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AFRICA RISING

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CONTENTS

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AFRICA RISING

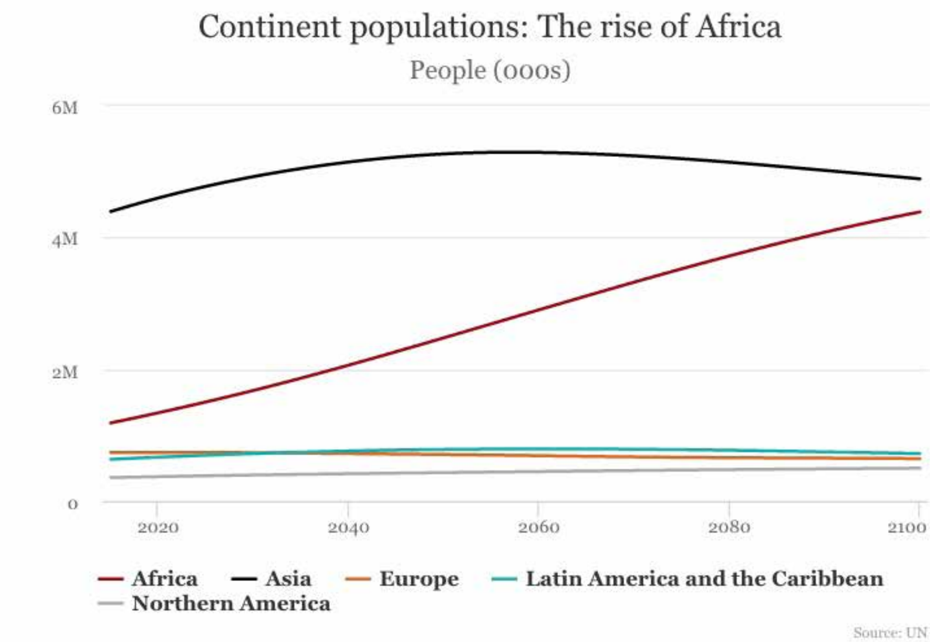
by Richard (Rick) Mills

As a general rule, the most successful man in life is the man who has the best information.

A lot of resource investors stop listening to corporate presentations when they learn the company's project is in Africa.

More often than not the country risk of exploring for minerals in the "dark continent" (as Africa was known to 19th century European explorers) is just too big a gamble for retail investors' hard-earned capital.

Development projects are hi-jacked by rebels, or over-run by artisanal miners. Operating mines get expropriated by governments that can't resist the temptation to raid a foreign company's coffers. And African miners frequently see their profits reduced by corrupt officials intent on re-negotiating royalty contracts.



All of these things are true, yet in the long run, Africa cannot be ignored. The hammer-shaped continent is expected to drive global growth over the next several decades, as populations there climb, but dwindle elsewhere.

"About half of the world's fastest-growing economies will be located on the continent, with 20 economies expanding at an average rate of 5% or higher over the next five years, faster than the 3.6% rate for the global economy," Brahima Coulibaly, director of Brookings' Africa Growth Initiative, wrote in its 2019 Foresight Africa report. The growth as always will be driven by population expansion.

According to the Center for International Policy, in 2035 the number of working-age people in Africa will exceed the rest of the world combined, and by 2050 one in four humans will be African. At 2100, 40% of the world's population will hold a passport from an African country.
In this article we're tackling Africa - its importance to future trade flows, for commodities its middle class will be demanding, and most importantly, the role of China in helping to develop, and purchase influence, in fast-growing African economies.

THE GOOD

The Center for International Policy points out that Africa's impending "demographic dividend" will no doubt increase its economic clout:

Since 2000, at least half of the countries in the world with the highest annual growth rate have been in Africa. By 2030, 43 percent of all Africans are projected to join the ranks of the global middle and upper classes. By that same year, household consumption in Africa is expected to reach $2.5 trillion, more than double the $1.1 trillion of 2015, and combined consumer and business spending will total $6.7 trillion.

Sub-Saharan Africa has done exceptionally well, buoyed by higher commodity prices, an improved global economy and better access to capital markets, reports Quartz.

The region is expected to grow by 3.8% this year, edging out the global growth forecast of 3.7%. Among the top 10 economies are Ethiopia, Rwanda, Ghana, Côte d'Ivoire, Senegal, Benin, Kenya, Uganda and Burkina Faso. Between 2003 and 2013, Nigeria, population 170 million, averaged about 7% annual growth.

The IMF expects Ghana, which 30 years ago was a dead loss, to be 2019's fastest-growing economy, at 8.8%. The country well known for its coffee exports is seeing its GDP given a major kick from oil sales, as crude prices rise and production expands.

Africa is also something of an economic incubator. For example Kenya has pioneered a system of "mobile money" the Financial Times reports, which allows users to send and receive cash via their mobile phones.

Country	2018%	2019%
Ethiopia	7.5	8.5
Côte d'Ivoire	7.4	7
Rwanda	7.2	7.8
Senegal	7	6.7
Ghana	6.3	7.6
Benin	6	6.3
Kenya	6	6.1
Uganda	5.9	6.1
Burkina Faso	5.9	6
Guinea	5.8	5.9
Tanzania	5.8	6.6

Data: IMF

THE BAD

But it's not all puppies and rainbows. Africa's dark side frequently pops up in the headlines, giving most North Americans an image of the continent as dangerous, disease-ridden, lawless, and dirt poor.

A quick check of the headlines Monday yielded a video, circulating on social media, of two women and two young children who were blindfolded and shot last summer by Cameroon soldiers; kids in Nigeria used as suicide bombers in an attack on UNICEF; and white South African farmers who say they are living in fear of being attacked by blacks and losing their farms. The farmers patrol their farms at night wearing bullet-proof vests.

As noted at the top, mines are frequently targeted for treasure, and sometimes blood. In January of this year, Kirk Woodman, a geologist at Progress Minerals, was kidnapped and killed while working at a gold mine in Burkina Faso.

Africa's economic success has been uneven, and comes with a price - debt. Despite being the fastest growing continent, Africa is home to three-quarters of the world's poorest nations. One in three living in sub-Saharan Africa are under-nourished. 589 million live without electricity and rely on biomass for cooking. The World Bank says more Africans are poor today than in 1990, proving that economic growth is not finding its way down to the lowest rungs of society.

We can appreciate their desperation in the thousands of north African migrants who pay snake heads their family fortune to get them across the Mediterranean Sea to Europe.

A fifth of African countries are basket cases, dragged down by political instability and conflicts, which as we know, can get downright ugly. Among the countries that have seen brutal, and sometimes painfully prolonged civil wars, are Rwanda, Liberia, Mozambique, Nigeria, Uganda and South Sudan.

Growth for these countries is difficult when they don't have a lot of money. As their populations continue to soar, the demand for infrastructure and social services rises as well. African governments need to figure out a way to address poverty, education and diseases, and to manage social divisions.

Take this stat for example: By 2050 over half of Africa's 2.2 billion people will be living in cities - the same as the anticipated population of China. Imagine the need for new roads & bridges, electricity, schools, health clinics, etc. According to the UN, three-quarters of 71 African cities over 750,000 lack the infrastructure to support large populations. Usually the answer is to borrow.

Countries that piled on debt in the last half of the past decade are now seeing interest rates rise, putting their ability to manage debt payments into question - especially if commodity prices drop.

According to Brookings, a Washington, DC-based think tank, at least 14 African countries are at high risk of being unable to pay their debts, compared to five years ago. These heavily-leveraged nations have a total debt burden of $160 billion, $90 billion of which is owed to foreign countries.

AFRICA IS THE PRIZE

In the 1990s, Africa was languishing in debt, disease, droughts and civil wars. Who can forget the failure of the United Nations to stop the massacre in Rwanda?

