Commodity outlook 2020

Summary

Precious metal prices have outperformed base metals in 2019. Global trade tension, rising fears over recession and reversal in Fed monetary policy added to the shine of precious metals. Last year, Gold prices rose by 16% and Silver prices by 13%. Going forward in 2020, we expect precious metal prices to stay strong on lower interest rate environment, geopolitical tensions and weaker growth prospects. Among base metal, we are positive about Nickel.

For 2019 , we were expecting a 'lower vol-lower drift' market. Going forward we believe 2020 would be a year very similar to 2019.

Aluminum: We expect Aluminum to remain subdued during 2020 as production increase is being seen while demand growth will be muted.

LME Aluminum prices are forecasted to average at $1,840 per tonne in 2020, reflecting lower alumina prices and higher refined production. On the higher side, bounce back can take prices towards $1,950-$2,000 per tonnes however concerns of incoming supply will force the prices to drift back towards $1700-$1750/ tonne in 2020.

Copper: Global manufacturing sector contraction and trade uncertainties are key factors hurting copper prices. Though partial trade agreement is a positive and lower inventories along with a balanced supply-demand dynamics will keep the downside limited. Therefore, we expect LME Copper prices to average at $5,900/ tonne in the year 2020. We expect some seasonal upside in Q4CY20 and prices moving towards $6,550/tonne.

Lead: Given the macroeconomic situation, we expect MCX Lead to remain lower in 2020 as the new mine supply comes online while demand growth remains poor. However, the lower inventory levels will provide some support. LME Lead may weaken towards $1750-1800/tonne while the upside will remain capped at $2150-$2200/tonne in 2020.

Nickel: We believe Nickel prices may continue to remain supported at currents levels on lower inventories, structural deficit in the market along with hopes of robust demand from stainless steel sector and pick up in the electric vehicle sector.

We expect LME Nickel prices to remain supportive near $13,200 levels and maintain a bullish scenario with price target of $18,000 per tonne for the year 2020.

Zinc: We forecast LME Zinc prices to remain weak in H1 2019 towards $2400-$2350 per tonne. We expect the tightness in global zinc concentrate market to ease as new mine capacity will lead to increasing supply. The demand for zinc will also be in pressure due to slowdown in China

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Gold: As a result of trade uncertainty and concerns over global growth, we do see an upside to gold prices from current levels. We currently forecast that gold prices will remain firm and average around US$1,475/oz throughout 2020 though we also expects some spikes towards $1600 levels

Silver: In the coming year 2020, Silver prices will play catch up with gains of Gold and outperform Gold prices with the progress of US-China trade deal agreement and improving demand outlook for Silver. The current Gold Silver ratio is in favour of silver prices for the coming year. We expect Comex Silver to remain bullish in the year ahead and expect prices to be supported at $17.5 per oz and move higher towards $20-$22 per oz in 2020.

Crude: Going forward, even after OPEC deepening its production cut until June 2020 we expect the surplus scenario to still persist in H2 2020 on account of demand downfall and higher supply from Non-OPEC nations.However further oil production cuts from OPEC are minimal due to US presidential election ahead. Therefore, any revival in Crude oil prices in the H1 2020 will face a reversal in the second half of 2020 and take prices to the lower range of $57-54 per barrel.

Natural Gas: Overall, we continue with our negative outlook for natural gas prices in the short term. We expect Nymex Natural gas prices to trade lower towards $1.8-2.1per mmbtu in first half of 2020. Though for the second half we expect prices to bounce back towards $2.8 per mmbtu.

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Commodities- Year wise % return

Commodity	2015	2016	2017	2018	2019
Aluminium	-13%	16%	25%	-5%	0%
Copper	-21%	19%	23%	-8%	4%
Lead	1%	13%	16%	-14%	-5%
Nickel	-39%	14%	13%	-6%	34%
Zinc	-22%	62%	22%	-14%	-6%
Crude	-35%	52%	-18%	-12%	24%
Average	**-22%**	**29%**	**14%**	**-10%**	**9%**

Yearly price-swings(high to low) of commodities

Commodity	2015	2016	2017	2018	2019
Aluminium	27%	18%	26%	27%	13%
Copper	31%	27%	24%	20%	14%
Lead	27%	35%	22%	28%	21%
Nickel	47%	35%	32%	32%	41%
Zinc	38%	49%	26%	36%	25%
Crude	47%	51%	23%	42%	25%
Average	**36%**	**36%**	**26%**	**31%**	**23%**

Volatility of Commodities over the years(annualized volatility)

Commodity	2015	2016	2017	2018	2019
Aluminium	18%	16%	15%	21%	15%
Copper	22%	18%	18%	18%	14%
Lead	23%	24%	24%	22%	18%
Nickel	32%	32%	29%	27%	25%
Zinc	25%	27%	23%	24%	20%
Crude	45%	44%	24%	30%	31%
Average	**28%**	**27%**	**22%**	**24%**	**21%**

We were expecting low volatality and low returns in commodities in the year 2019.

'------- Seeing this trend we believe the calendar year of 2019 will witness very low volatility in the prices. The demand for all the commodities will be subdued for the coming year which will help the prices of the commodities to be confined to a certain range without much drift. The ongoing world tensions will help keep the supplies tight and will provide both the support and resistance to the commodity prices....

We expect 2019 to be of low volatility and low return.'

During 2019, average volatility of commodities was 21% at a 5-year low while average return was a small drift of 9%. Going forward, we expect 2020 to be a year very similar to 2019.

LME Aluminium prices spent most of 2019 below $2000 per tonne despite the inventories remaining lower than 1 million tonne level. Global aluminium prices have witnessed a declining trend since March 2019 due to weakness in the automobile sector and slowdown in the major consuming nation, China. Prices started to weaken on increasing auto tariffs on Chinese imports amid an ongoing trade war between the United States and China. This metal has been this year's second-worst performer among base metals after zinc, losing 3.5% since the start of the year 2019.

