

Base Metals: FY19 Review & FY20 Outlook

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In this Report we have summarised of the performance of the key base metals: **Copper, Aluminium, Zinc and Lead.**

Performance of the metals is based on the production, consumption, international prices and trade data prevalent during FY19. We have also concluded each section by providing the outlook for FY20 as well.

Copper

Domestic Production, Consumption, Exports and Imports of Copper during FY19

Domestic refined copper production has fallen by 46.1% during FY19. Fall in production is mainly attributable to the permanent shutdown of the 400 KT, Tuticorin smelter which accounted for 40% of the country's copper smelting capacity. Cumulatively the output of Hindustan Copper and Hindalco was also low due the planned shutdown of its smelters during the first half of the year.

The drop in domestic production during the year has led to the domino effect of a sharp increase in the country's imports and fall in the exports thus turning India into a net importer of refined copper. Exports have fallen by 87.4%, (during FY18 exports had increased by 12.3%) whereas imports have increased by 131.2% (during FY18 imports had increased by 35.6%).

India imported refined copper from, Japan (71%), Congo (6%), Singapore (5%), Chile (4%), Tanzania (4%), UAE (4%) and South Africa (3%) and exported refined copper to China (75%), Taiwan (13%), Malaysia (5%), South Korea (5%) and Bangladesh (2%) during FY19. Share of exports towards China has increased, from it being 63% during FY18 to 75% during FY19 and share of imports from Japan has increased from it being 68% during FY18 to 71% during FY19.

Domestic consumption of refined copper has fallen by 2.6% on account of increased use of copper scrap in the electrical & electronics and consumer durables industry. Overall copper consumption (including scrap) has increased by 3.6%. Demand for copper in the domestic market is largely dependent on the electrical & telecommunications (56%), building & construction (8%), automobiles (11%) and the consumer durables (8%) segments.

Shutdown of the Tuticorin smelter has also led to the sharp increase in imports of copper waste & scrap and decline in the imports of copper ores and concentrates during FY19.

Table 1: Domestic Production, Imports, Exports and Consumption of Copper Cathodes (KT*)

	Production	Change (%)	Consumption	Change (%)	Exports	Change (%)	Imports	Change (%)
FY17	799	0.3%	488	-4.1%	337	5.4%	27	-16.9%
FY18	848	6.1%	506	3.7%	378	12.3%	36	35.6%
FY19	457	-46.1%	494	-2.6%	48	-87.4%	84	131.2%

Source: Ministry of Mines, Ministry of Commerce, CARE Ratings

* KT: kilo tonnes

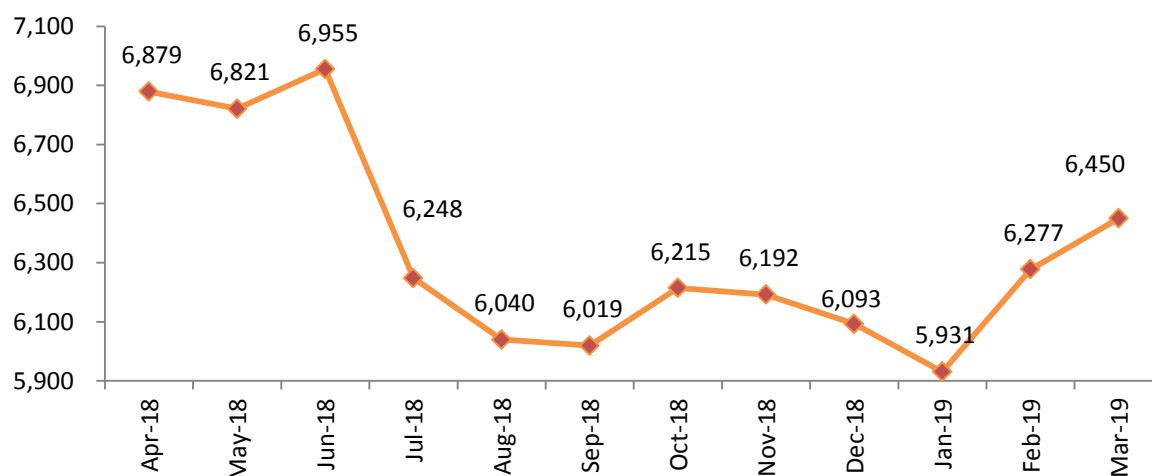
Table 2: Imports of Copper Waste and Scrap and of Copper Ores and Concentrates (KT)

	Copper Waste & Scrap	Change (%)	Copper Ore & Conc.	Change (%)
FY17	171	-5.9%	1,143	-39.9%
FY18	174	1.9%	1,488	30.2%
FY19	212	21.3%	824	-44.6%

Source: Ministry of Mines

Global Copper Price Trend during FY19

Chart 1: Global Copper Price Trend during FY19 (USD/tonne)



Source: LME

Global copper prices have decreased marginally by 1.6% during FY19. The continued tariff war between the US and China, appreciation of the US dollar against major currencies and slowdown in the global economy has led to copper prices being subdued throughout FY19. Copper prices fell to its lowest in January 2019 as the Chinese PMI (Purchasing Managers' Index) contracted for the second time in the row indicating a slowdown in its economy.

