

Copper, a metal with potential

ANALYTIKER

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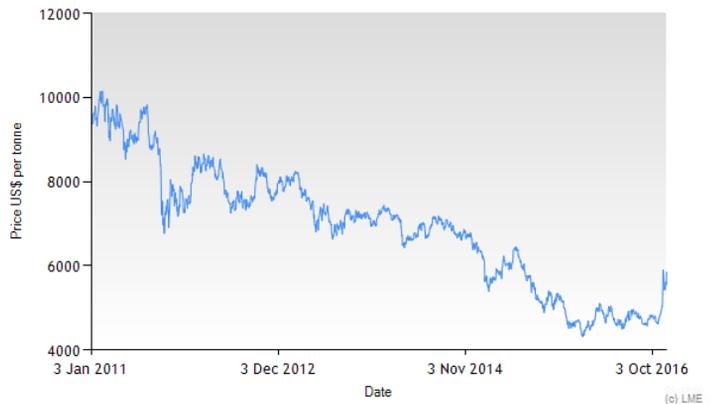
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Key drivers

- Few projects in the pipeline
- Potential huge deficit by 2020
- Key metal for sustainability
- Increased usage in cars
- Increased demand from India
- Substantial delays in mine development

Price Chart

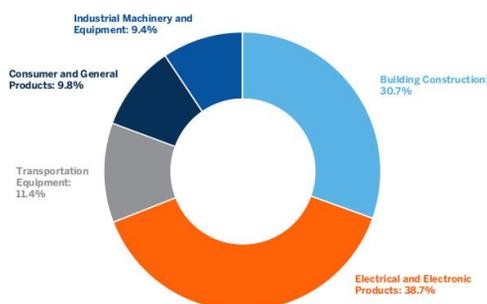


The past and the latest

After a significant downturn over the past three years, commodity prices are finally showing signs of a reversal in the trend. The price increase year-to-date of LME 3 month futures for several metals is impressive. Most notably Zinc with an increase of 68% and nickel as well as aluminium with increases of 33% and 17% respectively. Copper had shown only a modest increase of 4% during 2016 until the US presidential election when Donald Trump's promises of substantial infrastructure spending led to a price rally. The prices increased 11% over the course of a week closing at \$5,529 per tonne, the best week for the metal in five years. Since the election, the prices have been ticking upward and the cost of a tonne of copper is \$5,529 today. One could ask if this price increase is justified solely on the prospect on US infrastructure spending, or if there might be other reasons to own the red metal.

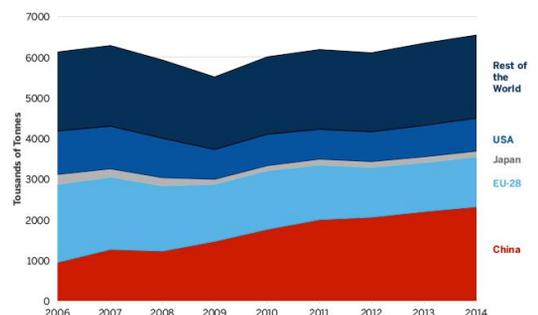
Looking back, copper performed well during several years up until 2011 when the fear of a slowdown in global manufacturing caused the prices to start sliding. Copper had its peak at almost \$10,000 per tonne in 2011. The negative trend has been fuelled mainly by concerns regarding the economic outlook of China, justified considering its dominance in the world market. However, more recently the main concern has not been with the state of the economy in China, instead it is the country's promised transformation into a consumer-driven economy that has spooked investors. Lowered infrastructure spending in China could have major repercussions because the demand for copper from China's construction sector constitutes 10% of the entire global demand. The, to be confirmed, building frenzy in the US is quite bleak in comparison. According to Liberum Capital, a 10% increase in copper demand from the US could be offset by as little as 1,5% contraction in demand from China.

Copper Demand by Source



Source: GFMS Copper Survey 2015

Copper Demand Trends: Building Construction



Source: GFMS Copper Survey 2015

Supply and Demand

However, looking at the long-term supply side makes a good case for higher prices. With a broadly balanced supply and demand, it does not come as a surprise that the investments in new copper mining projects have been scarce in recent years. According to CRU, a research group, the thin project pipeline is not due to a fear of a supply glut but mostly due to difficulty in raising finances. The lack of projects is not the only thing contributing to a looming deficit. Many of the projects have run into complications which have led to substantial delays. According to report by Coldeco, the largest copper producing company in the world, at least 50 of the bigger copper mining projects have been delayed globally. The CRU group estimates that only 6 major projects will be finished until 2020, presuming no further delays, comparing with a total of 80 planned developments worldwide according to Bloomberg Intelligence.