One country that didn't turn its back, that saw opportunity in Africa, was China. The Huffington Post argues it was the help of China that led several African countries, where the Chinese invested, down a better economic road:

It also helps that Africa has a patient new friend with deep pockets and a long view. When the rest of the world was dismissing Africa as a troubled backwater, China was busily embracing it, maybe recalling its own rise from famine and chaos. As Moyo puts it, China has been striking deals with struggling developing countries — the "axis of the unloved," in her words — in return for investment, employment and infrastructure.

Why did China choose Africa? The answer is simple. China needed to secure raw materials for the country's economic boom that started around 2000, and Africa had those materials.

The sheer size of the African continent - the world's second largest - implies a bounty of natural resources. South Africa and Botswana are rich in diamonds, the DRC supplies 60% of the world's cobalt, a mineral that is critical for the manufacture of electric vehicle batteries. Africa ranks highly as a source of aluminum, chromite, copper, gold, iron ore, manganese, zinc, graphite, coal, oil, uranium, platinum group elements, and phosphate rock.

Armed with hundreds of billions of US dollars from the country's foreign reserves, in the early 00's China's state-owned enterprises (SOE) and sovereign wealth funds (SWF) were sent out to scour the globe for resources - to fuel China's exploding economy.

China wanted to diversify out of the massive US-dollar component of its foreign exchange reserves, so the SOE/SWFs had no problem dealing in straight cash and operating in what some might consider high-risk areas. Chinese investors shifted their focus from Australia and Canada to higher-risk destinations which included Brazil, Ecuador and Africa.

According to a Pricewaterhouse Cooper (PwC) report on M&A activity in the mining sector for the decade ending in 2010, PwC counted a total of 400 Chinese deals worth US$48 billion. At the start of that decade, China was a negligible player in M&A.

The Chinese are making massive loans, building huge infrastructure projects such as high speed rail, dams, bridges, roads, schools and hospitals. While SOEs and SWFs are making deals for the country's resources, other Chinese companies are building the necessary infrastructure that every country needs to build a future for its citizens. **This is the key to China's overseas investments - adding infrastructure capacity makes their massive, most often early-stage resource investments viable and creates a long-lasting economic legacy for the host country.**

Thanks to the trillions of foreign exchange reserves it holds, China offers loans at highly competitive interest rates. For example, the Export-Import Bank of China (Exim Bank) gave the Angolan government three loans at interest rates ranging from LIBOR (London Interbank Offered Rate - the rate banks charge each other on loans) +1.25 %, up to LIBOR +1.75%.

The Chinese have a longer-term horizon for repayment, because they are mostly after off-take mineral supply agreements from early-stage development projects.

Reconstruction in war-battered Angola was helped by three oil-backed loans, then Chinese companies came in and built roads, railways, hospitals, schools, and water systems. Nigeria took two loans from China to finance electricity-generating projects. The Chinese built a hydropower project in the Republic of the Congo that was repaid in oil and built another hydropower project in Ghana that was repaid in cocoa beans.

> *While the West supports microfinance for the poor in Africa, China is setting up a $5 billion equity fund to foster investment there. The West advocates trade liberalization to open African markets; China constructs special economic zones to draw Chinese firms to the continent. Westerners support government and democracy; the Chinese build roads and dams.*

Isaac Twumasi Quantus

The overall Chinese package is very attractive and there are a lot of resource-rich countries taking the Chinese up on their offers.

MINING.com reported in under 10 years, the number of China-headquartered mining companies with assets in Africa went from just a handful in 2006, to 120 in 2015. Two high-profile examples are the acquisition, by China General Nuclear Power Corporation, of the Husab uranium project in Namibia, and Zijin Mining's involvement (39.6%) in the massive Kamoa-Kakula copper deposit in the DRC.

While iron ore and copper have been the hot targets of overseas acquisitions by Chinese firms, the Chinese have also gone after gold, nickel, tin and coking coal.

More recently the most desired metals are those that feed into the tectonic global shift from fossil fuels to the electrification of vehicles.

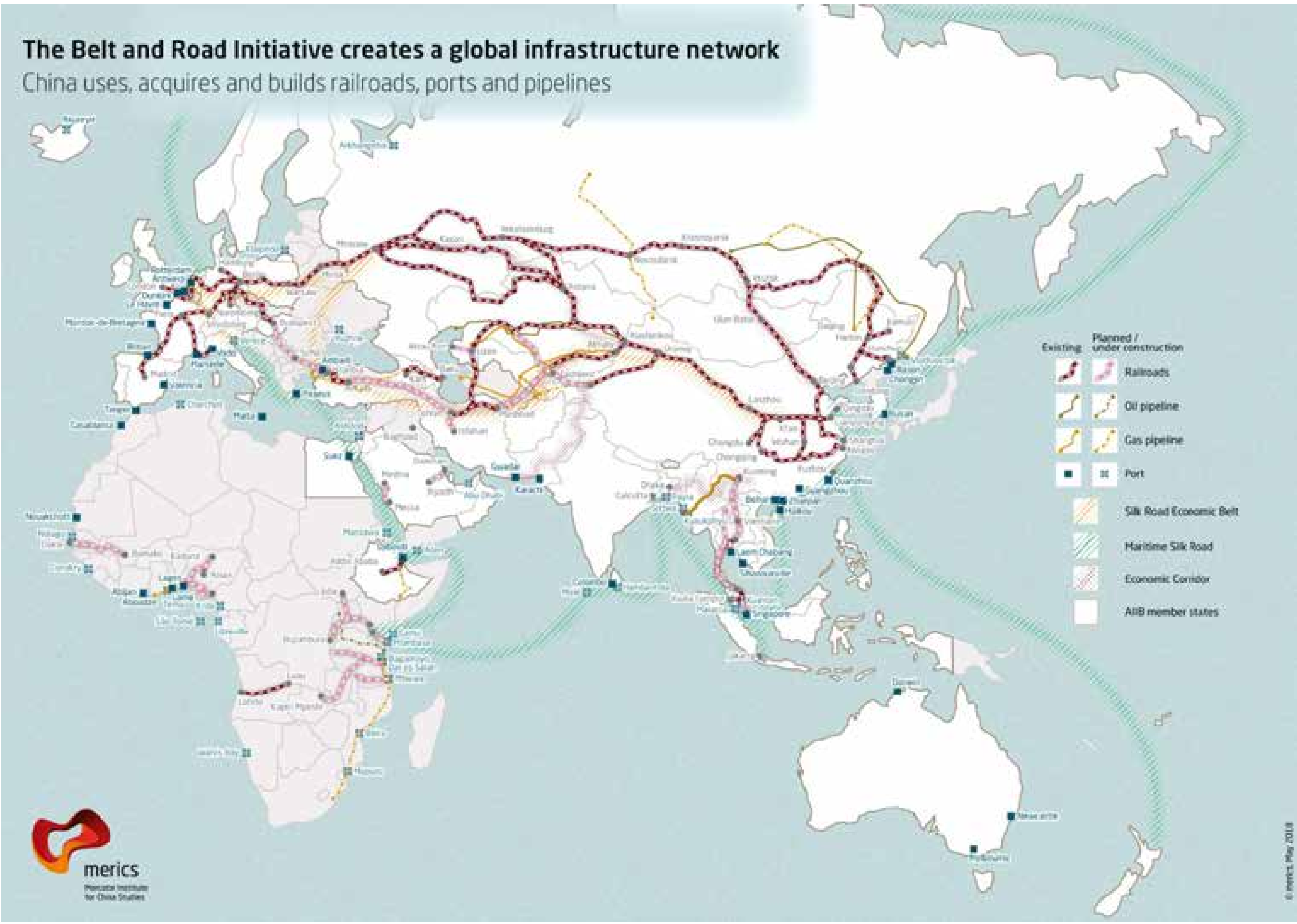
China Molybdenum bought the Tenke copper and cobalt mine in the Democratic Republic of Congo for $2.65 billion in an effort to secure a supply of cobalt for EV batteries.