	2016	2017	2018	2019
World refined production	58.8	58.6	59.9	60.4
World refined consumption	59.0	59.2	60.1	61.1
Surplus/Deficit	-0.2	-0.6	-0.2	-0.7

Demand & Supply:

According to the International Aluminum Institute, the global production has fallen by 0.88% at 53.03 million tonnes during the first 10 months of 2019 as compared to the same period last year. China's aluminium output in the first ten months of this year stood at 29.84 million mt, with year on year decline of 1.52%. In particular, August saw the biggest drop of 4.6% due to supply disruptions at Weiqiao and Xinfa smelters in China. The new rule of the Chinese government states that any new capacity will have to be replaced by the shutdown in the old capacity. This is limiting the production increase. After two consecutive contractions, China is estimated to increase its aluminium production by 2.2% at 36.5 million tonnes in 2020.

On the demand side, things are better looking at the continuous decline in the global inventory levels. However, in 2020 there is expectation of global aluminium market flipping into surplus on higher production from China.

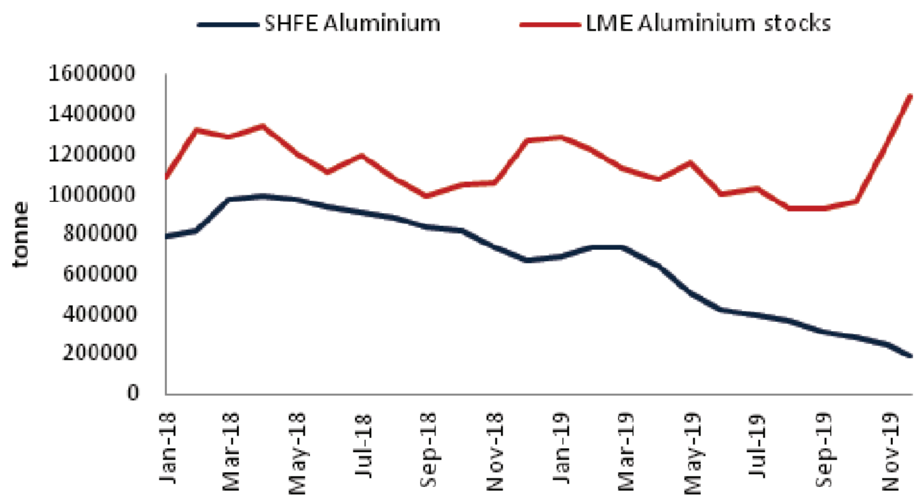
Risk Factor – Indonesia Ban on Other Raw materials like Bauxite

At present, Indonesia plans to ban all raw materials exports from Jan 2022 and bauxite is the on the list. Indonesia is the third-largest exporter of bauxite to China. The market is worried about the possibility that after the Indonesian ban on nickel ore, a tendency of imposing ban may spread to other raw materials like bauxite and tightens the aluminium supply market. This remains key risk to our negative view on Aluminium.

Inventory

According to Bloomberg reports, the surplus in alumina capacity is set to expand in 2020 to 2.5 million tonnes from 0.7 million tonnes in 2019 as China ramps up its production. The production outside China is also expected to rise by 3.8 million tonnes. Though market is correcting itself by normalizing the system inventory. Aluminum stocks in SHFE warehouses dropped to their lowest level since March 2017 at 193820 tonnes, while LME aluminium inventories made low around 920,000 tonnes and currently stands at 1486550 tonnes in December 2019

Exhibit 1: Aluminum Inventory



Source: Bloomberg, Narnolia Research

Outlook:

We expect Aluminium to remain subdued during 2020 as production increase is being seen while demand growth will be muted. Recently aluminium prices has seen some strength due to positivity around phase 1 trade deal between the US and China, but going forward LME Aluminum prices are forecasted to average at $1,840 per tonne in 2020, reflecting lower alumina prices and higher refined production. On the higher side, bounce back can take prices towards $1,950-$2,000 per tonnes however concerns of incoming supply will force the prices to drift back towards $1700- $1750/ tonne in 2020.

In 2019, Copper prices remained in a downtrend. During the year, the prices have made a low of $5500/tonne and high of $6,600/tonne. Higher tariffs on China deteriorated the economic sentiment and pushed the red metal prices lower.

	2017	2018	2019*	2020*
Global mine production	20082	20575	20483	20921
World refined production	23538	24098	24250	25281
World refined consumption	23723	24502	24570	25000
Surplus/Deficit	-185	-404	-320	281

Demand & Supply:

World mine production reduced by 0.5% during the first eight months of 2019. The headwinds at Grasberg mine contributed to subdued global mine production. Post the production cutbacks in 2019, there is an expectation of the additional supply in 2020 from Indonesia and Africa due to improved production. The production is expected to have risen by 0.6% in 2019 after 2.37% production growth in 2018. The global refined production growth has been constraint by the temporary shutdown and supply disruptions due to protests. This resulted in a slowdown in output in Chile, DRC, Zambia, EU, Japan, India and The United States. In the coming year, production is expected to rise by 4.25% on capacity expansion in China, Africa and recovery of production elsewhere.

The refined consumption is expected to increase by just 0.3% in 2019 due to global economic slowdown led by a significant decline in usage in China and Europe. Till May 2019, the expectation of growth was 2%. Going forward, growth from infrastructure development and shifts towards clean energy should support copper demand in 2020. Global refined consumption is forecasted to rise by 1.7% in 2020

With the reduction in both supply and demand projection, The International Copper Study Group (ICSG) estimates had to make adjustments in their outlook. The group forecast a deficit of 320,000 tonnes in the year 2019 and surplus of 281,000 tonnes in 2020.

