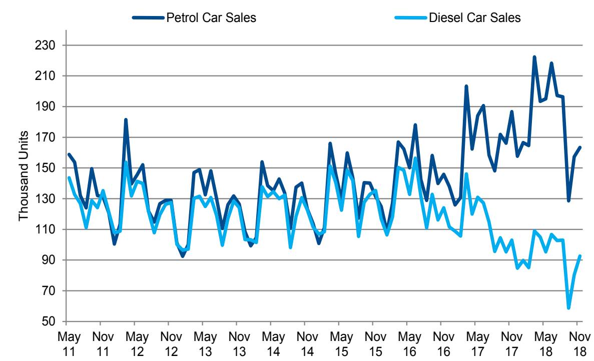
Q4 Recap: Palladium continued its positive momentum throughout the quarter, closing at a record high of $1,261.02/oz, up 18.97% q/q and 15.11% y/y. Palladium is one of the best performing commodities this year especially after outperforming gold in December. Tightness in the physical market was reflected in a palladium deficit, despite lower auto sales growth this year. In November, Palladium had risen to a 30% premium against platinum, by mid Dec the value has hit 60% (~$470/oz), as the shift towards gasoline cars takes place in Europe. The most recent spike is attributed to the newly relaxed trade relationship between China and the US, especially in the case of the Chinese government reducing the tariffs on US cars from 40% to 15%, starting from Jan 2019.

Outlook: Since bottoming out in August 2018, palladium's bullish fundamentals have driven the price action. The auto sector remains the main driver for demand this year. In the long run, the biggest catalyst in the market could be China's stricter environmental regulations implemented in 2018. Automobile makers switching from diesel to gasoline cars will send palladium prices soaring, as the economy abandons platinum to abide by these stricter rules. However, we believe that the spot price might not rise as much as hoped due to slower China and US growth forecasts this quarter. By the end of February, the US has to decide whether to levy higher tariff rates on automotive imports, we believe the EU will suffer the most.

Passenger car sales dropped 16.06% y/y in November with production declining 16.06%. Lunar New Year would be another reason for a future slowdown in sales. However, the possibility of trade talks between China and the US could stimulate growth in 2019, but we do not foresee a resolution in Q1. Demand will remain subdued as economic growth slows down in 2019, with China suffering the greatest losses from manufacturing.

Petrol vs Diesel Car Sales

The divergence in petrol vs diesel sales continues.



Source: Bloomberg

Tightness in the physical palladium market has slightly intensified in 2018, with South African and Russian annual productions decreasing 2.33% y/y and 2.21% y/y respectively. Nornickel believes 2019 will be faced with another year of physical deficit expansion, primarily driven by the automotive sector. ETF holdings fell to a 10-year low of 0.715m oz by the end of December, down from 1.246m oz at the start of the year. 1-month lease rate stands at 22%, indicating palladium's high demand.

We expect physical supply will remain in a deficit in 2019, while the market uncertainty will mute the demand for the precious metal. However, the biggest risk to dampen the rally is automaker's decision to swap for cheaper metal, i.e. platinum.

Platinum - Future Dependant On Hydrogen Cells?

Source: Bloomberg, 01.02.19

Summary

Bearish fundamentals have set the tone for platinum prices over Q4 and the market has turned to gold amid uncertainty about the global growth prospects. Additionally, stricter environmental regulations set by China have added to platinum's decline. We believe that the prices will remain broadly in the Q4 range: the metal has been supported at $778/oz and the prices may trend higher towards $855/oz. over Q1. If the sentiment breaks this level, further gains could be made at $878/oz.

Q4 Recap: Platinum prices started the quarter with a bullish momentum as the Rand gained strength, and peaked at $878.27/oz. at the beginning of Nov. However, the correlation did not last and platinum spot price retreated due to falling sales of new diesel cars. Prices closed the quarter at $787.07/oz., down 3.21% q/q and 15.69% y/y. The bears added to short positions in Dec, with NYMEX net non-commercial combined brought down from 23,713 at the beginning of the month to 11,170 contracts, before closing the quarter by covering the shorts.