AFRICA AND THE NEW SILK ROAD

The "New Silk Road" is the term for an ambitious trade corridor first proposed by China's current president, Xi Jinping, in 2013. The grand design also known, confusingly, as the Belt and Road Initiative (BRI), is a "belt" of overland corridors and a "road" of shipping lanes.

It consists of a vast network of railways, pipelines, highways and ports that would extend west through the mountainous former Soviet republics and south to Pakistan, India and southeast Asia.

So far over 60 countries, containing two-thirds of the world's population, have either signed onto BRI or say they intend to do so. According to the Center for Foreign Relations, the Chinese government has already spent about $200 billion on the growing list of mega-projects projects including the $68 billion China-Pakistan Economic



Corridor. Morgan Stanley predicts China's expenditures on BRI could climb as high as $1.3 trillion by 2027.

The Belt and Road Initiative is seen by proponents as an economic driver of proportions never seen before in human history. It would not only allow Asia to relieve its "infrastructure bottleneck" ie. an $800 billion annual shortfall on infrastructure spending, but bring less-developed neighboring nations into the modern world by providing a growing market of 1.38 billion Chinese consumers.

Opponents argue that is naive and the real intent of BRI is to carve new Chinese spheres of influence in Asia that will replace the United States, in-debt poor nations to China for decades, and restore China to its former imperial glory.

Whatever the motivations for it, the power of the New Silk Road was shown earlier this year during a summit in Beijing. China reportedly used the conference - which included the participation of Kenya, Ethiopia, Tunisia and Egypt, among 50 countries - to increase the Silk Fund for BRI projects, from $40 billion to $100 billion. The presidents of Russia, Argentina, Chile, Indonesia, Switzerland, Turkey, Vietnam and Uzbekistan were there, along with representatives from the UN, IMF and the World Bank.

As for who stands to benefit most from Belt and Road, Africans or Chinese, it's probably too early to say, but the Africa Center for Strategic Studies reels off a number of benefits. They include:

- Addressing Africa's inadequate infrastructure, which is a bottleneck to Africa's development. The World Bank estimates that Africa will need up to $170 billion in investment a year for 10 years to meet its infrastructure requirements.
- East Africa's projects, where most of the funds are being directed, could increase by up to $192 billion, if the projects are used profitably. Examples are the railway connecting Mombasa to Nairobi, and the electric railway from Addis Ababa to Djibouti, China's first overseas naval base.

However there are a number of negatives and potential red flags that China's Belt and Road partners need to watch out for.

The first is the Blue Economic Passage that connects Africa to new maritime corridors in Asia. The expanding commercial presence matches Xi Jinping's goal of making China's military stronger - which may lead to regional conflicts. In the words of the Africa Center for Strategic Studies:

This is particularly evident in the Indian Ocean, where China's planned sea lanes are heavily concentrated and its rivalry with India is growing. Africa's importance to China in this regard stems from its location in a maritime area in which Beijing hopes to expand its presence and power projection. Indeed, a decade ago China's reach in Africa's adjacent waters was nonexistent. Today, it is estimated that the PLA Navy maintains five battleships and several

submarines on continuous rotation in the Indian Ocean. This is set to increase in the coming decades as India ramps up its own presence in the area.

Another is local markets getting swamped Chinese products. That happened to Kenya's cement exports in 2017, which dropped by 40% due to a flood of Chinese cement. This can easily happen because China is using Africa as an end user of sectors that are seeing industrial overcapacity ie. producing too many goods.

Or when local workers are displaced by Chinese employees. According to the Africa Center for Strategic Studies, there are over 200,000 Chinese nationals working on Belt and Road projects across Africa. This has resulted in the need for a globally focused strategy to protect China's overseas interests. Similarly the Communist Party of China has adopted the concept of "protecting overseas nationals" as a core Chinese interest," states the center. Seems to me this is an open-ended dictum that could easily justify a military intervention in one of China's BRI partner countries.

There is also the risk of widening trade deficits in African countries that are being shipped China's excess production. In 2016 Kenya's imports of Chinese cement, used to build the Nairobi-Mombasa railway, increased 10-fold. Chinese steel exports to Nigeria popped 15% in 2018, and Algeria imported three times as much steel. In 2019, China's aluminum exports have risen 20%, with $46 billion worth of aluminum bought by Egypt, Ghana, Kenya, Nigeria and South Africa.

If these countries aren't careful, they will end up with a whopping-great balance of trade deficit with China, (just like the US) that when added to large loans for infrastructure, could be economically limiting or even crippling.

CONCLUSION

The rise of Africa is interesting on its own, but when paired with the rise of China, the prospect for the West is actually quite scary. On the one hand we have a continent that is teeming with humanity and getting more and populated every year. Its citizens want what we as North Americans have. We have written about the scarcity of resources and the potential for conflict. Combine that with existing tribal tensions in Africa that have at times exploded into civil wars, and you have a powder keg just waiting for someone to light the match.

Then factor in China, which is playing Africa's new economic dragons with the skill of a Chinese violinist. It's a beautiful plan, really. Make loans to poor developing nations that want to become part of BRI, using US dollars, while the USD is still the reserve currency. The loans are paid back using offtake agreements for raw materials from these countries, which become part of the largest trading block in the world, thereby further distancing China from the West.

Remember, Russia is part of BRI. The Kremlin and Beijing have already signed billions worth of energy deals, and are talking about a new payments system that allows for trade in rubles and yuan, excluding the US dollar.

Devalue the yuan, so that China's new south Asian trading partners can buy competitively priced Chinese goods, further enslaving them with crippling trade deficits.

China was already building the New Silk Road when Trump got elected and started poking the Chinese dragon with the stick of escalating tariffs. The trade war just hastened what China was planning on doing anyway: cut the US out of its trading loop.

It has the resources, the technology and the population to lay siege to the United States for a long time. China's in no rush to settle the dispute.

Meanwhile, hit back at US companies as retribution against the United States which dared to stand in the way of companies like Huawei and ZTE. Build the biggest manufacturing base the world has ever seen, embargo their critical metals, effectively starving their supply chains, and watch them slowly wither and die, as the US continues down its path to self-destruction.

That's the topic of our next article.

COPPER IS NOT A THIRD PLACE METAL

Trying to make copper sexy and alluring is difficult. I think people would agree that it is physically interesting both in its natural color as well as green when oxidized, but it is not stunning. It is a tough sell as an alluring metal. So, we are forced to look at the awesome facts, data and demand. We must look at it from its complete necessity not only in infrastructure, but in the green technology boom, electronics, and the current arbitrage potential between the commodity price and the producers' stock price.

By Andrew O'Donnell

Copper is needed, is in demand and the copper crunch is coming. We need to produce more output either from existing mines or newly discovered ones. The highly conductive and malleable metal is an integral part of the electric vehicle market, mobile phones, laptops and all electronics. We can safely agree this will not diminish any time soon as technology leaps forward. Let us consider some of the markets and how we can make a staple, base metal; a foundation metal into the metal of the future that it is. We are not going to focus on beauty and rich history but only on demand, technology and data. We do that by talking about electronics, the green revolution, autonomous vehicles and the parabolic curve of technology.