CARE Ratings Outlook (for Copper)

With the permanent closure of the Tuticorin smelter, and the uncertainty surrounding with its remission, **we believe by the end of FY20, refined copper production will be around 450 KT, registering a 1.5% drop from its FY19 level of production.**

- The SC has objected to the restart of the Tuticorin smelter but has also stated that the company can appeal to the Madurai High Court. If the order passes through **India's copper output can potentially increase to 680 KT by the end of FY20, which is a 48.8% increase from the FY19 level of production.**

Demand for the domestic copper market is dependent largely on the electrical & telecommunications (56%), building & construction (8%), automobiles (11%) and the consumer durables segments (8%). **We estimate domestic refined copper demand to increase by 3-4% (including consumption of scrap) by the end of FY20.**

- The growing demand from the power sector, the government's thrust on renewable energy and increasing demand from the households for consumer durables will add onto the demand for copper in India.
- Manufacturing of hybrid and electric cars will also augment the consumption of copper as EVs use 2-3 times more copper than traditional internal combustion engines.
- Due to the increase in demand, **India will continue being a net importer of refined copper during FY20 as well,** unless the Madurai court passes the judgement for the remission of the Tuticorin smelter.

Aluminium

Domestic Production, Consumption, Exports and Imports of Primary Aluminium during FY19

Production of primary aluminium during the year has been subdued but has increased by 8.9% given stable operations of the aluminium smelters. Production had grown by 18.3% during FY18. Aluminium producers also faced headwinds in the form of increase in alumina imports, issues related to bauxite offtake and increase in the cost production (particularly pertinent towards the increase in cost of furnace oil and coal).

Total aluminium consumption increased by 6.2% but on the other hand consumption of primary aluminium fell by 1.4% during FY19. Aluminium consumption in India is driven by its use in the power (48%), automobiles (15%), construction (13%), packaging (8%), industrial (7%) and consumer durables (7%) sector.

Consumption of primary aluminium has fallen on account of increase in use of aluminium scrap. Scrap imports increased by 20.3% amidst the US- China trade wars. Aluminium scrap is priced at a discount to LME (which is also popularly known as scrap spread) and also has a low import duty of 2.5% in India. Aluminium scrap is usually used by the auto sector but since the last two years because of an increase in the scrap spread a large part of its usage is getting diverted towards the manufacturing of other products as well which is leading to an increase in its imports.

India's scrap consumption is 100% import dependant and during FY19 we mainly imported from the US (19%), UK (12%), UAE (10%), Saudi Arabia (10%), Australia (6%), Netherlands (5%) and Singapore (4%).

Exports have risen by 17.3% while imports have declined by 12.2% during FY19. Globally markets faced a deficit as demand for aluminium exceeded supply. This has benefited India as aluminium is oversupplied in the domestic markets. Deficit in global market was around 1.6 million tonnes in CY18.

India mainly exported primary aluminium to Malaysia (22%), South Korea (12%), Turkey (11%), USA (8%), Mexico (7%), Italy (6%), Taiwan (5%), Spain (4%), Japan (4%) and Singapore (4%) and imported from Malaysia (36%), UAE (15%), Qatar (14%), Bahrain (9%), South Korea (7%) and Thailand (4%) during FY19.

Table 3: Domestic Production, Imports, Exports and Consumption of primary Aluminium (KT)

	Production	Change (%)	Consumption	Change (%)	Exports	Change (%)	Imports	Change (%)
FY17	2,866	18.1%	2,065	2.2%	1,224	47.7%	422	0.1%
FY18	3,392	18.3%	2,084	0.9%	1,669	36.3%	361	-14.6%
FY19	3,694	8.9%	2,054	-1.4%	1,957	17.3%	317	-12.2%