Investment interest has turned towards gold as financial environment was faced with an equity sell-off in December. Platinum global ETF figures supported the sentiment as known holding declined to a 5-year low at 2.3m oz. on 14th December

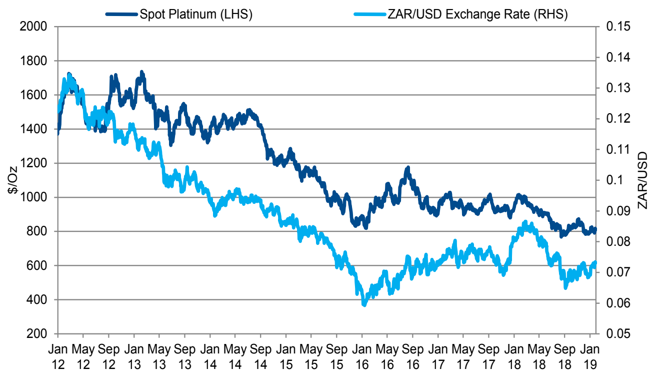
Outlook: EU auto sales are expected to be flat in 2019, with 1.3 IHS Markit Forecast. In our opinion, the lack of demand for diesel-fuelled cars in slowing economies will heavily weigh on platinum demand in 2019.

The supply side, however, presents some supply side challenges. With South African mines shutting down, the physical market tightened, global production fell to 7.94moz in 2018, a 2.25% decrease y/y. Nicolaas Muller, the CEO of Impala Platinum Holdings Ltd., believes that with current supply status platinum is unlikely to rebound until 2022. Anglo American's results for Q4 outlined growth of 3% to 1.26m ounces; they attributed this to an increase operating efficiency at the JV mines as well as Unki mine. Comparatively, production at the Anglo's own mines declined 2%.

Platinum can function as a catalyst in a typical fuel cell by striping hydrogen of its electrons. Anglo American, the biggest platinum producer, has plans to raise funds to invest in hydrogen fuel cells to stimulate demand for the precious metal. China is considered to be the leader in hydrogen fuel cell technology and production, with $12.4b subsidised by the government in 2018. Following its own success with the electric vehicles, China has potential to introduce the technology to the global market alongside lithium-ion batteries. Indeed, Anglo American believes that 1m oz. of palladium would be demanded by the fuel cell industry by 2030.

Spot Platinum vs ZAR/USD

Platinum continues to track the ZAR as supply concerns remain prevalent.



Source: Bloomberg

Lack of clarity surrounding South African production due to labour issues could act as a tailwind to prices. The Association of Mineworkers and Construction Union (AMCU) have outlined plans to commence strike action. This may reverberate across the wider mine community, especially with the presidential election this year. We believe the weakening demand is likely to keep platinum in surplus this year. The spread between palladium and platinum could trigger demand destruction for palladium in favour of platinum.

Appendix

Global

Global Manufacturing PMI

Date	USA (Markit)	China (Caixin)	Eurozone (Markit)	Japan (Nikkei)	Emerging Markets (Markit)
Nov-2015	52.8	48.6	52.8	52.6	49.3
Dec-2015	51.2	48.2	53.2	52.6	49.1
Jan-2016	52.4	48.4	52.3	52.3	49.4
Feb-2016	51.3	48.0	51.2	50.1	48.9
Mar-2016	51.5	49.7	51.6	49.1	50.2
Apr-2016	50.8	49.4	51.7	48.2	49.6
May-2016	50.7	49.2	51.5	47.7	49.6
Jun-2016	51.3	48.6	52.8	48.1	49.3
Jul-2016	52.9	50.6	52.0	49.3	50.3
Aug-2016	52.0	50.0	51.7	49.5	50.1
Sep-2016	51.5	50.1	52.6	50.4	50.4
Oct-2016	53.4	51.2	53.5	51.4	51.1
Nov-2016	54.1	50.9	53.7	51.3	50.8
Dec-2016	54.3	51.9	54.9	52.4	51.1
Jan-2017	55.0	51.0	55.2	52.7	50.8
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		50.5	50.0	