China's Demand & Supply scenario:

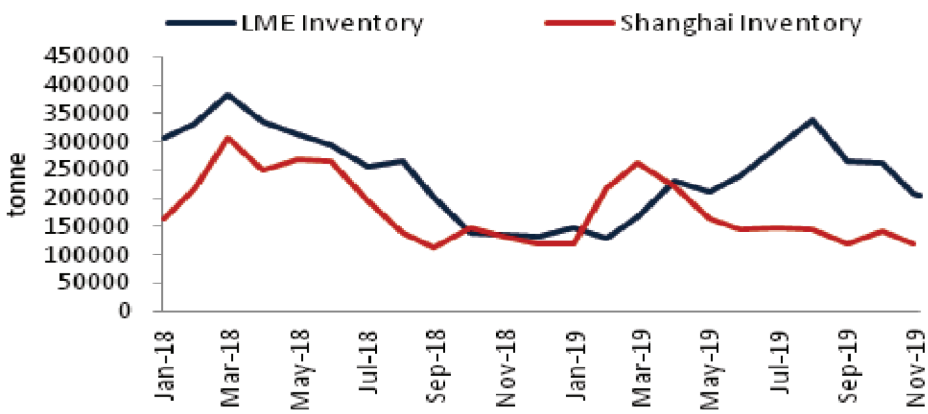
China production- China's production has increased by just 2% during January to November in 2019 as compared to the last year. The shortage of copper scrap supply has affected the copper supply and lower treatment and refining charges are forcing the smelter to limit the production. Total production of copper cathode is expected to be at 8.95 million tonne in 2019, up 2.43% from 2018.

Trade tension escalated last year between the world's two biggest economies, led to dramatic decline in exports to China. China will restrict the import of solid waste, including all metal scrap, from the end of 2019. The total copper scrap imports in 2017 were 3.55 million tonne but after regulation in China and due to imposition of tariffs, China's copper imports have drastically declined to 1.32 million tonnes in 2019. This fall in scrap copper imports leads to decline in refined copper supply

Inventory:

Copper inventories and both LME and SHFE has overall shown a declining trend. LME inventories were on the rise since the start of the year until the month of August after which the inventory started to drawdown as the demand started to pick up in the manufacturing sector. While Shanghai copper stocks have witnessed a fall since the start of the year and currently stand near low at 120,000 tonnes. Lower treatment and refining charges will also limit the rise in smelter production in 2020.

Exhibit 2: China's Copper Import



Source: Bloomberg, Narnolia Research

Outlook:

Global manufacturing sector contraction and trade uncertainties are the factors negatively impacting the prices. The prospect of further improvement in 2020 remains small as ICSG group forecasts that the global copper demand will grow between mere 0.3-0.5%. Though lower inventories and the balanced supply-demand dynamics will keep the downside limited. Therefore, we expect LME Copper prices to average at $5,900/ tonne in the year 2020. We expect some seasonal upside in Q4CY20 and prices moving towards $6,550/tonne.

Lead price remained sideways during 2019 currently trading at $1,935/tonne. During the third quarter of 2019, prices started to rise and tested high of $2,263/tonne on the back of supply disruption and environmental crackdowns on smelters in China. However, the gains were wiped out on the news of emerging surplus in the coming year 2020. Softness is also due to slowdown in the automobile sector.

	2016	2017	2018	2019*
Global mine production	4689	4713	4671	4750
World refined production	11169	11589	11642	11940
World refined consumption	11141	11740	11721	11870
Surplus/Deficit	28	-151	-79	70

Source: ILZSG,Narnolia Research (Fig in tonnes)

Demand & Supply:

Mine production: Global lead mine production is set to increase by 1.7% in 2019 and it is forecasted to rise by another 3.9% in 2020. The major influences will be the expansions in India and Australia output.

Refined production: Global refined lead production is likely to see a fall in output in 2019 due to repeated unplanned outages at lead smelters in Australia resulting in production loss of 30000 tonnes and more stringent pollution controls in China. Moving into next year, the production is forecasted to rise by 1.7% in 2020 on higher output in Australia, Belgium, Canada, India, and Italy.

Global refined lead usage is expected to fall by 0.5% in 2019 due to poor performance in the automobile sector and rising usage of lithium-ion batteries. Further, the demand is anticipated to rise by modest 0.8% in 2020 as demand from China remains weak while lead usage will recover by 0.8% in Europe and 1.2% in the United States in 2020.

Looking at the demand-supply numbers, the global lead market is in a deficit of 50,000 tonnes in 2019. Previously the ILZSG group has forecasted a surplus of 70000 tonnes, however, unplanned output reduction in Australia, China and Canada shifted the market into deficit. In 2020, the metal is forecasted to show a surplus of 60,000 tonnes in 2020.

Spread

On the London Metal Exchange, the benchmark spread i.e. the difference between the cash price and that for three-month delivery remains at a discount of $13 per tonne.