Source: Ministry of Mines, Ministry of Commerce, Company filings, CARE Ratings

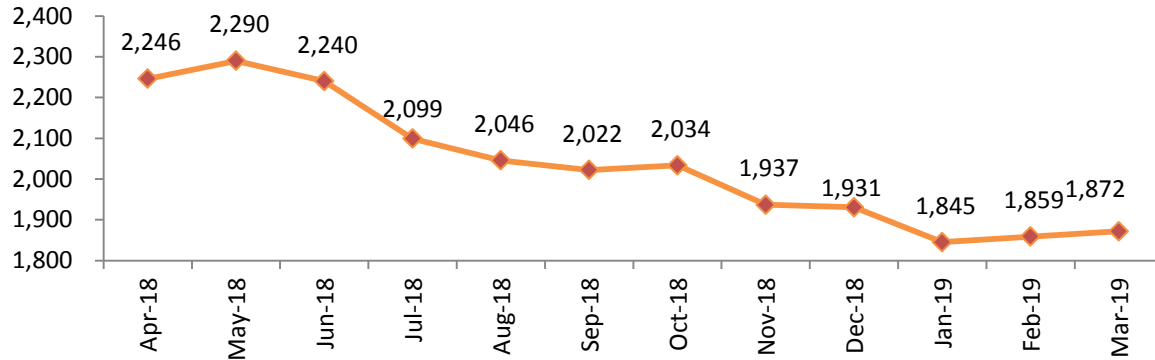
Table 4: Total Aluminium Consumption (KT)

	Primary	Scrap	Total	Change (%)
FY17	2,065	931	2,996	3.7%
FY18	2,084	1,121	3,205	7.0%
FY19	2,054	1,349	3,403	6.2%

Source: Ministry of Commerce, CARE Ratings

Global Aluminium Price Trend during FY19

Chart 2: Global Aluminium Price Trend during FY19 (USD/tonne)



Source: LME

Global aluminium prices have declined marginally by 0.5% during FY19. Prices had risen sharply during April-May 2018 due to the imposition of sanctions on Russian aluminium manufacturer United Co. Rusal (largest aluminium producer outside of China) by the US government. The impositions of sanctions had caused a rally on the fears of facing a shortage in the global markets. Rest of the year the US-China trade war, uncertainty regarding the global economy and appreciation of the US dollar were the key factors putting pressure on aluminium prices.

Aluminium prices had fallen to its lowest during January 2019 on account of slowdown faced in the Chinese economy due to intensification of the trade wars. The Chinese Purchasing Managers Index (PMI) had also faced a contraction during the same period.

CARE Ratings Outlook (for Aluminium)

India's primary aluminium production is to increase by 3.7% during FY20 as all the domestic smelters are now operating at full capacity and the primary aluminium producers will not be ramping up their capacities anytime soon. Primary aluminium production rose by 8.9% during FY19.

- We can expect further capacity ramp-ups of aluminium smelters only if the price of aluminium increases sharply from its current levels.

Growth in demand (including secondary demand) is likely to remain stable **and is expected range around 6% to 7% during FY20**. Reforms proposed by the Government of India like development of Smart Cities, Rural Electrification and a focus on building renewable energy projects under the National Electricity Policy will support the demand for aluminium.

- The growth in consumption is likely to be driven by the growth in power transmission and construction sector. Demand from the packaging sector is also likely to support the domestic demand.

Zinc

Domestic Production, Consumption, Exports and Imports of Zinc during FY19

Zinc production declined by 12.0% during FY19 on account of lower availability of zinc concentrates. Zinc concentrates production was lower due to the complete closure of the open-cast operations. The FY19 production of the mined metal was entirely from the underground mines which were also going through a ramp up during the year.

Zinc is primarily used in galvanizing of steel products due to its anti-corrosion properties in the atmosphere, in hard/fresh/salt water, as well as with many natural and synthetic substances. Usage/consumption of zinc has increased by 12.1% during FY19. Increase in production of GP/GC sheets by 22.3% has supplemented the growth in zinc usage. Zinc demand in India is mainly driven by its usage in galvanizing steel and iron (57%), coatings (16%), die-casting of alloys (14%), oxides and chemicals (7%) and in manufacturing extruded products (6%).

Unwrought zinc is imported from South Korea, UAE, Australia, Spain and Taiwan and exported to China, South Korea, Malaysia, Taiwan, Nepal, UAE, USA, Vietnam, Saudi Arabia, Montenegro and Singapore. During FY19, exports have fallen sharply by 32.1% on account of fall in domestic production of zinc ingots.

