



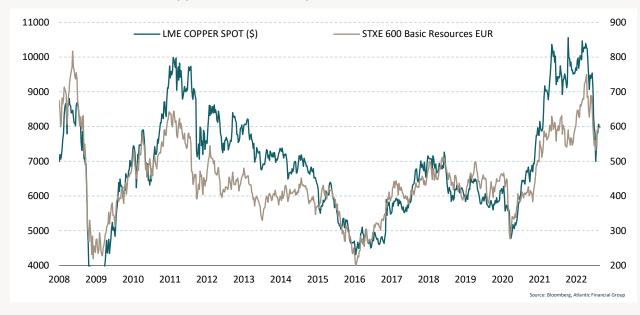
Weekly Investment Focus

22 August 2022

"IS DR COPPER STILL RIGHT?"

- Commodities as a whole have pulled back strongly since March
- ♦ The energy transition and digitalisation should nevertheless support demand
- Supply remains tight and companies well capitalised
- Could the sector become immune from economic cycles?

CHART OF THE WEEK: "Copper is above all a cyclical asset"



FINANCIAL MARKET ANALYSIS

Most commodities, whether industrial metals, precious metals or agricultural commodities, have fallen sharply from their all-time highs reached last spring. The correction clearly reflects investors' fears that the global economy is entering a recession. The price of copper is generally a good leading indicator of the health of the economy. Investors thus refer to "Doctor Copper". Although the price stabilised in July, it could soon confirm the bear market that began in January.



Commodities as a whole have pulled back strongly since March

The price of copper is down more than 24% from its March highs, despite a 17% rebound since July 14. The real estate crisis in China, the spectre of an economic recession in Europe and the US, and the energy crisis in Europe are all headwinds for commodity prices. As a result, most commodities performed similarly to copper over the same period (see Fig. 2). Only lithium, used in batteries, and thermal coal, used in power plants, have resisted the downward market trend (see Fig. 3).



Fig. 2 - Performance of copper, iron ore, aluminium... Fig. 3 - Lithium and thermal coal

♦ The energy transition and digitalization should nevertheless support demand

Electrification, the energy transition and the rapid growth of low-carbon technologies will lead to a transformation in demand for metals well beyond current supply capacity. This will lead to a prolonged period of high prices.

Indeed, global metal supply will start to slow down in 2024-25, at the same time as demand is expected to accelerate due to the energy transition. Moreover, with the current downward pressure on prices, mining projects could be delayed. Copper is used in the wiring of electric vehicles (EVs) and charging stations, as well as in wind turbines and solar panels. Computers, servers and other electronic devices also require large amounts of natural resources. Finally, the green energy technologies that power digital technologies (AI, IoT, 5G network, crypto currencies and blockchains) are based on the intensive use of rare earth metals and minerals.

Demand is expected to far outstrip supply if the automotive industry makes the transition to all-electric. The war in Ukraine has underlined how dependent the world is on fossil fuels. But policy announcements in recent months by Germany and the UK confirm that low-carbon energy will be essential in the future, both for energy security and for achieving zero emissions in the medium term.

Car manufacturers are, in fact, already facing supply chain constraints for some key metals, and are using alternative materials. For several car models, Ford plans to use lithium iron sulphate batteries, which do not require nickel or cobalt.



The International Energy Agency (IEA) warns that a **lithium shortage could occur by 2025.** Lithium prices have tripled in the last 12 months, but **it is copper that is causing the most concern, with the main driver of the shortage being the energy transition and the increasing demand for electric vehicles.** The 2050 global climate targets will not be met without a significant increase in copper production in the short to medium term. However, there are **not enough copper mines under construction or expansion to supply the demand** for the millions of electric vehicles that will be sold each year by 2030. After a possible surplus of copper in 2023 (see Fig. 4), copper demand is expected to exceed supply again from 2024 (see Fig. 5).

Fig. 4 - Change in copper stocks

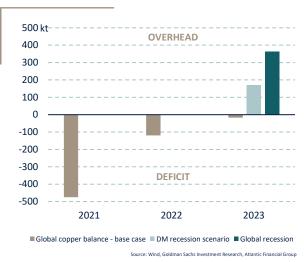


Fig. 5 - World copper demand vs. supply



Aluminium could become a substitute for copper, but this would only shift the need from more copper mines to more bauxite mines and aluminium smelters. Finally, although a recycling industry is needed, the IEA estimates that it could only meet about 10% of the demand for battery materials in 2040. In addition, the recycling of electric vehicle batteries presents serious challenges, mainly in terms of cost. More mines and improved clean refining processes will be needed to meet electric vehicle production targets. While there is enough copper in the world, geologically speaking, to meet the increase in demand, time is running out. It typically takes 10-15 years to obtain permits and build a new copper mine.