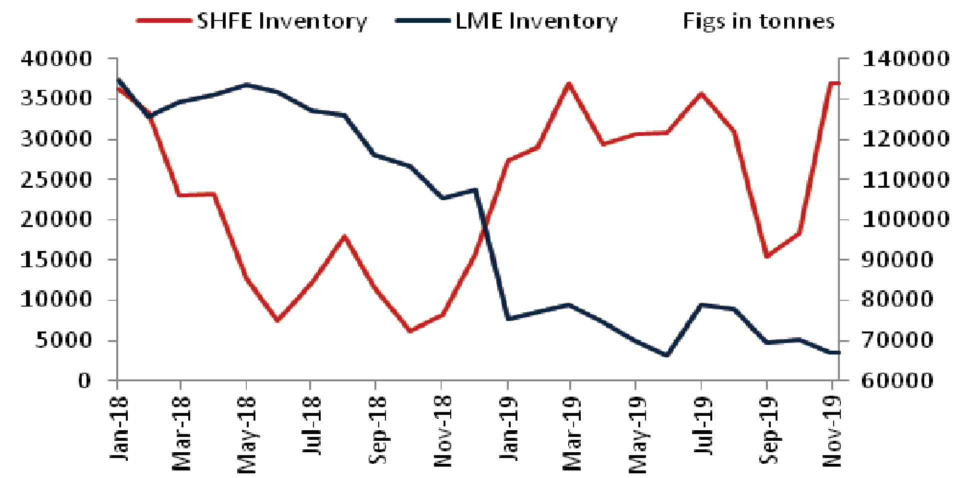
Automobile Sector performance

The automobile sector has performed badly worldwide slowing the demand for lead. China, the world's largest auto market, saw sales declined by 9.6% year on year to 23.11 million units in the first 11 months of 2019 with the consecutive second year of contraction. Going into next year, China's automobile sales are expected to slip by a slower rate of 2% in 2020. Sales in the United States are struggling as well.

Inventory:

Stocks of lead in LME registered warehouses, at around 67,500 tonnes, are down more than 37 percent since the start of the year, while SHFE inventories are gaining strength currently standing at 36700 tonnes. LME Lead inventory has fallen towards decade-low levels.

Exhibit 3: Lead Inventory



Source: Bloomberg, Narnolia Research

Outlook:

After the outstanding performance in the third quarter of 2019, prices are falling again. Given the macroeconomic situation, we expect MCX Lead to remain lower in 2020 as the new mine supply comes online while demand growth remains poor. However, the lower inventory levels will provide some support. LME Lead may weaken towards $1750-1800/tonne while the upside will remain capped at $2150-$2200/tonne in 2020. We expect LME Lead prices will average towards $1900/tonne in 2020, lower from $1988/tonne in 2019.

MCX Nickel price rallied 60 percent this year, the best performer among base metal complex. Most of the gains have been on worries over the loss of the Indonesia nickel ore supply from next year at a time when the electric vehicle demand is set to surge. Higher demand and falling supply moved the global nickel market into structural deficit entering into prolonged period of under-supply.

	2017	2018	2019*	2020*
World refined production	2.07	2.204	2.37	2.476
World refined consumption	2.184	2.35	2.449	2.522
Surplus/Deficit	-0.114	-0.146	-0.079	-0.046

Source: IINSG,Narnolia Research (Fig in million tonnes)

Demand & Supply:

Global nickel mine production is expected to grow in 2019, however, the production is forecasted to decline in 2020 due to Indonesia nickel ore ban. Indonesia will keep growing its production domestically. There are various HPAL projects coming online in Indonesia and other parts of the world. The refined production is set to expand in both the years 2019 and 2020. China is the only growing producer of nickel while all other countries registered lower growth in the output. Global refined nickel production is expected to reach 2.37 million tonnes and in 2020, the production will increase to 2.47 million tonnes.

On the demand side, Global refined nickel usage is expected to have reached 2.449 million tonnes in 2019 and in 2020, the demand is forecasted to rise to 2.522 million tonnes. As per INSG, global nickel market is expected to end the year showing a deficit of 0.079 million tonnes in 2019 down from 0.146 million tonnes in 2018 and moving forward, the global nickel market will show a deficit of 0.046 million tonnes

Continuous Rise in Stainless Steel Production: Around 65-70% of the global nickel demand comes from the stainless steel sector. The slowdown in China has hampered the demand prospects for stainless steel. World Crude steel production is increasing at a rate of 5.44% at 1.19 million tonnes during the Jan-Aug period of 2019. China, the world's largest producer, increased its steel capacity by 9 percent in the first 8 months of the year. China's production of stainless steel is expected to rise 5% in 2020. In Indonesia, the increase in stainless steel capacity is forecasted around 33% in 2019-2020 as it focuses on building stainless plants domestically. The growth in the Chinese stainless steel industry has slowed given the broader weakness in property and car market.

Slowdown in Electric Vehicle:

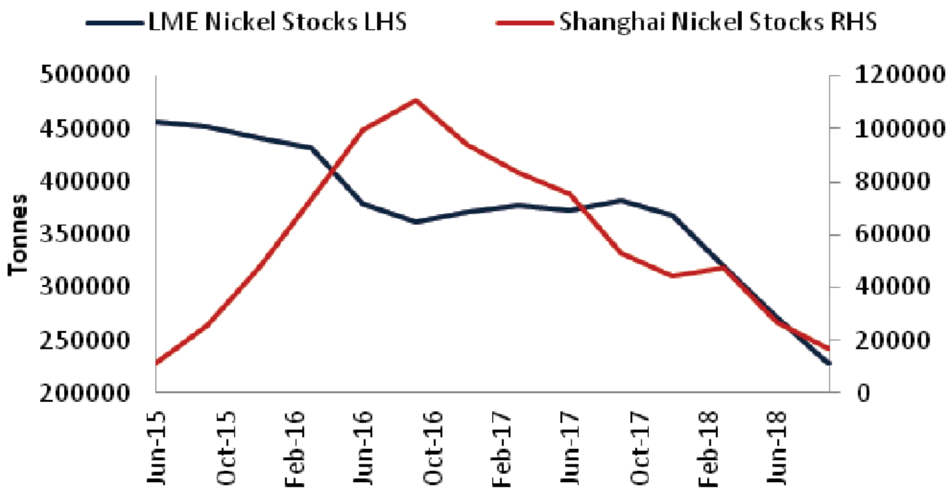
The demand for nickel from the battery sector has remained low this year. Nickel prices have fared well only because of the demand rise in the stainless steel market and fears of Indonesia nickel ore ban. There was an unexpected slowdown in the electric vehicle sector in 2019 due to weakness in the major driving market of China. China electric vehicle production and sales have fallen for the past five months. This year global vehicles sales have risen at a slower rate of 13% as compared to 64% last year.

