



Third Party Research

May 28, 2018

"Dr. Copper" Is Prescribing Healthy Profits

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"Dr. Copper" Is Prescribing Healthy Profits

By Stephen Leeb (bio at end)
May 28, 2018

Copper is sometimes called "Dr. Copper."

That is because the versatile metal has a superb record of predicting trends in the economy, as if it had received a Ph.D in economics. Right now, Dr. Copper is pointing the way to huge investment profits.

There is a reason for copper's forecasting prowess. It is the base metal mostly widely used throughout the economy, in everything from residential and commercial construction to circuit boards to the electric grid. Lately, its use has been expanding further as it finds increased applications in the automotive industry.

Copper's special properties explain its widespread use. Both durable and flexible, it excels at conducting electricity and heat, and it dissipates heat much more quickly than other metals. Substitutes are either much more expensive, like silver, or less durable, like aluminum. Anytime the world economy is strong, demand for copper will increase, with prices rising.

Global economic growth remains on track, but the trade dispute between the U.S.A. and China has dominated the headlines. The stock market has been affected by the uncertainty because a trade war between the two nations would be a big deal.

Since joining the World Trade Organization, China has become the world's largest trading nation and the largest economy by purchasing power parity (PPP). The fact that it is going toe-to-toe with the USA in the economic arena is a testament to how far it has come in a short amount of time.

The emergence of China and the rest of the developing economies bring the world into uncharted territory. By PPP, the gross domestic product (GDP) of the developing countries is now larger than that of the developed economies. Developing countries are also growing faster.

Three Phases of Economic Growth

Growth led by developing economies is especially pertinent to prices for copper and other commodities. Economists describe economies as going through three distinct phases as they move from less to more developed.

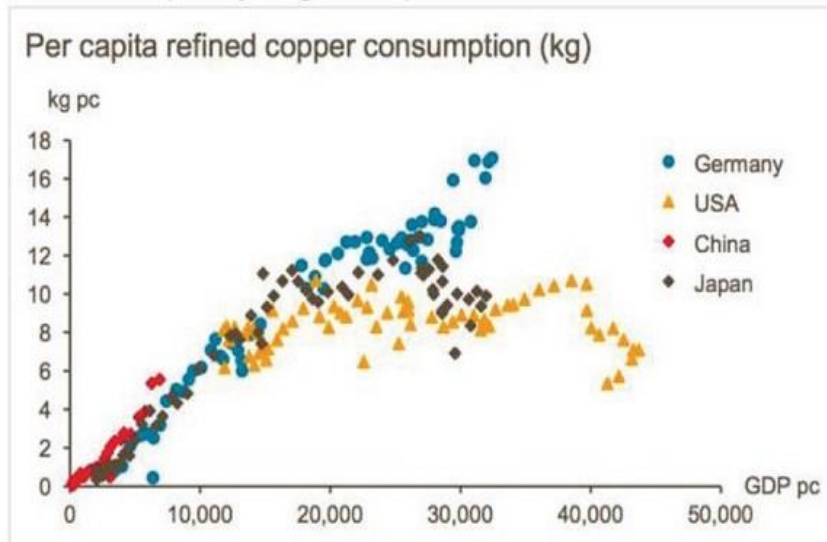
- 1) Economies focus on the extraction of resources, whether this means growing food, mining copper and other metals, or drilling for oil.
- 2) Economies have moved up the development ladder to focus on industrial output, using many of the resources they extract to produce finished goods.
- 3) Economies emphasize the service sector, which enables the exchange and use of goods.

Developing economies are located within the first two phases, while developed, high-income economies have attained the third phase. A rough cut-off is 70%. Economies in which services account for at least 70% of GDP are high-income developed economies. Economies in which services account for 65% or less of GDP are developing. Anything in between 65% and 70% is on the cusp.

These distinctions help explain why we expect most commodities will be in sustained and powerful uptrends for the foreseeable future. The developing world is much more commodity-intensive than the developed world.

Until it gets to where services take over as the major economic driver, per-capita use of commodities will be in an uptrend in developing countries, raising total demand.

Major Demand Growth Ahead



Source: Rio Tinto

As the chart of four major countries shows, peak consumption of copper comes somewhere around GDP of \$25k per capita. Germany, Japan, and the USA have reached that level, and per capita demand for copper has been declining. But China still has quite a long way to go, while the developing world in total is even further from peak per-capita copper consumption, which is about 12 kilograms.

This suggests that another way to define developed and developing economies is in terms of per-capita consumption of particular commodities. For copper, the critical number is around 12 kgpc (kilograms per capita).

Right now the world consumes about 3 kgpc, with the developing world accounting for about 2 kgpc of that total. Even if we conservatively assume the developing world maxes out at about 8 kgpc, total demand for copper would more than double.

And 8 kgpc, as we indicated, would be far lower than the maximum levels achieved in the past by countries that have moved up the development ladder. Moreover, it does not account for the additional demand for copper from the automotive market, which could be huge.

According to AllianceBernstein analyst Paul Gait, electric vehicles (EVs) may require five to ten times as much copper as gas-powered cars use. That is because EVs themselves contain about twice the amount of copper, while the infrastructure to service them - charging stations and a more extensive grid - also will require enormous amounts of the metal.

Reserves vs. Resources

Adding it up, worldwide demand for copper could grow two-and-a-half fold, to about 55 million metric tons (2200 pounds) a year. That is equal to about 12% of today's estimated worldwide reserves.

China, still a developing country whose demand per capita is likely to increase, alone consumes about 45% of global production.

Finding that amount of copper could be very challenging and perhaps not even possible at any price. Estimates of copper reserves, as with any commodity, are based on prevailing prices. It is assumed that, as prices rise, reserves also will rise as it becomes feasible to mine lower grades and harder-to-reach areas. But there is no way to know if reserves will rise fast enough.

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See About the Analyst below

About the Analyst



Stephen Leeb is an American [economist](#) and [author](#).

Stephen Leeb is a financial author, wealth manager, and publisher of a family of investment newsletters. He is a recurring guest on CNN, FoxNews, NPR and Bloomberg TV, and has been called “one of the country's foremost financial experts.”

Leeb earned a B.S. in [Economics](#) from the [Wharton School of Business](#), and a Masters in Mathematics and a Ph.D in [Psychology](#) from the [University of Illinois](#).[†] He authored research papers on psychology and statistics in the peer-reviewed journal [Psychological Reports](#).