Source: Bloomberg

Aluminium

Price and Chinese Quarterly Supply/Demand Balance Forecast (kt)

		Production	Consumption	Balance	Stocks Days Cons	SHFE Cash Price $/tonne
2015						
	Q1	7420	6092	1328	90	2077
	Q2	7733	7463	270	77	2107
	Q3	7894	7597	297	80	1911
	Q4	7753	8221	-468	69	1657
	Total/Average	30800	29373	1427	74	1952
2016						
	Q1	7622	6527	1095	98	1693
	Q2	8009	8096	-87	79	1880
	Q3	8302	8217	86	79	1888
	Q4	8567	8825	-258	71	1997
	Total/Average	32500	31664	836	77	1952
2017						
	Q1	9199	7164	2035	110	1971
	Q2	9398	8795	603	97	2023
	Q3	9039	8897	143	98	2316
	Q4	9338	9563	-225	89	2306
	Total/Average	36975	34419	2555	96	
2018						
	Q1	9040	7575	1466	125	2247
	Q2	9196	9324	-129	101	2271
	Q3	9330	9463	-133	100	2112
	Q4	9213	10191	-978	84	
	Total/Average	36779	36553	226	91	
2019						
	Q1	9240	7989	1250	116	
	Q2	9533	9850	-318	92	
	Q3	9706	9986	-280	90	
	Q4	9833	10738	-905	75	
	Total/Average	38311	38564	-253	81	
2020						
	Q1	9993	8451	1542	108	
	Q2	10227	10399	-171	87	
	Q3	10419	10538	-119	86	
	Q4	10462	11336	-874	73	
	Total/Average	41102	40723	378	78	

Source: Wood Mackenzie

Aluminium Forecasts

Global (Mt)	2015	%	2016	%	2017	%	2018	%	2019	%	2020	%
Alumina Production (SGA)	110.4	6.1%	114.9	4.1%	124.5	8.3%	125.0	0.4%	131.0	4.8%	139.6	6.6%
Aluminium Production	57.1	6.4%	59.5	4.1%	64.4	8.3%	64.7	0.5%	67.8	4.8%	72.3	6.6%
Consumption	56.7	5.5%	59.8	5.4%	63.5	6.2%	66.1	4.2%	68.9	4.2%	72.0	4.4%
Metal Market Balance	0.4		-0.3		0.9		-1.4		-1.1		0.3	
Stock Days of Consumption	84		77		78		67		59		58	
Alumina Market Balance	0.7		-1.8		-3.0		-2.2		1.2		2.0	
Stock Days of Requirement	59		51		38		32		34		37	
Prices												
Cash Aluminium ($/t)	1663		1604		1968		2111		2186		2282	
(c/lb)	75		73		89		96		99		103	
Spot Alumina ($/t)	320		266		363		474		340		355	

Source: Wood Mackenzie

Price Forecasts and World Quarterly Supply/Demand Balance

		Production	Consumption	Balance	Stocks Days Cons	LME Cash Price $/tonne
2015						
	Q1	13901	12819	1081	96	1800
	Q2	14270	14504	-235	85	1768
	Q3	14495	14476	19	86	1589
	Q4	14447	14939	-492	80	1495
	Total/Average	57112	56738	374	84	1663
2016						
	Q1	14258	13469	789	92	1515
	Q2	14667	15327	-660	78	1571
	Q3	15116	15277	-161	78	1620
	Q4	15435	15730	-294	74	1710
	Total/Average	59476	59802	-326	77	1604
2017						
	Q1	15941	14344	1597	90	1849
	Q2	16209	16280	-71	79	1911
	Q3	15961	16192	-231	79	2011
	Q4	16296	16669	-373	75	2100
	Total/Average	64407	63485	922	78	1968
2018						
	Q1	15912	14916	996	88	2158
	Q2	16139	17006	-867	73	2259
	Q3	16376	16883	-507	72	2055
	Q4	16292	17342	-1050	65	1972
	Total/Average	64718	66147	-1428	67	2111
2019						
	Q1	16372	15535	837	75	2085
	Q2	16850	17734	-884	62	2157
	Q3	17192	17601	-409	60	2238
	Q4	17424	18064	-639	55	2263
	Total/Average	67839	68934	-1095	59	2186
2020						
	Q1	17615	16033	1582	71	2250
	Q2	17990	18322	-332	61	2263
	Q3	18314	18192	122	62	2313
	Q4	18418	18699	-281	59	2300
	Total/Average	72337	71991	346	58	2282