Inventory:

Tightness in inventory has been one of the reason granting supports to the nickel prices. The inventory in both the exchanges – LME and Shanghai has fallen drastically this year.

LME Nickel inventories at the London exchanges fell to 140,100 tonnes in November 2019 down from tonnes, a 32% decline from the start of the year. Shanghai stocks have been falling since the start of the year, and now stands at the lowest since November 2015.

Exhibit 4: Nickel Inventory



Source: Bloomberg, Narnolia Research

Outlook:

We believe Nickel prices may continue to remain supported at currents levels on lower inventories, structural deficit market along with hopes of robust demand from stainless steel sector and pick up in the electric vehicle sector. The immediate ban from Indonesia on nickel ore exports will further tighten the supply and drive nickel prices higher. Long-term optimism around nickel driven by EV sector on the adoption of nickel, batteries are balancing the near-term pessimism of industrial activity in China and failed to over-power the supply constraints in the nickel industry. We expect LME Nickel prices will remain supportive near $13,200 levels and maintain a bullish scenario and trade higher towards $18,000 per tonne during the year 2020.

Zinc prices have witnessed a fall of 9%, since the start of the year and currently, trades at $2240/tonne. The metal made a high of $2,957.5/tonne in April 2019 before making a low of $2190/ tonne, down 25% from the highs on trade war worries and economic weakness in China and also due to the expectation of higher mine supply.

	2017	2018	2019	2020*
Global mine production	12.78	13.03	13.02	13.64
Global refined production	13.23	13.42	13.49	13.99
Global refined demand	13.68	13.74	13.67	13.8
Global Zinc balance	-0.45	-0.32	-0.18	0.19

Demand & Supply:

Global zinc mine production unexpectedly showed a rise of 1.8% in the year 2019. Moving forward into 2020, ILZSG expects the global mine production to rise by 4.7%. Global refined production is expected to rise by due to continuous production increase in China. Production is expected to decline in Europe on lower output from Nrystar's plant and Russia after permanent closure of Vladikavkaz plant.

Zinc is mainly used in the steel industry in the process of galvanization. With the recent slowdown in the steel industry, the demand for zinc is also being hit as the storage inventory in the steel sector reaches near-record high. Global zinc demand is forecasted to decrease by nearly a percent.

After years of deficit in global zinc market, in 2020, supply is expected to exceed demand resulting in a surplus of 0.19 million tonnes.

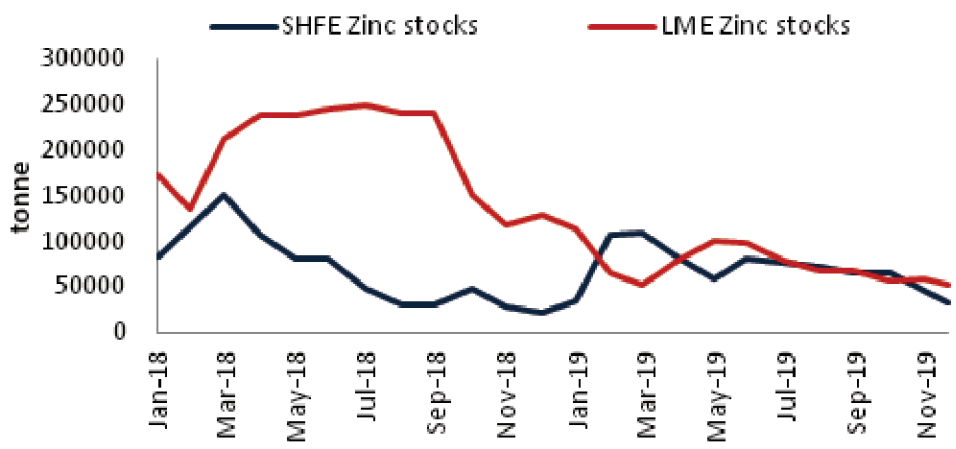
China supply scenario

With the China's strict environmental curtailments at smelters, there was a delay in rebalancing the zinc refined market in 2019. However, moving into 2020, China may see a larger zinc surplus as the country expects to increase its production as the supply of zinc concentrate remains sufficient and treatment and refining charges is high. Currently, China is producing at record high levels after the smelter bottlenecks have been broken from the H2 2019 and as smelters earn good profits thereby raising the production levels. China's zinc output rose by 16% on year on year basis to 530,800 tonnes in November.

Inventory:

The inventory on both the exchanges LME and Shanghai have drastically fallen and are near the decade-low levels. This scenario occurred on heavy physical tightness in the physical markets due to unavailability of concentrate ore and further delays in mine supply during the year. Going forward, we expect the zinc inventory to rise on pick up in refined production in China.

Exhibit 5: Zinc Inventory



Source: Bloomberg, Narnolia Research

Outlook

We forecast LME Zinc prices to remain weak in H1 2019 towards $2400-$2350 per tonne. We expect the tightness in global zinc concentrate market to ease from as new mine capacity will lead to increasing mine supply. The demand for zinc will also be in pressure due to slowdown in China

Gold prices have rallied smartly on the back of strong ETF buying particularly since the month of June. The price gains have also been supported by stronger physical demand, and monetary easing by the global central banks. Additionally, Gold prices also gained support from trade worries leading to global economic slowdown and investors turning towards safe haven during times of macro-economic and political uncertainty.

