

March 31, 2019

The Monthly Letter covers three topics this month. First, we look at the red metal, Copper. Copper possesses critical electrical characteristics along with inexpensive costs of production. As a result, it is the metal of choice for electrical transmission over short distances. With the electrification of the car ahead, Copper should enjoy a bright, shiny future. Second, we examine spending on Public Construction, which is inextricably linked to the Presidential Election Cycle. Spending has begun to accelerate and should peak sometime right after the 2020 Elections in the first half of 2021. And Third, as always, we close with brief comments of interest to our readers.

Dr. Copper: The Once and Future Metal

Copper possesses many wonderful characteristics. It is plentiful, relatively inexpensive, and possesses many good metallurgical properties. This endeared the metal over 100 years as one of the critical metals for economic growth. For Copper goes into everything. It goes into industrial equipment, other equipment, transportation, building construction, and infrastructure, everything that makes the modern economy work. Given this role in the economy, it should not stand as a surprise that demand exploded over the past 20 years as China and other Emerging Economies modernized their countries industry and infrastructure. This allowed Copper demand to grow at 5% or more in many years between 2000 and 2017. But an economy can only build out this modern structure once. Once it is built, an economy only needs to replace things and create incremental structures to support its economy. Demand growth for Copper and other basic materials slows, fundamentally, as the needs of an economy matures.

However, despite this slowing in fundamental demand growth for infrastructure, manufactured goods, building construction, and other needs of the Emerging Economies, Copper appears set to live a second life. This life will spring from the coming explosion in Electric Vehicle (EV) production. While a lot of technology goes into an Electric Vehicle, EVs are basically a rechargeable battery on wheels with electricity flowing everywhere. With Copper's key role in electrical transmission, it turns into the conductor of choice for short range transmission. And an Electric Vehicle needs plenty of transmission. A traditional car, running on an internal combustion engine, uses 20 kilograms (kg) of Copper. But an EV, running on electricity, uses 80 – 100 kg of Copper per car, a 4x to 5x multiple. In 2018, there were 70+ million cars produced and over 22 million commercial vehicles built. Assuming commercial vehicles use the same amount of Copper as cars, which represents less than their actual use, and assuming only one third of the market becomes EV by 2030, creating 31+ million annual market for EVs, then incremental Copper demand from just EVs would represent 15+ million tons of demand. Today, the Copper market totals only 24 million tons annually. This means that just from Electric

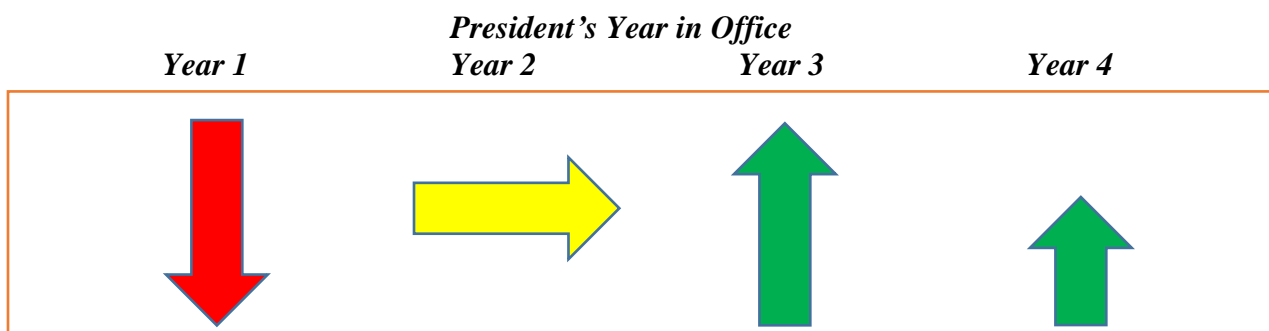
Vehicles, Copper demand will grow at 4.5%+ per annum. And assuming some demand growth as economies around the world continue to expand, Copper demand should grow at more than 5% per year for the next decade, truly a second life. And while it is estimated that one third of this demand will be met by recycling Copper from EVs at the end of their estimated life of 10 years, this still represents growth of almost 50% in the amount of copper that must come from mines that don't exist today.

For Copper, the slowing in Emerging Market growth appears a red herring. Fundamental demand forces continue to gather that will drive continued strong growth for the red metal over the next decade. And with Electric Vehicles coming into their own over the next few years and mine supply growth limited, Copper should enjoy a bright shiny future, despite a likely recession over the next few years. With these fundamentals strong and 2030 on the edge of the horizon, Copper appears set to continue as The Once and Future Metal. (Data from The International Copper Association and Jefferies, LLC coupled with Green Drake Advisors analysis.)