The trajectory over the next few years is therefore very worrying, as **total investment is expected to fall by more than 70% by 2026** (see Fig. 6).

Supply remains limited

Among base metals, there is an acute need for new investment in exploration and production of copper and nickel. The prospects are even more extreme for cobalt and lithium. The capacity to extract and refine the raw materials used in batteries must be scaled up to meet the exponential growth in demand for electric vehicles.



However, mining companies have not yet focused their strategy on the opportunities offered by the energy transition. Some are still reluctant to embark on new, large-scale projects that require time and money. Among the five majors, Anglo American and BHP stand out by raising their annual capital expenditure forecasts for the coming years from the low levels seen in 2016. Rio Tinto has also started to move towards growth, albeit tentatively, with forecasts for 2024 more than doubling compared to 2016. However, the amounts of CAPEX remain well below 2012.

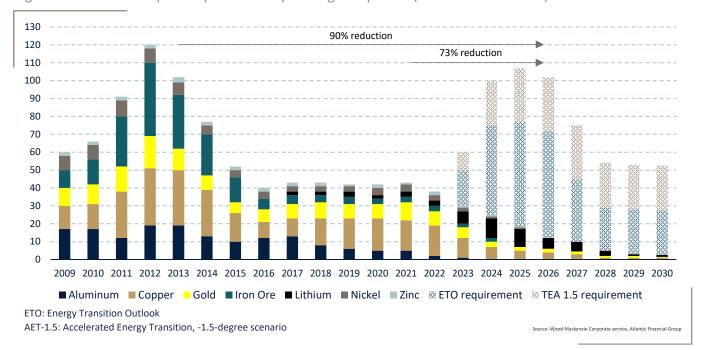


Fig. 6 - Evolution of capital expenditure by mining companies (in billions of dollars)

♦ Could the sector ignore economic cycles?

Despite the pandemic and the war in Europe, mining investors have enjoyed record returns over the past 18 months. Collectively, mining companies' balance sheets have never been stronger. This reflects strong financial discipline, record industrial margins and solid market fundamentals (see Fig. 7).

NAME	GLENCORE	BHP GROUP	FREEPORT-MCMORAN	SOUTHERN COPPER	RIO TINTO
/lkt Cap (in bn USD)	88.00	143.21	44.86	38.13	113.06
CF Yield	3.74%	40.04%	24.51%	31.10%	28.29%
OVD yield	4.40%	11.25%	1.97%	6.22%	10.88%
let Debt/EBITDA	1.05	-0.02	0.14	0.77	-0.01
BIT/Interest	8.40	87.41	10.13	15.96	33.37
OIC	19.25	30.34	19.29	20.19	25.32
redit Rating	BBB+	A-	BB+	BBB+	А

Fig. 7 - Mining companies show strong financial ratios



By sticking to a strict dividend policy, reinforced by share buybacks, and limiting capital investment, investors have been well rewarded. Cash on the balance sheets of the major groups is increasing, and debt is at an all-time low. The bad memories of capital destruction between 2012 and 2015 are fading. Among the majors, BHP and Rio Tinto, have reduced the amount of cash allocated to dividend payments to compensate for lower iron ore prices, but also higher oil prices and inflation in general. However, the dividend yield remains historically high, around 11% for both BHP and RIO (see Fig. 8).

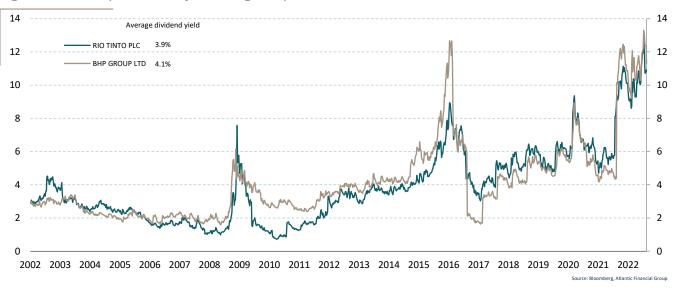


Fig. 8 - Dividend yields of major mining companies

the projected increase in the volume of primary energy, not the increase in the share

Population growth, urbanisation, decarbonisation infrastructure, digitalisation of the economy and rising living standards in emerging countries are all factors that are expected to drive demand for steel, non-ferrous metals and fertilisers over the coming decades (see Fig. 9).