Description	2018	Q1 2019	Q2 2019	Q3 2019
Total Demand	**4431**	**1075.3**	**1165.7**	**1126.9**
Jewellery demand	2281	537.8	553.7	479.9
Investment	1164	300.5	296.8	408.6
Central banks	651.5	157	234.3	156.2
Technology	334.8	80	81	82.2
Total Supply	**4664.3**	**1135.5**	**1227**	**1222.3**
Mine production	3500	844.2	861.3	877.8
Net producer hedging	-12.5	-1.5	49	-9.2
Recycled gold	1176.8	292.8	316.7	353.7

Global Gold demand increased in 2019 mainly because of higher demand from ETF investment and Central banks. Investment demand rose 110% to 408.6 tonnes in Q3 2019. The accommodative monetary policy most notably from US Fed cutting rates and ECB announcing that it would be resuming QE soon, along with safe-haven buying drove the demand for Exchange-traded funds. Also, the continued geopolitical uncertainty, trade war concerns, global economic slowdown and negative-yielding debt were the factors behind the gold prices rally.

ETF investment increased rose to 377 tonnes in the first quarter of 2019 as compared to 72.3 tonnes in the same period the previous year. Holdings in gold-backed ETFs hit an all-time high of 2,855.3 tonnes in Q3 2019- the highest level of quarterly inflows since Q1 2016. Lately, Global gold-backed EFTs holdings decreased in November by 30.1 tonnes after reaching record highs in the previous month. Global gold-backed assets under management (AUM) have grown 35% this year as a result of increased investment demand and price appreciation.

The **global bar and coin market** witnessed a slowdown in the Q3 2019 falling 50% as compared to the previous quarter, the lowest quarterly level since Q1 2008. The cumulative demand in the first three quarters was also at its lowest level since 2009. This demand weakness was led by China and India as their incomes were squeezed by slowing economic growth

Central bank buying saw a healthy increase of 11.5% and purchased 547.5 tonnes during the first three quarters of 2019 as compared to the same period last year. Although, in Q3 2019 it declined by 38% y-o-y to 156 tonnes. Russia, Turkey, China and Kazakhstan continued to grow its gold holding in 2019.

On the **supply side**, the gold mine production has seen a quarterly fall of 1% at 877.8 tonnes in the third quarter of 2019. This level though was above the five years quarterly average of 851.9 tonnes. Year-to-date, Gold mine production stands at 2583.4 tonnes, unchanged from 2018 levels. The gold output increased in Mexico by 11%, Australia rose 7% and output rise in Ghanaian by 4%. While, the production declined in China, South Africa, Peru and Indonesia.

Economic policy:

US GDP is projected to slow from 2.2 per cent in 2019 to 2.0% in 2020 and 1.9% in 2021 and inflation is forecasted to increase in 2020 at 1.9% from 1.5% in 2019. US Federal funds rate is projected to remain unchanged in 1.6% in 2020 and rise to 1.9% in 2021 which means that the Fed may not hike its interest rate in 2020 and only once in 2021.

Despite easing in trade tension, Gold positioning remains positive and the bigger worry is that a huge amount of debt is yielding negative return further improving the opportunity cost of gold holding.

Outlook:

Gold prices had a stronger year in 2019 with prices moving up almost 21% during the year due to global slowdown worries, geo-political uncertainty and escalating trade tension. We believe that the US dollar will show limited upside in the coming year supporting dollar-priced commodities. Further, more dovish policy from central banks like Europe, Japan and China will continue to provide support to gold prices. Looking at 2020, we believe that prices will be dictated by the same theme as last year. As a result of trade uncertainty and concerns over global growth, we do see an upside to gold prices from current levels. We currently forecast that gold prices will remain firm and average around US$1,475/oz throughout 2020 though we also expects some spikes towards $1600 levels. Though on the expected spikes one should book some profit as we do not see major change in our yearly average forecast.

Silver prices rallied by 10% in 2019, it made a high of $19.75 gaining almost 27% before retreating towards $17/oz. The move has been dictated by falling rates, higher financial risk and rising investment demand in the Silver markets. At the same time, central banks across the world have signaled a dovish policy stance, bringing global bond yields to multi-year lows.

Description	2016	2017	2018	2019*
Total Demand	**994.7**	**962.6**	**991.7**	**1002.1**
Jewellery demand	189.2	196.2	203.7	209.5
Silver Ware	52.3	57.7	65.4	67.9
Investment Demand	213.2	155.6	165.8	178.1
Industrial Fabrication	490.3	515.7	514	513.5
Other	49.7	37.4	42.8	33.1
Total Supply	**1047.6**	**1036.3**	**1023.3**	**1017.5**
Mine production	883.1	869.2	855.1	849.3
Other	164.5	167.1	168.2	168.2
Deficit/Surplus	**52.9**	**73.7**	**31.6**	**15.4**
Net Investment in ETP	48.8	0.7	12	-
Net Balance	4.1	73	19.6	-
Silver Price	**17.14**	**17.05**	**15.73**	**16.2**

Demand & Supply:

Silver mine production had a fall of 2% in 2019 and it is expected to fall further by 0.7% in 2020. The industrial demand is responsible for almost 60% of the total silver demand is is expected to increase again this year. For the third year in a row industrial demand for silver is expected to hold near high levels.

Global silver Jewellery and Silverware is expected to rise by 3% and 4% respectively. The demand in both is led by India on organized selling and increased awareness. Physical investment in Silver is also expected to increase in 2020 with bar and coin demand forecasted to rise by 7% this year.

On balance, the global silver market is forecasted to remain in surplus 15.4 million ounces in 2019 lower than the previous year's surplus of 31.6 million ounce in 2018.

Gold Silver Ratio

For the past few years, there was a disconnect between gold and silver investment. However, since last few months, it appears that the investment decision for both gold and silver is now getting positively correlated again. The ratio is standing near its record high while Silver prices are trading near $17, signifies Silver prices are set to rebound sharply in 2020.