Public Construction & The Election Cycle: Buying The Vote

For as long as we can remember, politicians like to get reelected. In fact, that appears to be their main job. However, most of what they do is out of the public eye, providing little visibility to their legislative accomplishments. This creates an issue for them. There is nothing tangible that their voters can see delivered for their time in office. In order to solve this dilemma, when the time comes for voters to pull the lever, they need to create visible indications of their actions on behalf of their constituents. In fact, they want them so visible, it makes clear they worked hard for the home crowd. Voila, political largess showers down upon the streets, highways, and bridges just in time for the election or what in the past fell under the nomenclature of old fashioned pork.

For those that wonder what this cycle looks like, the following graphic makes clear the Political Construction Cycle:



And, while the public cannot control the exact timing of spending, as that is executed by the government, it can indicate its support for Infrastructure Spending. During the 2016 Elections, voters approved a record amount of Public Infrastructure Spending, approving 477 of 575 ballot measures, representing an 83% pass rate. As these funds typically are insulated from the ability to be siphoned off to other purposes, unlike typical tax revenue, these types of ballot measures have become increasingly popular as they ensure the spending focuses on what the public wants done.

However, while the public may approve, the government controls the time when these funds are spent. Recent data indicate that the timing of this spending coincides with the Political Construction Cycle, which remains alive and well and living in a town near the average voter. Public construction fell 1.3% in 2017, in its typical post-election year drop. However, unlike most Year 2's of Presidential Cycles, transportation construction actually rose 8%, front loaded in the first 3 quarters of 2018, so projects were completed in time for election day. Then after a late year pause, construction spending appears to have picked up again at a rapid pace. Total Transportation Construction Spending rose 12% in January and February while Highway Construction, the most visible symbol for the voter, rose 14%. Underpinning this strong rise, Transportation Contract Awards rose 22% combined in 2017 and 2018. These awards typically lead Construction Spending by 12 – 24 months, meaning roads and other projects will be completed and/or highly visible just in time for Election Day in 2020. What a coincidence!

In addition to the above, while the members of Congress may not agree on much, they can agree on one thing. When it comes time to pull the lever, there is nothing like an Election Night Victory Party to celebrate another term in office. It appears, despite their disagreement on everything else, Republicans and Democrats like good old fashioned spending for the home town crowd. According to recent reports in the media, they have begun discussion of an Infrastructure Bill that would boost Federal Construction Spending. And such a bill would pass just in time for the members to leverage it for their reelection campaigns.

With Public Construction Spending ramping up, it appears the typical Election Cycle is again at play. Politicians want to show their voters they have delivered in a highly visible manner and in turn encourage their constituents to send them back to the offices that have grown so comfortable. And there is nothing like having repaved the local street that their constituent uses on a regular basis. While, unlike Africa and South America, it is illegal to pay the hometown crowd to vote for them, local Public Construction Spending becomes the closest thing here to Buying The Vote for getting reelected. (Data from US Census Bureau coupled with Green Drake Advisors analysis.)



Green Drake™ Advisors, LLC
175 Stafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

No Carnival, A Little Rain Must Fall, and Space Pool

Finally, we close with brief comments on No Carnival, A Little Rain Must Fall, and Space Pool. First, Carnival Corp., the largest provider of cruises, owning such brands as Holland America, Princess Cruises, and Cunard, forecast much less than expected earnings ahead as costs and currency outran their ability to raise cruise prices. For Carnival Corp., there is No Carnival ahead. Second, the winter of 2019 turned into the wettest winter in over a decade. According to data from NOAA, the 2018 – 2019 Winter Rainfall was 68% above average. This precipitation has led to significant flooding, held up investment, and impacted farmers crop plantings. For those impacted, this was much more than A Little Rain Must Fall. And Third, NASA has partnered with SpaceX to deflect an asteroid. Under NASA's DART Program (Double Asteroid Redirection Test), SpaceX's Falcon 9 will crash into asteroid Didymos in late 2022 in an effort to redirect its course. For NASA, we see them playing a very sophisticated game of Space Pool in preparation for preventing a future catastrophe.

In Closing

Should you have any questions on how the above issues or the items discussed in our accompanying cover letter impact your family's financial position or your business's future as well as the potential actions you could take in response, please do not hesitate to contact us. We welcome the opportunity to discuss this with you.

Yours Truly,

Paul L. Sloate
Chief Executive Officer
& Senior Advisor

Steve Rodia
President
& Senior Advisor

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