0 1 0 30/30 year growth Rising living Electrifying Geopolitical Population Decarbonising BHP Portfolio Urbanisation growth standards risk power transport 1.5°C scenario More than ++ +++ Copper double Nickel + ++ + ~3% times 3/4 of power ~\$400 tn -10 bn ~7 bn ~2 bn capacity 2050 estimate wind & solar total population; urban population; EVs on the road; change from current 13-fold energy + 21/4 hn + 23/4 bn 4-fold gain 100-fold gain gain[1] ~ Signifies trivial direct impact or offsetting forces that are basically in balance. [1] Three-quarters refers to the share of power capacity. 13-fold refers to

Fig. 9 - BHP has the right portfolio to manage megatrends and secular forces

Source: BHP Outlook



Currently, **most base metals have low inventory levels.** The combination of continued strong global market demand, sequential improvement in Chinese demand and sluggish supply is keeping most metal balance sheets in deficit.

However, the looming global economic slowdown and the property crisis in China are likely to weigh on material prices in the short term. It is therefore very likely that copper will continue to be a good leading indicator of the economic cycle and move with market volatility. However, the correction should not be as strong as in 2008 or 2016, given the structural bullish scenario in the medium to long term.

Conclusion:

The sector is primarily cyclical but requires a long-term strategy and CAPEX investments. Perhaps it is time for mining majors to take advantage of their exceptional financial flexibility to reposition themselves as growth stocks. In addition, companies' valuation and dividend yield are attractive for a sector that benefits from global megatrends and secular forces.