Exhibit 6: Gold/Silver Ratio

Source: Bloomberg, Narnolia Research

Outlook

In the coming year 2020, Silver prices will up catch up with gains of Gold and outperform Gold prices with the progress of US-China trade deal agreement and improving demand outlook for Silver as industrial demand improves. Small surplus in the global silver market should get adjusted raising prospects for strong Silver prices in 2020. We expect Comex Silver to remain bullish in the year ahead and expect prices to average $18.5 per oz and move higher towards $20-$22 per oz in 2020.

Crude oil prices started the year 2019 on healthy note rising after the OPEC production cut in December 2018. Prices moved from $45.8/barrel to $66.6/barrel. However, due to the trade tensions, the rally fizzled in the third quarter as economic growth slowed in 2019. During the year Brent oil prices witnessed a spike towards $69/barrel on major supply disruption in Saudi oil facilities which proved short-lived as there was a quick rebound in oil production from Saudi Arabia.

	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020	%Change(YoY)
Global Demand(a)	98.76	98.76	100.7	101	99.8	99.78	99.79	101.8	102.1	100.9	1.08
Non-OPEC supply	63.8	63.81	64.25	65.31	64.3	65.82	66.09	66.46	64.49	66.46	2.16
Open NGL's	4.8	4.82	4.71	4.86	4.8	4.83	4.83	4.83	4.83	4.83	0.03
Total Non-OPEC supply(b)	68.6	68.63	68.96	70.17	69.1	70.65	70.92	71.29	72.32	71.29	2.19
Difference(a-b)c	30.16	30.13	31.73	30.78	30.7	29.13	28.87	30.49	29.8	29.59	
OPEC crude oil production(d)	30.48	29.97	29.39	29.59	29.65	29.6	29.65				
Balance(d-c)	0.31	-0.16	-2.34	-1.19	-1.05	0.47	0.73				

Looking at the above global oil demand-supply table, the balance of demand-supply is estimated to show a surplus of 0.4 mbpd in the Q1 2020 from the deficit of 1.05 mbpd in the previous year on account of growth in Non-OPEC supply while demand growth is expected to show smaller growth which is near a 20-year low.

Global oil demand

The global demand is expected to reach 100.88 mbpd in 2020. This slowdown in demand growth is due to weakening economic growth in some of the biggest oil-consuming countries.

Demand for OPEC crude in 2019 is unchanged at 30.7 mbpd which is 0.9 mbpd lower than 2018 level and demand for OPEC crude in 2020 also stays unchanged at 29.6 which 1.1 lower than in 2019.

Oil demand growth in the OECD is projected to grow marginally by 0.2 mbpd in 2019 due to decline in demand growth in Europe and Asia Pacific nations due to slower than expected industrial activity. In Non-OECD region, demand growth stays in line with previous projection. In 2020, OECD demand will grow by 0.07mbpd and in the Non-OECD region, growth is forecasted to be around by 1.01mbpd in 2020.

Global oil production

Non-OPEC supply growth forecast for 2019 remains unchanged at 1.82 mbpd . In 2020, the global oil supply is expected to grow by 2.17 mbpd and is expected to average at 66.46 mbpd. The slowdown in supply growth is facing uncertainties due to lower spending by the independent oil companies in the US. US, Brazil and Canada were driving oil growth in 2019 and will continue the same in 2020 with supply addition expected from Norway.

OPEC Production

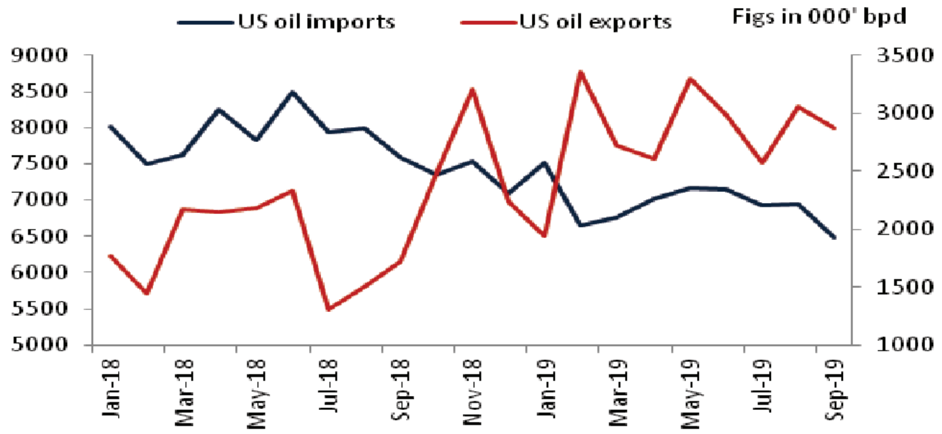
Last December, OPEC+ countries had an agreement to address the supply-demand imbalance and decided to continue with the production cuts and in fact increased its production cuts from 1.2 mbpd to 1.7 mbpd. Saudi Arabia additionally stated that if all the other producers comply with its production quotas, the nation would even increase its production cuts by 0.4 mbpd voluntarily and taking the total cuts to 2.1 mbpd. . But even after the cuts, the global oil supply is expected to face surplus in Q1 and Q2 of 2020 as the demand growth remains unchanged. This is the reason why there has been a muted reaction from the market.

US oil supply

US production growth decelerating in response to lower oil prices

The US is continuing with record-high production, however, in 2019, there was a flat production growth. The production is hovering at 12.19 mbpd and it is projected to grow by 1.02 mbpd in 2020. US oil drilling responds to prices change with a lag period of almost four months. The overall US oil rigs have declined by 214 units or 24% on a YoY basis to average at 663 oil rigs in 2019.