Source: Wood Mackenzie

Copper

Copper Forecasts

Global (kt)	2017	%	2018	%	2019	%	2020	%
Total Mine Production	20081	-0.6	20647	2.8	20714	0.3	21436	3.5
Total Smelter Production	19037	2.8	19506	2.5	19676	0.9	20230	2.8
Refined Production	23042	1.3	23607	2.5	23989	1.6	24428	1.8
Consumption	23043	2.1	23724	3.0	24308	2.5	24771	1.9
Concentrate Stock Change	-168		-231		-200		100	
Metal Market Balance	-1		-118		-319		-343	
Metal Stocks - Days of Cons	71		67		61		55	
Prices								
Cash LME Price ($/t)	6166		6534		7488		8150	
(c/lb)	280		296		340		370	
Contract TC/RCs (c/lb excl pp) for 30% Cu Conc	23.7		21.1		20.7		20.6	
Contract Blister Europe ($/t)	160		165		155		155	

Source: Wood Mackenzie

Copper Concentrate Market TC/RCs

	Japanese Term Contracts (Benchmark)			Far East Spot Market (CIF Asia) Miner Selling Terms to Merchants						
	2016	2017	2018	2015	2016	2017	2018	2018		
	Ave	Ave	Ave	Ave	Ave	Ave	Q3	Oct	Nov	Dec
T/C ($/tonne Conc.)	97.35	92.50	82.25	84	87	73	86	84	90	95
R/C (c/lb Cu)	9.735	9.25	8.225	8.4	8.7	7.3	8.6	8.4	9.0	9.5
PP (c/lb Cu)										
Combined (c/lb) +	28.1	26.7	23.8	24.3	25.1	21.1	24.8	24.3	26.0	27.5
Combined (c/lb) #	25.0	23.7	21.1	21.5	22.3	18.7	22.0	21.5	23.1	24.4
				Chinese smelter buying terms (CIF basis)						
				2015	2016	2017	2018	2018		
				Ave	Ave	Ave	Q3	Oct	Nov	Dec
T/C ($/tonne Conc.)				98	95	84	90	94	94	95
R/C (c/lb Cu)				9.8	9.5	8.4	9.0	9.4	9.4	9.5
PP (c/lb Cu)				-	-	-				
Combined (c/lb) +				28.4	27.5	24.3	26.0	27.2	27.2	27.5
Combined (c/lb) #				25.2	24.4	21.5	23.1	24.1	24.1	24.4
+ For a 25% copper concentrate										
# For a 30% copper concentrate										

Source: Wood Mackenzie

Price Forecasts & Quarterly Supply/Demand Balance

		Refined Production	Refined Consumption	Balance	Metal Stocks Days of Cons	Cash Price $/tonne	c/lb
2017							
	Q1	5747	5253	494	79	5831	264
	Q2	5750	5988	-238	75	5663	257
	Q3	5797	6052	-255	71	6348	288
	Q4	5747	5750	-3	71	6808	309
	Total/Avg	23042	23043	-1	71	6166	280
2018							
	Q1	5942	5343	599	79	6960	316
	Q2	5859	6186	-328	73	6872	312
	Q3	5828	6160	-331	68	6105	277
	Q4	5978	6036	-58	67	6200	281
	Total/Avg	23607	23724	-118	67	6534	296
2019							
	Q1	5912	5406	506	73	6800	308
	Q2	5936	6342	-406	67	7500	340
	Q3	6017	6340	-323	63	7850	356
	Q4	6123	6219	-96	61	7800	354
	Total/Avg	23989	24308	-319	61	7488	340
2020							
	Q1	6105	5484	621	69	8000	363
	Q2	6105	6436	-331	64	8200	372
	Q3	6105	6465	-360	59	8300	376
	Q4	6112	6385	-273	55	8100	367
	Total/Avg	24428	24771	-343	55	8150	370