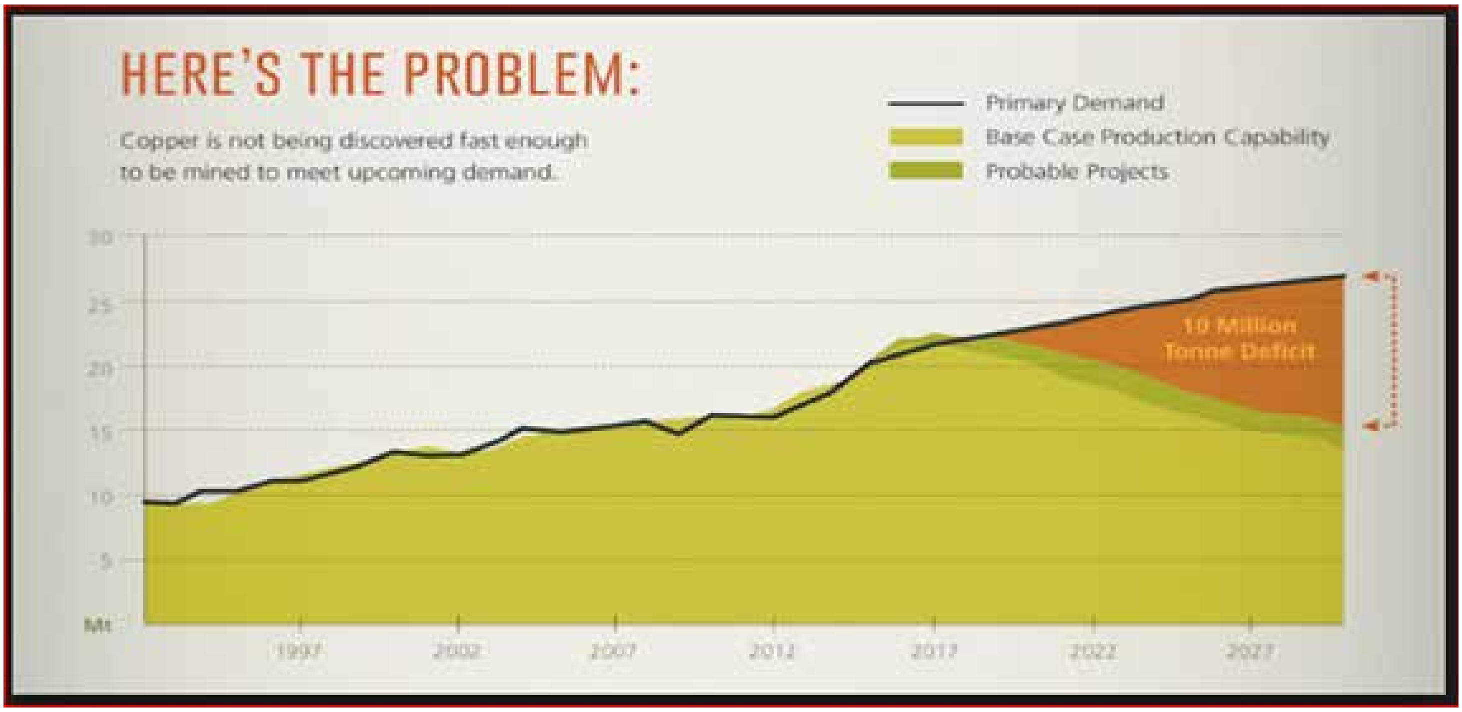
DEMAND

Today, the commodity copper is at a three-month high at $3.25/lb but that is not reflected in any junior mining companies in Canada. Globally, producers have been running into some issues in third world countries which has hindered some performance but there is huge potential in copper. Before we get into that opportunity let us consider demand. The demand, the ability to supply from countries like Chile and Peru is becoming more difficult. BHP Billiton has spent about $8 billion at the Escondida copper mine in Chile which is responsible for 5% of the world production to date. They are in the third round of talks to payout cash bonuses of $34,000 to workers. To put that into perspective the average monthly income is $896/month. This is one indicator of the issues surfacing in these regions.

That and contract negotiation after minerals have been found, or tax 'adjustments'. Chilean miner Antofagasta Plc's Chief Executive Officer Ivan Arriagada said there have been few new discoveries of high-quality deposits that would offer the same potential as the Escondida, the world's largest mine, in Chile. So, we can compare that he suggested that if annual global demand growth was only 2 percent, we would need seven new Escondidas by 2030 to keep pace with customer requirements!

Aluminum Corp of China (Chinalco) started work on a $1.3 billion expansion of its Toromocho copper mine in central Peru. The investment will increase the mine's copper output by 45 percent by 2020, with the value of production exceeding $2 billion annually but not all copper is in South America. Currently, 50% of all copper is going to China. There are plenty of potential companies in North America from greenfield project generators to 'mine reclamations' and potential discoveries in safer, reliable jurisdictions are creating hope for this demand problem. In Canada, BC and Ontario are the hot spots, with BC sending most of its copper to China for smelting. In the US, it is states like Arizona, Utah, Nevada, Michigan and California.

The demands of the OBOR (One Belt One Road Initiative) will be massive and it does not does not include internal growth in China, nor the