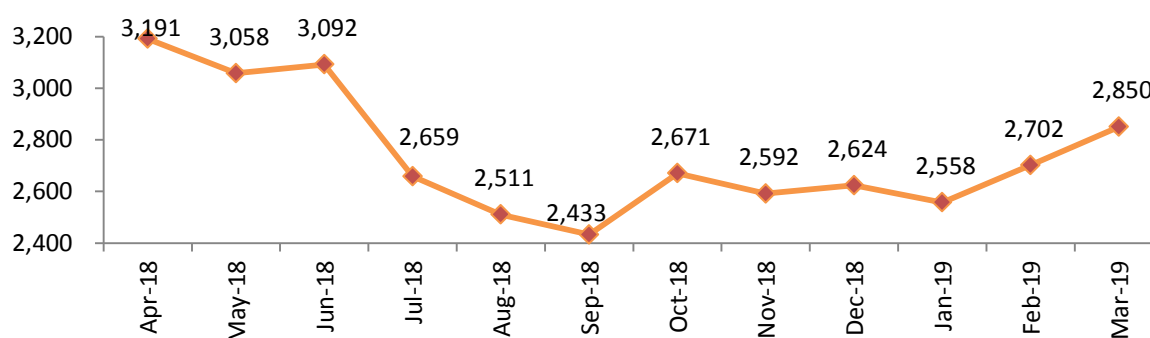
Table 5: Domestic Production, Imports, Exports and Consumption of Primary Zinc (KT)

	Production	Change (%)	Consumption	Change (%)	Exports	Change (%)	Imports	Change (%)
FY17	672	-11.5%	769	18.1%	448	-9.9%	545	40.1%
FY18	791	17.7%	685	-10.9%	565	25.9%	459	-15.9%
FY19	696	-12.0%	769	12.1%	383	-32.1%	456	-0.7%

Source: Ministry of Mines, Ministry of Commerce, CARE Ratings

Global Zinc Price Trend during FY19

Chart 3: Global Zinc Price Trend during FY19 (USD/tonne)



Source: LME

Global price of zinc has been declining since the start of FY19 and has fallen by 10% during FY19. The global on-going trade wars, appreciation of the dollar and fears of a global slowdown have been responsible in suppressing the prices of zinc to a 2 year low. Concerns of a slowdown in the steel industry because of the imposition of tariffs (25%) on steel imports by the United States government have also deterred the commodity's price. Fall in LME inventories of zinc during February 2019, caused a rally in zinc prices.

CARE Ratings Outlook (for Zinc)

The zinc industry is poised to perform well in line with the stable demand outlook for the Indian steel industry. Zinc per capita consumption in India is 0.5 kg/ compared with China's 5.0 kg/capita and the average global consumption of 1.9 kg. The lower per capita consumption of zinc in India, coupled with government initiatives offers a favourable growth potential for the industry.

Zinc demand is likely to increase by 7% by the end of FY20. Growth in zinc consumption is fundamentally to be supported by the issues of rust and corrosion in steel which is to drive the consumption of zinc (in accordance to the growth in the steel industry).

- Government initiatives such as modernization of railways and the construction of highways is expected to encourage the use galvanized steel for durability and endurance.

Lead

Domestic Production, Consumption, Exports and Imports of Lead during FY19

Production of lead during the year has been subdued. Production grew by 14.6% during FY19 as compared with the 18.4% increase during FY18. Complete closure of the opencast operations has affected the total quantum of output of the mined metal. Recycled lead during FY19 was around 63% of the total refined lead.

(Production of primary lead increased by 17.6% as compared with the 21.0% growth rate during FY18 and production of secondary lead i.e recycled lead increased by 12.9% as compared with the 16.9% growth rate during FY18)

Demand for lead increased by 11.6% during FY19. Lead consumption in India is primarily driven by its use in manufacturing of lead acid batteries (74%) (This can be sub-divided into SLI (Starting-Lighting-Ignition) batteries (50%) and Industrial Batteries (24%)). Production of automobiles (passenger vehicles, commercial vehicles and two & three wheelers) increased by 6.4% during FY19. Lead is also used in remote access power systems and load levelling systems as well as in compounds in the glass and plastics industries and for radiation shielding.

Refined lead is imported from South Korea, Australia, Malaysia, UAE and Myanmar and exported to the US, South Korea, Taiwan, Vietnam & Thailand. Since the last two years (FY18 and FY19) India has become a net exporter of refined lead. Exports increased by 10.3% during FY19 whereas imports fell by 1.5% during the year.