Source: Wood Mackenzie

Lead

Global Quarterly Supply/Demand Balance And Price Forecasts

		Refined Prod'n	Cons'n	Balance	Stock Days	$/tonne	c/lb
2016							
	Q1	2891	2803	87	51	1741	79.0
	Q2	3072	3144	-72	43	1719	78.0
	Q3	3155	3099	56	46	1872	84.9
	Q4	3246	3221	25	45	2149	97.5
	Total/Avg	12364	12268	97	48	1870	84.8
2017							
	Q1	2909	2860	49	52	2278	103.3
	Q2	3094	3212	-118	43	2164	98.2
	Q3	3161	3169	-8	43	2333	105.8
	Q4	3238	3294	-57	40	2493	113.1
	Total/Avg	12402	12536	-134	43	2317	105.1
2018							
	Q1	2967	2887	81	48	2522	114.4
	Q2	3171	3246	-76	41	2387	108.3
	Q3	3247	3206	41	42	2102	95.3
	Q4	3322	3332	-10	41	1964	89.1
	Total/Avg	12707	12671	36	43	2244	101.8
2019							
	Q1	3086	2983	103	48	2075	94.1
	Q2	3285	3359	-74	41	2025	91.9
	Q3	3356	3320	36	42	2025	91.9
	Q4	3449	3458	-9	41	2050	93.0
	Total/Avg	13176	13120	56	43	2044	92.7

Source: Wood Mackenzie

Lead Forecasts

Global (kt)	2017	%	2018	%	2019	%	2020	%
Mine production	5281	0.2	5217	-1.2	5489	5.2	5675	3.4
Refined production	12402	0.3	12707	2.5	13176	3.7	13451	2.1
Consumption	12681	3.4	12935	2.0	13207	2.1	13429	1.7
Concentrate balance	-42		-11		-29		22	
In days of requirement	23		23		20		21	
Refined market balance	-279		-227		-31		23	
In days of requirement	38		31		30		30	
Prices								
Cash LME Price ($/t)	2317		2244		2044		2063	
(c/lb)	105.1		101.8		92.7		93.6	
Realised TCs ($/t conc)	132		106		118		136	

Source: Wood Mackenzie

Nickel

Global Nickel Quarterly Supply/Demand Balance - (kt)

		Refined Supplies	Refined Consumption	Balance	Cash Price $/tonne	c/lb	Stocks kt	Days of Cons
2017	Q1	504	525	-21	10274	466	1445	248
	Q2	513	543	-30	9246	419	1415	237
	Q3	536	562	-26	10519	477	1389	227
	Q4	565	592	-27	11572	525	1362	211
	Total/Avg	2118	2222	-104	10403	472		
2018	Q1	548	571	-23	13283	603	1339	211
	Q2	561	585	-25	14463	656	1314	204
	Q3	554	578	-24	13240	601	1290	205
	Q4	583	594	-10	11458	520	1280	198
	Total/Avg	2246	2328	-82	13111	595		
2019	Q1	576	587	-12	11170	507	1268	194
	Q2	584	602	-18	12272	557	1250	189
	Q3	588	595	-8	13926	632	1242	192
	Q4	591	623	-31	14367	652	1211	179
	Total/Avg	2339	2408	-69	12934	587		
2020	Q1	609	633	-24	14367	652	1186	169
	Q2	610	645	-35	15873	720	1151	162
	Q3	597	631	-33	16094	730	1118	163
	Q4	613	643	-30	16314	740	1088	156
	Total/Avg	2429	2552	-123	15662	710		