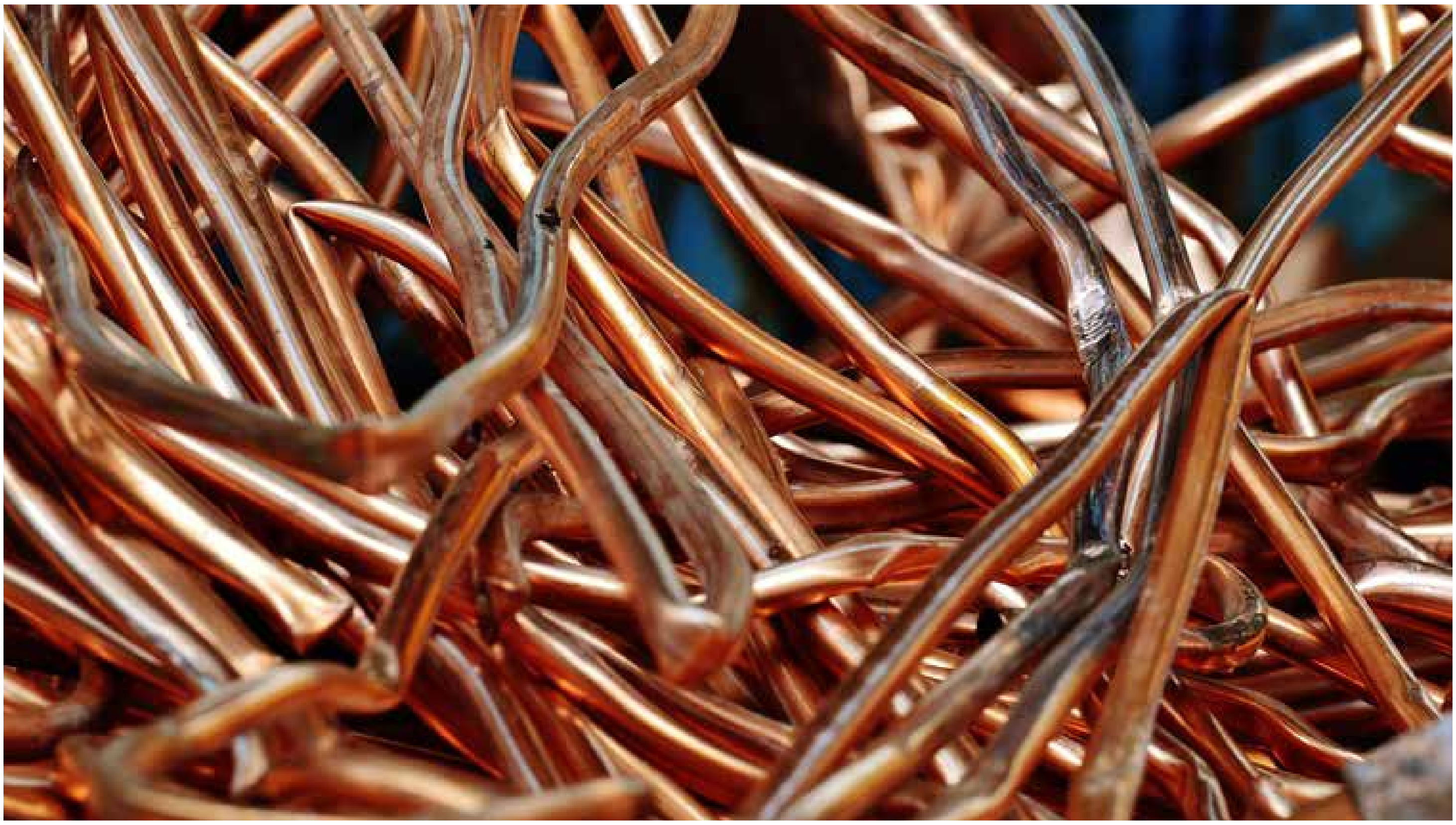


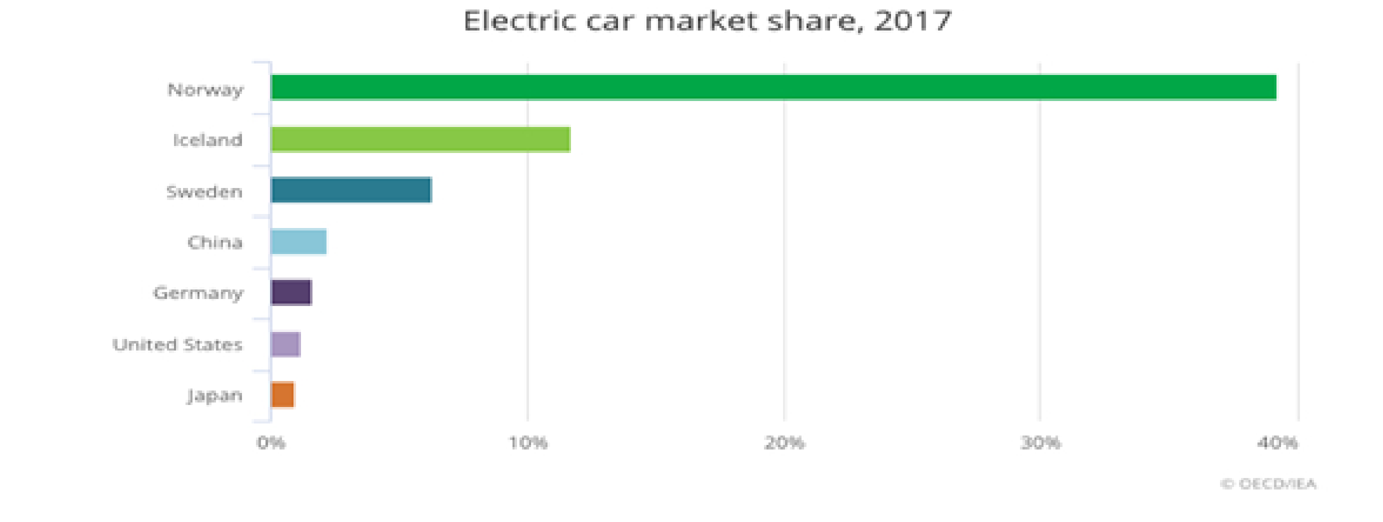
necessary improvements required in the US. The US requires road, bridge and building improvements and the US still imports copper despite its own mining efforts.

Now this is not a glamorous story by it is a necessary one. This is a true demand certainty. Often practical and necessary are not exciting but where is the copper going to come from? It comes from exploration. It comes from retail investors spurring activity in project generators, exploration and bringing mines to production. It is time for people to take portions of their portfolio and focus it in the resources sector. We need more metal! It is not a question of maybe. Perhaps you are not convinced, and I must get a little flashy. Let's shift gears and consider how copper is a metal of the future.

ECO-FRIENDLY, GREEN TECH AND RENEWABLE

Copper not only plays a key role in technology being an incredible conductor, but it is also recyclable





Source: ***IEA's Global Electric Vehicle Outlook 2018.***

and what better what to bring that idea home then to look at homes. Copper shingles and applications on housing are fire resistant and are able to endure harsh weather and heavy snow. They outlast other shingles and can endure for up to 100 years. The copper itself is also recyclable.

There is a strong demand for eco friendly homes, and places like California are requiring new homes to have solar panels. The use of solar panels requires a great deal of copper as well as cobalt, lithium, nickel and potentially more powerful vanadium. The metals durability and efficiency make it the metal for electronic, batteries, wiring, transformers and energy storage devices that support and connect solar photovoltaic (PV) panels and wind turbines as well as the components that power them.

The Copper Development Association informs us that a well-designed solar PV system uses approximately 9,000 pounds of copper per megawatt of peak capacity. Depending on the design, a system can contain anywhere from 4 to 15 million pounds of copper. When we speak of the power grid copper provides superior conductivity, durability and reliability play a critical role in increasing the energy efficiency and resiliency of energy systems, including infrastructure and installations.

In a release from the 2017, Solar Energy Industries Association's 2017 Solar Market Insight Report 30 percent of all new electric generating capacity brought online in the U.S. came from solar power. Solar power has high use of copper not only in the panels but in the battery storage side. The Copper Development Association's (CDA) Director of Sustainable Energy, Zolaikha Strong stated: "As more businesses, governments and nations transition and expand their use of renewable energy technologies, the demand for copper will be significant as it remains a fundamental component for the operation of renewables, including solar and wind power."

Strong's presentation, "Energy Efficiency & Resiliency: The Recipe for Protecting Our Nation's Electrical Grid," focused on how increased energy efficiency is vital to securing power supply and crating new economic growth.

ELECTRIC VEHICLE

One reason for excitement is in battery electric vehicles (BEVs), which require three to four times as much copper as traditional fossil fuel-powered vehicles. To determine the estimates Glencore commissioned CRU to measure electric cars and batteries. CRU is a London-based research company which considered grid infrastructure, storage, charging and vehicles – based on relatively modest penetration of EVs in the total global vehicle market out to 2030. According to the study as early as 2020, when EVs would still make up only 2% of new vehicle sales, related metal demand already becomes significant, requiring an additional 390,000 tonnes of copper, 85,000 tonnes of nickel and 24,000 tonnes of cobalt. This would mean an increased output of 25% from Glencore's current mines!

Based on an EV market share of less than 32% in 2030, forecast metal requirements are roughly 4.1m tonnes of additional copper (18% of total world 2017 supply).

China is already the world's largest and most profitable market for BEVs, and Beijing is now reportedly working on plans to curb and eventually ban the sale of fossil fuel-powered vehicles, according to the Financial Times. This would place the Asian giant in league with several other powerful countries similarly crafting bans on internal combustion engines within the next 25 years, including Germany, France, Norway, the United Kingdom and India.

WHERE IS THE OPPORTUNITY

So how do I take advantage? Do I buy a producer or an explorer? Should I buy the commodity or the company? There are just two questions that reflect your risk tolerance and your potential gain.

For the experienced investor buying on the futures market in a commodity is a great strategy but it is aggressive, needs active management and because of its natural leverage ability is not suitable for most investors. The natural selection might be buying the index. There are several metals and mining ETFs notably the S&P/TSX Global Base Metals and Mining index. The Index is the basis of four ETFs that trade on the TMX. They are the Claymore Global Mining ETF, the Claymore Global Mining ETF Advisor Class, the Horizons BetaPro Global Base Metals Bull + ETF and the Horizons BetaPro Global Base Metals Bear + ETF. An ETF is a fine idea in theory, but it is unlikely that more passive investing is what you need.

Most people want growth and we need to take risk. That leaves stocks. This is the wise approach for retail investors, but do we look at producers or project generators? Currently there is opportunity in both but given all the data, the length of the downturn in the mining cycle and the amount of drilling going on targeted research on junior miners is the best option for maximum growth.

In Canada there are some big operations like Copper Mountain Mining operates the Copper Mountain mine in BC. It holds a 75-percent stake in the mine, with the remainder owned by Mitsubishi (TSE:8058). Imperial Metals runs the 30,000-tonne-per-day Red Chris copper mine in BC. The company also restarted operations at its Mount Polley copper-gold mine in BC. KGHM is one of the largest copper-mining companies in the world and currently developing the Ajax project, an open-pit copper-gold mine in BC. Taseko Mines (TSX:TKO) holds the BC-based Gibraltar mine, the second largest open-pit copper-molybdenum mine in Canada. Teck Resources majority owns and operates the Highland Valley copper mine in BC.