Table 6: Domestic Production, Imports, Exports and Consumption of Lead (KT)

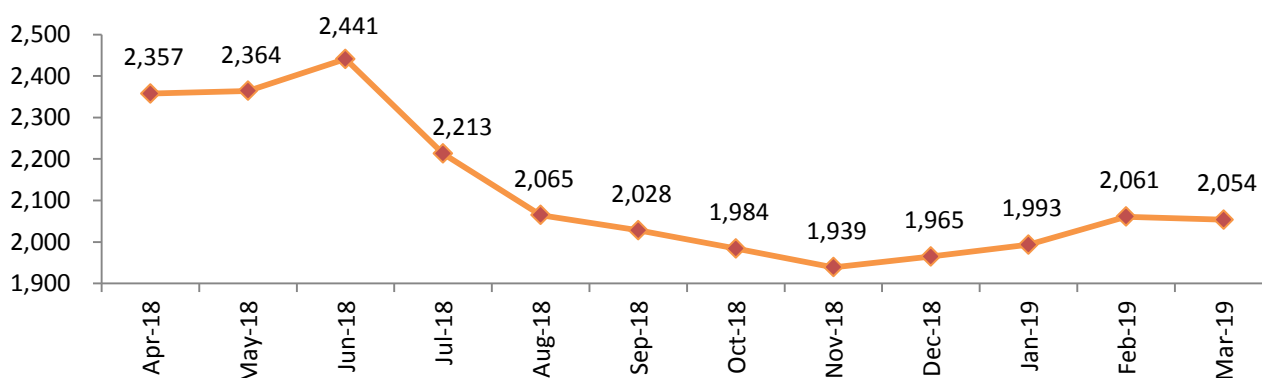
	Production*	Change (%)	Consumption	Change (%)	Exports	Change (%)	Imports	Change (%)
FY17	390	10.2%	424	6.3%	77	20.3%	111	1.8%
FY18	462	18.4%	457	7.9%	125	61.2%	120	8.3%
FY19	530	14.6%	510	11.6%	138	10.3%	118	-1.5%

Source: Ministry of Commerce, CARE Ratings

*Primary and Secondary

Global Lead Price Trend during FY19

Chart 4: Global Lead Price Trend during FY19 (USD/tonne)



Source: LME

Global lead prices fell by 10.8% during FY19. The continuous trade war between China and the US was one of the key reasons responsible in suppressing the lead prices. The tariff war a direct effect on the Chinese automobiles industry which

led to the fall in lead prices during the fiscal. Fall in LME inventories of lead during February 2019 had also caused a temporary spike in lead prices.

CARE Ratings Outlook (for Lead)

Lead will continue experiencing a robust demand, driven mainly by the automotive and industrial battery segments. **Going forward, lead usage is bound to increase by 9.4% by the end of FY20.**

- Lead acid battery demand in the form of replacement demand in automobiles will continue supporting the usage of lead. Demand will be tepid from the OEM segment.
- Network expansion by telecom companies, implementation of the smart grid projects, deployment of vehicle-charging infrastructure, onus given for the manufacturing of the hybrid and electric vehicles and growing installation of renewable energy systems will also support the lead acid battery growth.

Price calls

Instability in the world economy and the unrelenting trade war between China and the US will continue to dampen global base metal prices unless there is consensus reached between both the parties. The underlying macros are supporting an increase in prices given the base metal prices are at its lowest and any further reduction in its prices will make it unviable for smelters to carry forward with production, potential to introduce more stimulus by the European central bank and deficit in the concentrate markets are to help aid in strengthen the prices of aluminium, copper, lead and zinc. Going forward, prices are to hover around,

- **Aluminium USD 1,750-1,800/tonne, Copper USD 5,800-5,850/tonne, Lead USD 1,900-1,950/tonne, Zinc USD 2,600-2,650/tonne**

We can expect this price level till some mutual stance is reached by China and the US.

Concluding Remarks

- During FY19, production of primary lead was the highest ever recorded, aluminium production was subdued and zinc and copper output fell sharply.
- Outlook for FY20, in terms of consumption of base metals will be subdued due less promising prospects/slowdown in most of the end use sectors.
- The copper industry recorded the worst performance in terms of supply and trade during FY19.
 - India recorded the lowest copper output after nearly 14 years (refined copper was 408 KT during FY05) and has become a net importer of refined copper after 18 years.
- The continued tariff/trade wars have affected the base metals industry during the whole of FY19, especially on the pricing and realizations aspect.
 - Even in the current financial year (FY20), intensification of the trade wars and slowdown in the global economy has continued to depress the prices of base metals. Aluminium, copper, zinc and lead prices have declined by 20.8%, 11.3%, 11.2% and 21.3% respectively.
 - Going forward, this can commensurate in the decline in margins of the base metals manufactures due to fall in realizations during Q1-FY20.



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