In the report Coldeco predicts a deficit in copper supply by 2018. This positive demand outlook is shared by other industry giants as BHP Billiton Ltd and Freeport-McMoRan Inc. who predicts copper shortage in 2019 and 2018 respectively. RBC Capital Markets have presented a similar view. Additionally, and more notably, the bank predicts a massive shortage of copper in 2020. This long term forecast is emphasising on a supply shortage and not a rising demand. Key events this year which makes the forecast probable are strikes at Coldeco in Chile and strikes against a large mining project in bordering Peru. The strikes at Codelco combined with an earthquake in the country earlier this year are of particular significance since it has further delayed the development of the aging Chuquicamata pit, the world's largest open-pit copper mine, a key investment to ensure forecasted future supply.

Looking at demand, China unquestionably plays an important role. A more consumer driven economy could result in a lower demand from the Chinese building and manufacturing sector. However, China still relies heavily on infrastructure spending when striving to reach the growth numbers. Other areas where copper is used are transportation, in the form of automobiles, and electronics. An increased demand in these sectors could help offset the negative effect of a slowdown in building and manufacturing. According to the WSJ, the numbers of cars sold in China jumped by 29% in September this year. This is part of a larger trend of increased consumption in China which could boost demand for copper riddled consumer goods overall.

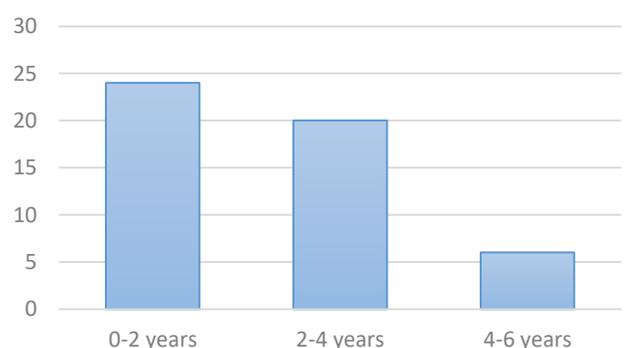
The copper consumption per year and capita in China is 5,4 kilos comparing to South Korea with a consumption of 14 kilos. Further modernization, development and urbanisation in China should bring the consumption closer to that of South Korea. This aspect of consumption is perhaps more interesting when looking at India and its modest consumption of 0,4 kilos per person and year. Combining this with a population of 1,2 bn. indicates an enormous potential for growth. The progress in Indian infrastructure development has admittedly been very slow and the roads as well as power grids are unreliable. More notably, the wires and cables market in India comprises approximately 40% of the Indian electrical industry, according to Power Watch India. Copper is the metal to use when it comes to cables and wires and the demand for in India is estimated to double within the next five years.

Copper Deficit



Source: RBC

Number of delayed projects



Source: Coldeco

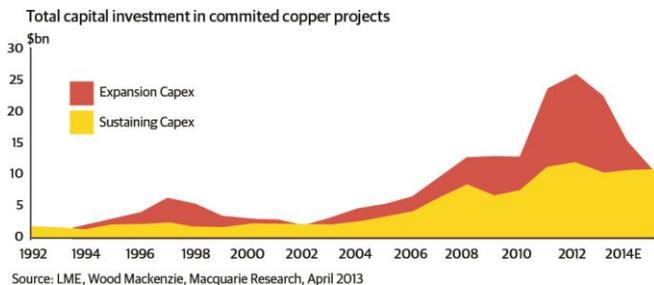
The sustainable future

Copper plays a vital role when developing sources for renewable energy and making the energy usage sustainable. Investments in sustainable solutions could spur a much higher future demand for the metal.

BHP Billiton, the mining giant, consider the automotive industry one of their more promising markets in regard to growth. A traditional gasoline car uses on average 25 kg of copper when produced. The number of cars produced 2015 was, according to Statista, about 90 million vehicles .The global output of copper the same year was 19,1 million tonnes according to the international copper study group . This means the automotive industry for light-weight vehicles consumes about 12% of the global output. CRU group estimates the share to 12% as well. To produce hybrid and electrical vehicles one needs on average 50 kg and 75 kg respectively of copper, compared to the 25 kg of a traditional car. A report by future market insight, estimates a market share of 20% for hybrid vehicles and 7% for electrical vehicles by 2020. Combining this with an estimation, by Statista, of 107,4 million produced cars that years yields a consumption by the light-vehicle market of 19%, presuming the same output as in 2015.

According to RioTinto , other renewable energy sources dependent on copper are wind and solar-power. Wind energy requires 3,6 tonnes of copper for every MW of energy produced, the corresponding requirement for solar energy is 6,5 tonnes. Powerweb estimates that the global energy from wind installations will have increased by 72% and the energy obtained from solar plants will have increased by 133% by 2020. This expansion would require the equivalent of 14% of the global annual copper output.

To summarize, the short-term outlook is quite hard to deduce because it is dependent on the president-elect convincing investors the infrastructure plan is not just smoke and mirrors. Long-term there is good reason to believe there will be a deficit in the copper market considering the gloomy outlook on the supply side. The biggest risk to demand is a substantial slowdown in Chinese construction and manufacturing. However, there are numerous trends and potential markets which could soften the blow.



Copper consumption by country