The final consideration would be to consider some of the project generators that take risks collecting data, research and putting boots to the ground in order to find and develop projects. These companies typically work to hand-off projects in the form of buyouts or takeovers when they find resources. These are crucial in the chain of keeping technology in our hands, and meeting carbon quotas and creating a greener future. But that is for next time. For now, I hope you found some sparkle in this copper lustre.

Securities Disclosure: I, Andrew O'Donnell, hold no direct investment interest in any company mentioned in this article. I was not paid for this article.

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THAT GOLD-SILVER RATIO . . . DOES IT MATTER ANY MORE?

By Chris Temple

I've recently caused no small amount of consternation among silver proponents particularly (and precious metals groupies generally) in my "dissing" of the importance ***today*** of that old Gold-Silver Ratio (GSR). Especially when I quipped recently that the ratio between the gold and silver prices was as relevant as "the ratio of axle grease to Honey Nut Cheerios," the brickbats were really flying my way!

Far be it from me to attack one of the articles of faith held by gold (and silver) bugs just to do so. ***But I call things as I see them***. If I could make a case for (rather than a case against, as you'll read below) silver to meaningfully close that near-record ratio gap you see in the nearby chart, I would be table-pounding bullish on the "junior" precious metal.

The trouble is that—at least for now—factors which in past bullish moves for gold ended up favoring silver as well are not present. Indeed, there are numerous signs that those which are causing gold to outperform to the detriment of many other commodities are set to increase; this, of course, could end up serving to take that Gold-Silver Ratio to a NEW all-time record over 100 (and keep silver bulls scratching their heads.)

GOLD—NOT SILVER—BENEFITS AS THE "UN-CURRENCY"

In fairly rapid succession, I have seen others write in recent weeks on a theme that I have expounded on as the ***primary*** driver going forward for the yellow metal. ***And that is, gold is getting renewed attention as what I have called "the un-currency."***

(Some of you, as I, are old enough to remember a marketing pitch of years ago when the makers of the soft drink 7-Up distinguished their product from the rest by calling it "The UN-cola.")

Gold's status as such is being made ever more attractive as the world's central banks continue their efforts at suppressing—and in many cases

driving even further into NEGATIVE territory—interest rates in the hopes of stoking "inflation." The paradox, as I have explained in my current Special Issue on the gold sector and elsewhere, is that the central banks have ironically created more DEFLATION in many ways by their monetary alchemy (***NOTE:*** For a FREE copy of that report, drop me an e-mail!)

As the amount of negative-yielding sovereign debt globally climbs ever further into record territory, gold's attractiveness as a monetary/reserve asset is enhanced that much more. One old "knock" against gold, of course, in the past is that it is a non-yielding asset. It pays no interest. Well, Hell's bells, not only is there now $13 trillion-plus (and counting) of government debt on this planet that is non-yielding, but *you have to pay the governments* for the privilege of loaning them your money!

So the first key point here is that—in this present (and likely continuing) environment of economic stress, DEFLATION fears and negative-yielding debt as opposed to what we have seen in the past—GOLD is going to benefit from this continuing diversification on the part of central banks, and now institutional and other investors. Gold—not silver—is being acquired aggressively by central banks. Gold—not silver—has recently seen its biggest demand via retail Exchange-Traded products since back at the time of the yellow metal's record high.

Indeed, you have been able to see and hear ever more about gold even in the mainstream press, as its run has gathered steam ***and as the case for it is more easily made***. But ***silver*** as an alternative touted by market watchers? All you hear is crickets; except, of course, from those selling silver/their theories on the GSR.

SILVER'S HEADWINDS—AND WHAT MAY CHANGE THEM LATER

The days are long past when gold and silver had anything resembling mutual relevance as monetary assets. The old and well-known ratio (by those, as you, interested in this history and past investment theme both) of 16:1 between gold and silver is as much a relic of the past as is states' rights; *and I say that with no satisfaction. As a matter of law there is NO set ratio between the two. And increasingly, as a function of the markets, there is none, either*.

None the less, in times past ***when rising inflation was a key driver of precious metals prices***, that rising tide lifted almost all metals/commodity "boats." And yes, though it usually got out of the gates more slowly, silver inevitably outperformed gold as time moved on, and closed that GSR gap. No question. But here again: this was as INFLATION and/or the expectations for more of the same made commodities attractive across the board, all else being equal.

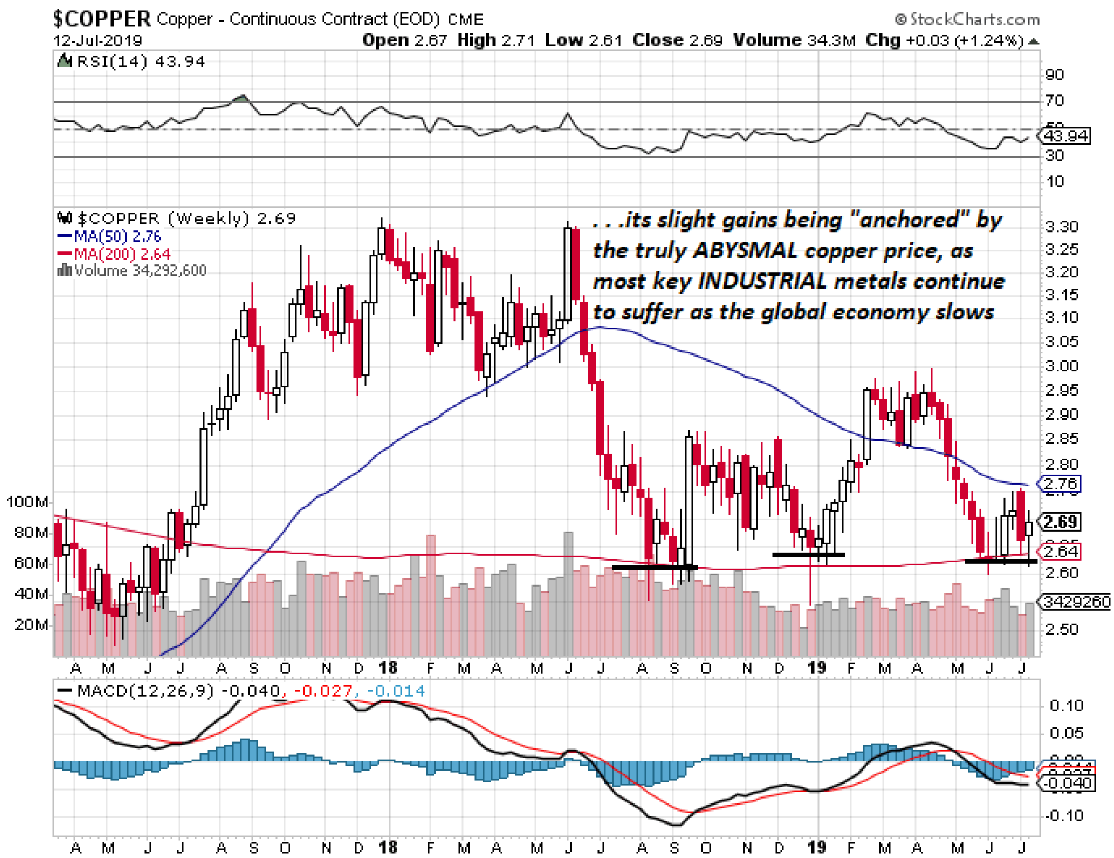
Today, the chief reason for gold's strength is working to the detriment of silver (and most everything else.) Negative interest rates and fears of DEFLATION/economic weakness only benefit gold for the most part due to that status of its being the "un-currency." ***Silver is overwhelmingly viewed by the markets (whether silver bugs or GSR groupies like it or not) as an industrial metal; NOT a monetary asset that is in any way relevant today***.