Source: Wood Mackenzie

Nickel Forecasts

Global (kt)	2017		2018		2019		2020	
Mine Production	2189	+12.1%	2310	+5.5%	2430	+5.2%	2549	+4.9%
Smelter Production	2061	+5.0%	2196	+6.5%	2277	+3.7%	2345	+3.0%
Refined Production	2118	+4.6%	2246	+6.1%	2339	+4.1%	2429	+3.9%
Consumption	2222	+7.4%	2328	+4.8%	2408	+3.4%	2552	+6.0%
Market Balance	-104		-82		-69		-123	
Cash LME price								
($/t - Current)	10403		13111		12934		15662	
(c/lb - Current)	472		595		587		710	

Source: Wood Mackenzie

Tin

ICDX & LME Tin Price

	ICDX	LME Cash	LME premium to ICDX
02-Nov-15	15,900	14,886	-1,014
01-Dec-15	15,000	15,212	212
04-Jan-16	14,575	14,442	-133
01-Feb-16	14,750	14,854	104
01-Mar-16	16,100	16,155	55
01-Apr-16	16,800	16,743	-57
02-May-16	17,225	17,220	-5
01-Jun-16	16,300	16,200	-100
01-Jul-16	16,950	17,375	425
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	19650	19535	-115
04-Dec-17	19600	19582	-18
02-Jan-18	20100	20112	12
01-Feb-18	21820	21550	-270
01-Mar-18	21800	21755	-45
02-Apr-18	21100	21252	152
01-May-18	21375	21340	-35
01-Jun-18	20800	20795	-5
02-Jul-18	19850	19825	-25
01-Aug-18	20100	19925	-175
03-Sep-18	19200	18895	-305
01-Oct-18	19150	18970	-180
01-Nov-18	19180	19115	-65
03-Dec-18	18690	18871	181
02-Jan-19	19525	19508	-17

Source: LME, ICDX

Zinc

Price Forecasts and World Quarterly Supply/Demand Balance

		Refined Supplies	Refined Consumption	Balance	Metal Stocks Days of Cons	Cash $/tonne	Price c/lb
2017	Q1	3,348	3,523	-174	84	2,781	126.1
	Q2	3,323	3,601	-277	75	2,598	117.8
	Q3	3,340	3,544	-204	71	2,962	134.3
	Q4	3,508	3,565	-57	69	3,234	146.7
	Total/Avg	13,520	14,232	-713	69	2,893	131.2
2018	Q1	3,340	3,545	-205	64	3,422	155.2
	Q2	3,330	3,623	-293	55	3,113	141.2
	Q3	3,172	3,566	-394	46	2,534	114.9
	Q4	3,341	3,588	-246	39	2,621	118.9
	Total/Avg	13,183	14,322	-1,139	39	2,922	132.6
2019	Q1	3,350	3,596	-246	33	2,600	117.9
	Q2	3,484	3,676	-192	28	3,000	136.1
	Q3	3,551	3,618	-67	26	3,700	167.8
	Q4	3,642	3,640	2	26	3,700	167.8
	Total/Avg	14,027	14,531	-504	26	3,250	147.4
2020	Q1	3,660	3,663	-3	26	3,600	163.3
	Q2	3,732	3,745	-12	25	3,600	163.3
	Q3	3,699	3,685	13	26	3,500	158.8
	Q4	3,758	3,708	50	27	3,400	154.2
	Total/Avg	14,849	14,801	48	27	3,525	159.9

Source: Wood Mackenzie

Price Forecasts and World Quarterly Supply/Demand Balance

Global (kt)	2017	%	2018	%	2019	%	2020	%
Mine Production	12635	4.0	12954	2.5	13941	7.6	15075	8.1
Refined Production	13520	-0.5	13183	-2.5	14027	6.4	14849	5.9
Consumption	14232	1.9	14322	0.6	14531	1.5	14801	1.9
Concentrate Market Balance	-270		385		611		971	
Metal Market Balance	-713		-1139		-504		48	
Prices								
Cash LME Price ($/t)	2893		2922		3250		3525	
(c/lb)	131		133		147		160	
Realised TCs ($/t concentrate)	172		147		200		308	

Source: Wood Mackenzie

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