RETURN ON FINANCIAL ASSETS

Markets Performances	Last	Momentum			2022		
(local currencies)	Price	Indicator (RSI)	1-Week (%)	1-Month (%)	Year-to-Date (%)	2021 (%)	2020 (%)
Equities							•
World (MSCI)	646.8	58.26	-1.6%	5.9%	-13.0%	19.0%	16.9%
USA (S&P 500)	4 228	61.26	-1.2%	7.6%	-10.4%	28.7%	18.4%
USA (Dow Jones)	33 707	64.23	0.0%	6.1%	-6.0%	20.9%	9.7%
USA (Nasdaq)	12 705	56.72	-2.6%	8.6%	-18.4% -11.6%	22.2%	45.0%
Euro Area (DJ EuroStoxx) UK (FTSE 100)	411.4 7 550	54.16 66.23	-1.3% 0.9%	3.7% 4.3%	5.1%	23.5% 18.4%	-11.4%
Switzerland (SMI)	11 157	54.01	0.3%	0.3%	-11.0%	23.7%	4.3%
Japan (Nikkei)	28 791	65.66	1.3%	7.3%	1.6%	6.7%	18.3%
Emerging (MSCI)	1 001	49.63	-1.5%	2.7%	-16.7%	-2.3%	18.8%
Brasil (IBOVESPA) Russia (MOEX)	111 496 2 195	67.53 54.23	-1.1% 2.2%	13.5% 6.0%	6. 4% -40.6%	-11.9% 21.9%	2.9% 14.8%
India (SENSEX)	58 992	72.35	0.4%	9.2%	3.5%	23.2%	17.2%
China (CSI)	4 174	44.05	-0.9%	-2.5%	-14.4%	-3.5%	29.9%
Communication Serv. (MSCI World	82.75	48.58	-2.9%	0.2%	-24.4%	10.9%	24.2%
Consumer Discret. (MSCI World)	328.1	56.08	-2.2%	7.6%	-19.4%	9.2%	37.0%
Consumer Staples (MSCI World)	273.5	64.30	0.9%	4.0%	-4.7% 25.0%	11.7%	8.8%
Energy (MSCI World) Financials (MSCI World)	227.8 132.1	60.14 56.09	0.4% -2.2%	9.2% 5.6%	-10.1%	37.5% 25.1%	-27.7%
Health Care (MSCI World)	334.8	50.25	-1.0%	0.8%	-8.3%	18.0%	15.4%
Industrials (MSCI World)	286.5	60.22	-1.7%	7.9%	-12.4%	16.6%	11.8%
Info. Tech. (MSCI World)	460.8	57.97	-1.9%	8.8%	-19.2%	27.6%	46.2%
Materials (MSCI World)	307.9	52.76	-2.5%	6.6%	-13.4%	15.4%	21.6%
Real Estate (MSCI World)	198.3	53.93	-2.1%	4.9%	-13.8%	23.6%	-5.7%
Utilities (MSCI World)	163.5	71.52	0.5%	8.7%	2.8%	11.1%	4.8%
Bonds (FTSE)							
USA (7-10 Yr)	2.98%	41.33	-1.0%	0.2%	-9.8%	-2.4%	9.3%
Euro Area (7-10 Yr)	1.95%	39.59	-2.2%	0.3%	-11.4%	-2.9% -2.7%	4.5%
Germany (7-10 Yr) UK (7-10 Yr)	1.23% 2.41%	39.59 34.01	-1.6% -2.3%	0.3%	-9.9% -9.6%	-2.7% -4.9%	3.0% 5.4%
Switzerland (7-10 Yr)	0.66%	43.88	-1.4%	1.6%	-7.3%	-2.3%	0.4%
Japan (5-10 Yr)	0.22%	51.15	-0.1%	0.5%	-0.6%	0.0%	-0.1%
Emerging (5-10 Yr)	7.44%	50.70	-1.9%	2.7%	-17.4%	-2.3%	5.2%
USA (IG Corp.)	4.58%	45.11	-1.5%	-1.0%	-13.0%	-1.0%	9.9%
Euro Area (IG Corp.)	2.87%	40.25	-2.0%	-0.8%	-9.7%	-1.0%	2.8%
Emerging (IG Corp.)	7.40%	57.22	-0.4%	2.1%	-15.1%	-3.0%	8.1%
USA (HY Corp.)	7.73%	56.04	-1.3%	1.9%	-8.8%	5.3%	7.1%
Euro Area (HY Corp.) Emerging (HY Corp.)	6.59% 10.89%	58.07 55.62	-1.2% -1.6%	1.9% 4.7%	-9.5% -15.3%	3.4% -3.2%	2.3% 4.3%
World (Convertibles)	373.2	57.54	-1.6%	4.6%	-14.8%	2.4%	38.8%
USA (Convertibles)	503.8	58.01	-1.7%	5.3%	-15.0%	3.1%	54.5%
Euro Area (Convertibles)	3 649	73.45	0.1%	5.9%	-11.1%	-0.3%	6.1%
Switzerland (Convertibles)	174.2	41.94	-0.8%	0.8%	-6.3%	-0.5%	0.5%
Japan (Convertibles)	198.6	70.12	0.7%	2.0%	-1,1%	3.3%	2.8%
Hedge Funds (Crédit Suisse)							
Hedge Funds Indus.	729	65.02	n.a.	0.5%	n.a.	8.2%	6.4%
Distressed	924	55.04	n.a.	-0.6%	n.a.	12.5%	3.8%
Event Driven Fixed Income	758 385	52.61 58.66	n.a. n.a.	1.1% 0.7%	n.a. n.a.	12.9% 5.2%	7.0% 3.6%
Global Macro	1439	77.59	n.a.	1.4%	n.a.	9.6%	6.5%
Long/Short	862		n.a.	-1.6%	n.a.	8.3%	7.9%
CTA's	395		n.a.	-2.5%	n.a.	8.2%	1.9%
Market Neutral	283	52.21	n.a.	-1.7%	n.a.	6.2%	1.7%
Multi-Strategy	688	57.07	n.a.	0.2%	n.a.	7.0%	5.6%
Volatility							
VIX	20.60	42.72	5.5%	-15.9%	19.6%	-24.3%	65.1%
VSTOXX	24.58	52.82	15.9%	-8.0%	27.6%	-17.6%	67.5%
Commodities							
Commodities (CRB)	588.5	n.a.	-0.4%	2.1%	1.8%	30.3%	10.5%
Gold (Troy Ounce)	1 743	40.86	-2.1%	0.9%	-4.7%	-3.6%	25.1%
Oil (WTI, Barrel) Oil (Brent, Barrel)	90.77 95.50	43.43 39.12	1.5% -2.9%	-12.9% -13.5%	17.9% 24.1%	58.7% 51.4%	-20.5% -23.0%
- (Siency Burier)	33.30	33.12	2.3/0	13.3/0	L-7.1/0	J2.7/0	23.070
Currencies (vs USD)	100.1-	62.66	4 50/	4.90/	12 00/	6.40/	6 70/
USD (Dollar Index) EUR	108.15 1.0031	63.66 36.32	1.5% -1.3%	1.3% -1.8%	13. <mark>0%</mark> -11.8%	6.4% -7.5%	-6.7% 9.7 %
JPY	1.0031	38.97	-1.3% -2.9%	-1.8%	-11.8% -16.2%	-7.5%	5.1%
GBP	1.1822	33.57	-1.9%	-1.5%	-12.6%	-10.2%	3.1%
AUD	0.6891	43.95	-1.9%	-0.5%	-5.1%	-5.6%	9.6%
CAD	1.2998	41.69	-0.7%	-0.6%	-2.8%	0.7%	2.1%
CHF	0.9598	47.09	-1.5%	0.3%	-4.9%	-3.0%	9.4%
CNY	6.8279	30.91	-0.8%	-1.1%	-6.9%	2.7%	6.7%
MXN	20.201	50.44	-1.8%	1.6%	1.6%	-3.0%	-5.0%
EM (Emerging Index)	1 650.6	37.76	-1.0%	0.0%	-4.8%	0.9%	3.3%

Source: Bloomberg, Atlantic Financial Group Total Return by asset class (Negative \ Positive Performance)



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