In an ***especially*** powerful move for gold I certainly do ***not*** rule out silver getting dragged along in sympathy. We've seen glimmers of that already. But the idea that—as in the past—silver "must" start to close that ratio gap is fundamentally and realistically flawed ***now***. Indeed, unless and until the central banks DO have some success in stoking broader inflation and re-igniting longer-term economic growth (both dubious prspects, I hasten to point out) ***MY OWN PREDICTION is that those of you reading this won't have to wait too long before that GSR logs new records over 100.***

Down the road, as (for instance) the Federal Reserve Chairman Jerome Powell retires predecessor "Helicopter Ben" Bernanke's fleet and rolls out cargo planes with which to drop money, we may finally see such an overwhelming debauching of fiat currencies that will lead to a much broader inflation of commodity prices. IF and when that happens, those calling for a closing of the now near-record GSR may finally have their day.

But not until then.

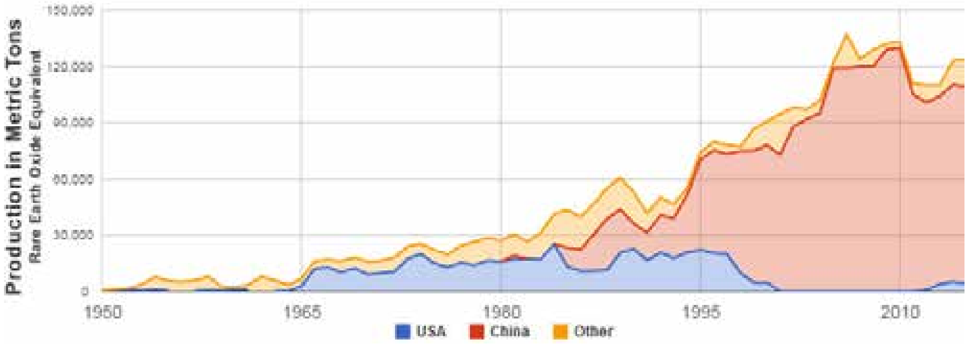
A TALE OF THE CHARTS


$COPPER Copper - Continuous Contract (EOD) CME
© StockCharts.com
12-Jul-2019
Open 2.67 High 2.71 Low 2.61 Close 2.69 Volume 34.3M Chg +0.03 (+1.24%)
RSI(14) 43.94
$COPPER (Weekly) 2.69
MA(50) 2.76
MA(200) 2.64
Volume 34,292,600
. . .its slight gains being "anchored" by the truly ABYSMAL copper price, as most key INDUSTRIAL metals continue to suffer as the global economy slows
MACD(12,26,9) -0.040, -0.027, -0.014

RARE EARTHS TRADE WAR WOES

By Andrew O'Donnell

Rare Earth metals have made their way back into the news because of the trade war with China. We are fortunate that it has because it is emphasizing a huge problem. Months back, I wrote a piece about the US government announcement of the 23 crucial minerals/elements for the United States; and quite frankly it should be for us in Canada if we had leaders focused on the environment and in the future. These were mainly Rare Earth elements (REE) and vanadium which China dominates substantially. Countries, like the US get 60% of their REE from China. This is a problem. It is a serious problem. A Reuters report on Oct. 25, citing data from Dutch market research firm Adamas Intelligence, that said Beijing was curbing domestic production of the elements, used in electric vehicles and electronic devices including phones and computers. On Tuesday October 30 China denied that they are curbing stockpiling reserves. Whether you believe them or not, just as whether you believe their financial numbers or not one thing is clear in history: one of the key preludes to war is the stockpiling of resources.



This grouping of esoteric sounding minerals, with names like lanthanum, cerium, praseodymium, neodymium had an amazing run 10 years ago as the market exploded but cooled off. That pullback came from the market being essentially one country, China. Second, there can be a heavy environmental cost which can be associated with some of these by products from other mining. The cost of meeting responsible regulatory environmental standards in the West is almost cost prohibitive by past standards; this, of course is not a concern for China. This is not a foray into the environmental discussion on REE but it can be easily addressed by a couple Canadian upstarts mentioned below.

The name itself, Rare Earth is interesting, perhaps misleading as Rare Earth Elements (REE) are not actually rare to find but found widely dispersed, not likely clumped in high grade deposits. The elements are associated or a byproduct of other types of mining and require a chemical process to derive. Due to this dispersion the grade is often low. These metals derive their name because they have many similar properties, and that often causes them to be found together in geologic deposits. They are also referred to as “rare earth oxides” because many of them are typically sold as oxide compounds. This is vital because the future of the West may be in chemistry, as much as mining. The oxides are demanded within the high technology and low carbon industries. For example, REOs have played an important role in helping reduce energy consumption in many of today’s electronic, audio visual, photographic, and music devices. In 2018, the cost for an oxide of neodymium, is US$107,000 per metric ton. The price is expected to climb to $150,000 by 2025.

glass manufacturing which includes UV absorption, plasma TV’s and monitors.

THE LIST IS IMPRESSIVE.

Whether we discuss REE in special steel alloys making steel lighter and less brittle; or, magnets enabling lighter and more efficient motors in EVM’s and the stora.ge of energy through NiMH batteries. Of course, in electronics: semi-conductors manufacturing, micro-motors for computers, acoustic devices including earphones and high-quality speakers, and micro-capacitors used in many electronic devices. We require these technologies but nowhere does the issue come into full size and scope until we consider the militaristic use of REE.

The most ominous sector is of weaponry. Rare earth is crucial in guidance or ‘smart’ weaponry, high energy storage or ‘jamming’ technologies; ‘white noise’ production used for stealth weaponry and vehicles, electric motors, night vision goggles, communications and jet engines! It is becoming clear why this is an issue. Dave Dickninson writes that F-16 and F-15 jet engines contain 3 percent rhenium, while next generation engines used in the F-22 Raptor and the F-35 Joint Strike Fighter will require twice as much. Currently, jet engine makers General Electric, Rolls-Royce, and Pratt & Whitney account for over half of rhenium use worldwide. The future is determined

Part of the reason is that rare earth elements can be chemically difficult to separate from each other to get a pure substance. But there are a couple of companies based in Canada that are attacking this problem and meeting with some great success.

Before we highlight some interesting companies let us look at where this story gets interesting. You will be amazed at how in demand these oxides and metals are whether it is in Industrial, automotive emission control, energy storage; electronics and

by who has the resources of the future. Is there enough for everyone, as many idealists say? No. There most certainly is not. Then who controls the use of the resources to administer to other countries? Worried, yet?

There is an awful lot that rare earths can do but when I was speaking with Kiril Murgmann from GéoMégA he explained that the best way to consider the use of rare earths is in the electric vehicle market. Kiril was an analyst at Macquarie and has a degree in geology and chemistry. He is smart and deeply knowledgeable about this space. He explained that rare earths make the magnets of the future, creating incredible amounts of force and torque. The Government of Canada Natural resource site states that permanent magnets represent the single largest and most important end use for REEs, accounting for 24% of total consumption. This matter because right now there are two major forces in the EVM space the battery and its capabilities both in power and reserve and then of course the engine, which is not an internal combustion and this requires incredible force from magnets! The future is being developed in both these markets, but we mainly hear about the battery side. The big scope is the engine side and the long-term necessity of powerful magnets.

A powerful article came out on the MIT technology review by James Temple. The article captures the imagination of those of us who envision a better world. The piece on sustainable energy discusses a 'manufacturing trick with magnetic fields produces a battery that may discharge fast enough to get an aircraft off the ground'. Part of what makes covering mining so fascinating is when you come across metals that are fundamental in the future. By creating this type of battery with zero carbon emission would be a marvel. Taking this one step further we already know that companies like Uber, Airbus, and Boeing, are already exploring the potential to electrify small aircraft, like taxis that can cover 100 miles on one charge. These autonomous one and two passenger crafts would revolutionize cities, and this sounds like a dream from the Jetsons!