Exhibit 7: US Oil Imports/Exports



Source: Bloomberg, Narnolia Research

Inventory Scenario

The total OECD commercial stocks stands at 2,933 million barrels in 2019, which is 82.5 million barrels higher than the last year average and 32.8 million barrel above the five year average. US commercial crude oil inventory currently stands at 446.8 million barrels, which is 1.2% above the last year average and 4% above the five year average. The distillate stocks are standing at 125.1 million barrels, which are 7% below the five-year average levels. On the contrary, gasoline inventory levels stand at 237 million barrels which are 5% above five-year average levels.

Outlook

Going forward, even after OPEC deepening its production cut until June 2020 we expect the surplus scenario to still persist in Q2 2020 on account of demand downfall and higher supply from Non-OPEC nations. During the first half of 2020, we expect WTI crude prices to remain stable around $65/bbl.

However further oil production cuts from OPEC are minimal in the year of US presidential election. Therefore, any revival in Crude oil prices in the H1 2020 will face a reversal in the second half of 2020 and take prices to the lower range of $57-54 per barrel.

Through the year 2019, Natural gas witnessed downside pressure on higher incoming inventory on lack of demand during both the summer and winter season. MCX Natural gas prices made an high of 264.4 in February 2019, after which prices have been declining and made a low of 144.6 in the month of August 2019 on record-high production and lack of demand.

Demand & Supply:

US Dry natural gas production is rising this year and is estimated to be at 87.8 bcf per day in November, almost 8.82 bcf per day higher than last year. In 2018, US Dry gas production has increased by almost 11% on an average.

According to EIA US Dry natural gas production has risen by 7% on year on year in the month of November 2019 and is estimated to be at 95.6 bcf per day in December, an increase of almost 6.86 bcf per day compared to last year. As per EIA forecasts, annual U.S. dry natural gas production will average 92.1 bcf per day in 2019, up 10% from 2018. But it expects that natural gas production will grow much less in 2020 because of the lag impact on the natural gas drilling activity in the first half of 2020. EIA forecasts natural gas production in 2020 to average at 95.1 Bcf/d.

Winter Seasonal Outlook

This season, the temperatures are likely to stay above normal and normal precipitation levels. The heating degree day is a measure to account the natural gas use for heating homes in the winter season. Higher the number of heating degree days means higher consumption of natural gas. This season, HDDs are expected to total at 3700 days during the Oct to March period, lower than the previous year of 3788 days

The share of natural gas towards electricity generation has increased to 40% in 2019 from 26% in 2014. Earlier, coal was primarily used to generate electricity. However, increasing coal to gas switch helps to reduce carbon dioxide emission and that is triggering the higher usage of natural gas.

US Natural Gas Trade Imports and Exports

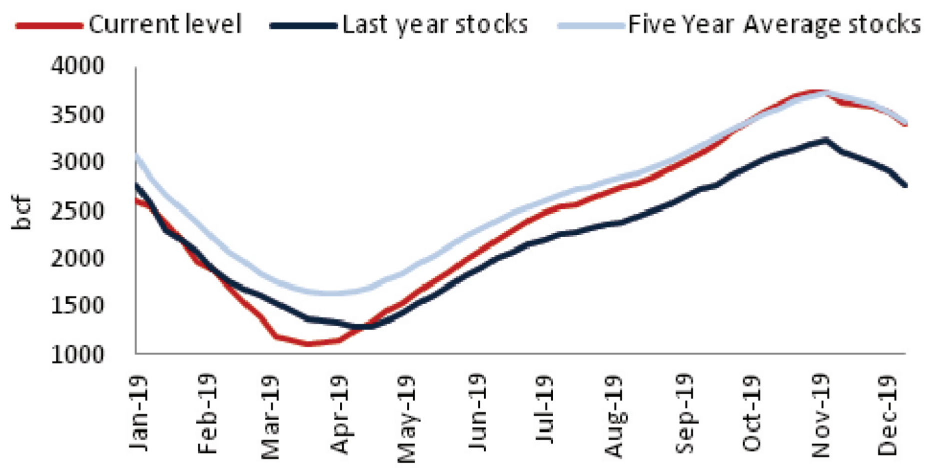
US natural gas imports have been declining from 2017 because of the increase in production in the United States. The total annual imports of natural gas peaked in the year 2017 at 2.57 bcf/day whereas, in 2019, imports totalled 1.76 bcf/day, down 31.5% as compared to 2017.

From 2016, US LNG exports have started to rise exponentially. Currently, U.S. LNG exports stand at 5.88 tcf per day in 2019 higher than 3.6 tcf per day in 2018. The record US natural gas production led to a decrease in natural gas prices and increased competitiveness in the international markets. In 2020, we forecast the US exports to reach 7.78tcf/day, an increase of 32% from last year as new liquefaction projects come online. US Exports accounts for 12% of the total natural gas consumption.

Inventory Scenario

EIA estimates that the U.S. total natural gas inventories were 3.414 tcf at the end of November. The inventories are very similar to the five-year (2014–2018) average but 19% higher than a year ago. Going forward, during the winter driving season, EIA expects storage withdrawals to total 1.9 tcf from the October-end to March-end, which is less than the five-year average, leaving 1.9tcf of inventories by the end-of-March which will push the inventories to 8% higher than the five-year (2015–19) average levels.

Exhibit 8: Natural Gas storage



Source: Bloomberg, Narnolia Research

Outlook

Natural gas prices are expected to remain negative for the first half of 2020 as both rising production and inventory levels will be keeping the market in surplus. During the winter season, if the weather remains above normal temperatures, then we can see another downfall in natural gas prices. On the other hand, the higher exports and the slowdown in production will help the natural gas prices rise in the latter half of the year 2020. Also the higher coal to gas switching will help increase the demand of natural gas.

Overall, we continue with our negative outlook for natural gas prices in the short term. We expect Nymex Natural gas prices to trade lower towards $1.8-2.1per mmbtu in first half of 2020. Though for the second half we expect prices to bounce back towards $2.8 per mmbtu.

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