If you want to be ahead of the curve on information, then rare earth and magnets are an area that you should consider!

Where can I find rare earth companies in Canada? There is not a lot of companies in the space that the US government considers crucial to the future of the nation. We are not focused on developing assets I think because of an insanely naïve notion of global cooperation. China has roughly 80% of this asset. How much cooperation will there be in that scenario? The obvious solution is working with our best and brightest on mining solutions, chemistry solutions, green tech and energy so that we position of nation in a position of strength. To anyone who studies politics or history this seems like an obvious statement. There is some encouraging news from GéoMégA point of view as they just received a grant.

Lynas Corporation is a strong, undervalued rare earth producer focusing on delivery of metal to consumer. The company's flagship deposit at Mt Weld, Western Australia is one of the highest-grade deposits in the world. According to Daniel Morgan of UBS has the valuation of this company as about half of what it believes it should be!

On their website **Medallion Resources** recognized that, except for Australian producer Lynas, none of the existing rare-earth projects could economically solve the world's long-term critical rare-earth supply issues. In brief, their strategy centers around the metals needed for magnates and especially Monazite, a by-product from heavy mineral-sands operators worldwide. Whether it is Australian, North American or African companies, Medallion believes that this is the best new non-Chinese source of NdPr and other rare earths.

I have had the pleasure to speak with Kiril Mugerman, President and CEO, director **GéoMégA Resources** which owns 100% of both the Montviel lanthanides/niobium project and the Anik gold exploration project. An exploration and discovery company focused on the sustainable development of economic deposits in Québec. Kiril Mugerman is quoted as saying:

> *"As society emerges from fossil energy to a more efficient and sustainable source, GéoMégA believes that the future of clean energy resides in the lanthanide called neodymium. Neodymium is vital to produce high-performance permanent-magnet motors, used in a wide variety of electrical devices. Such applications are already in increasing demand with the growth of sustainable-energy initiatives including hybrid and electric vehicles and direct-drive wind turbines.*

Furthermore, to develop such neodymium deposits, GéoMégA believes it makes much more investment sense to have internal rare earth processing technology and in that way avoiding sending off your concentrate to companies in China for poor returns and no global supply advantage. ”

The global demand for electric vehicles, consumer electronics, energy-efficient lighting, and catalysts is expected to rise rapidly over the next decade. Rare earth magnet demand is expected to increase, as is the demand for rechargeable batteries. It is clear there is an opportunity to focus a long-term position. It is crucial that North America step up funding both from private and public sector to meet the demand of Rare Earth, as well as Vanadium. These are crucial as the US states, it should be crucial for any Western civilization. If you think fundamentally opposed peoples, beliefs and ideologies can live harmoniously I caution you to read all of history. The mainstream media is downplaying how big an issue China has become both in spying, technology theft, and debt. This one REE commodity is not about trade it is about controlling one's own destiny.

Securities Disclosure: I, Andrew O'Donnell, hold no direct investment interest in any company mentioned in this article. I was not paid for this article.

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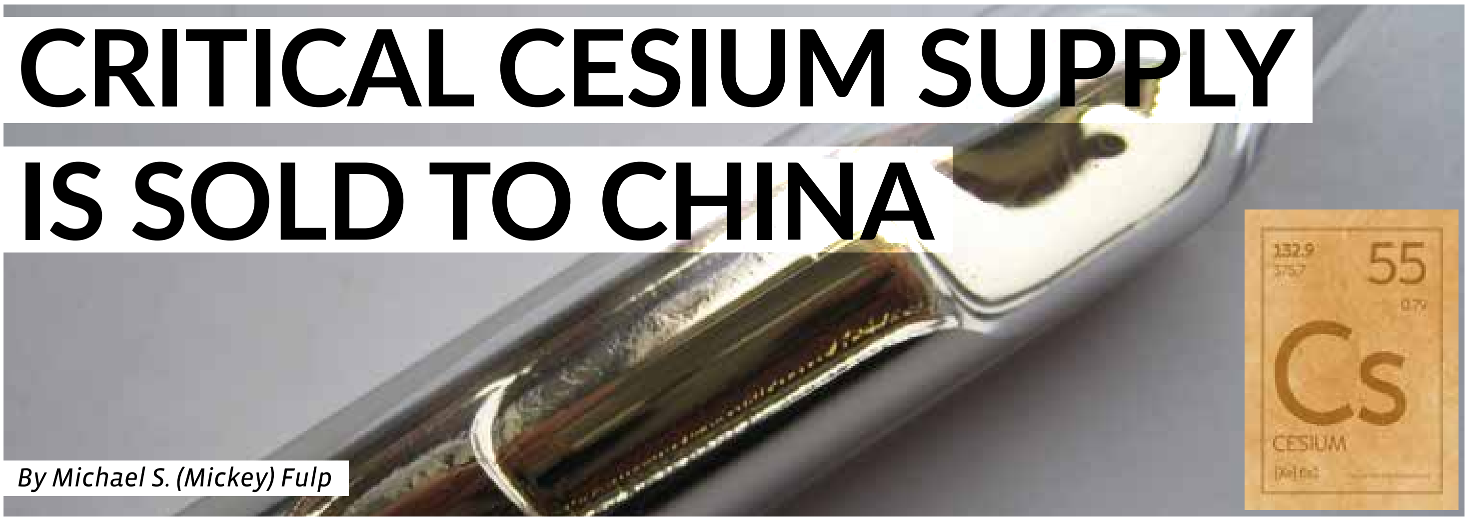
CRITICAL CESIUM SUPPLY IS SOLD TO CHINA



By Michael S. (Mickey) Fulp

Little more than two months ago, I reported on the pending sale of America's world monopoly in cesium, a Trump Administration-designated critical mineral, to China (Mercenary Musing, April 22, 2019).

The deal was completed on Friday, June 28 and reported in this news release: Cabot Corporation Completes Sale of Specialty Fluids Business.

That this sale was allowed to proceed is, quite frankly, beyond me.

Admittedly the transaction was monetarily small ($135 million and a potential $5 million in royalties), and was for a very minor metal with small, specialty markets. Most cesium demand comes from a niche use in the oil and gas business whereby cesium formate brines are added to drilling fluids to prevent blow-outs in high temperature, over-pressurized wells.

In early June, the Department of Commerce tabled a comprehensive multi-agency plan to alleviate America's dependence on rogue foreign governments for our essential metals, minerals, and materials (A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals).

And now less than four weeks later, the Chinese are in control of the world's mine-to-market supply chain of cesium, including proprietary technologies to manufacture a variety of cesium compounds.

The USGS tracks our demand for 77 mineral commodities on an annual basis; 51 of these are significantly or nearly completely supplied by three countries: China, Russia, and South Africa. Of the 35 minerals designated "critical" by the US in early 2018, we are beholden to China for 21 (with cesium recently added to the list), and Russia supplies an additional eight.

Frankly, I am disgusted by this recent development. I must conclude that the Trump executive branch is talking out of both sides of its mouth on the problem and its proposed solutions to America's dangerous dependence on rogue nations to meet our mineral demands.

It is imperative that we reduce our dependency for raw materials that drive our industrial base and economic health and that we start now.

China and Russia have been America's sworn enemies since becoming communist dictatorships in the early to mid-20th Century. Given their current fascist and anti-republican regimes with rulers empowered for life, both countries are destined to remain so for the foreseeable future.

It is imperative that we reduce our dependency for raw materials that drive our industrial base and economic health and that we start now.

Note that I will be speaking on this very subject at the upcoming Sprott Resource Investment Conference in Vancouver, July 30 to August 2. I hope you are able to attend.

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