Basic Materials Sector Report
2023-2024

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Sector Overview

All physical goods start out as a combination of “basic materials” and so, the Basic Materials Sector is made up of companies involved in the discovery, extraction, and processing of these raw (basic) materials including mining, forestry and chemical production. Generally, the simplest way to classify companies in the materials sector are companies involved in the first stage of the supply chain of various goods and/or in the discovering and extraction of any natural resources.

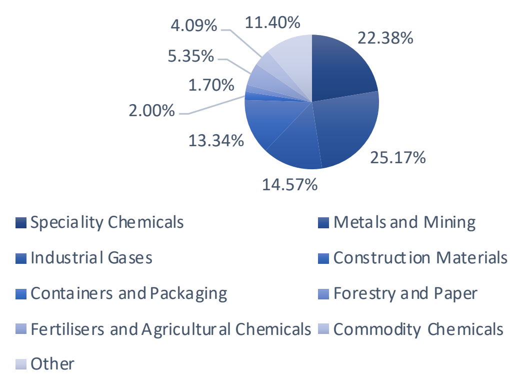
The market for materials sector is a broad one and has a market value of $1.4 trillion . This market cap[1] is dependent on the demand for the actual basic materials which, in itself, has different demands for the different raw materials under the sector but, generally, the demand is cyclical in nature. This means that the Materials sector is strongly affected by and correlated with economic conditions; performing well when the economy is and vice versa.

Obviously one of the most important factors when investing in this sector is the future price of a commodity, which mainly depends on demand and supply. However, one of the unique factors of this sector is that we’re investing in commodities we believe in through companies and so we must be cognizant of factors external to the commodity such as inflation and interest rates, fiscal policies and exchange rates which can all affect the bottom line of Materials companies. Other significant factors include sustainability and proper governance of companies and companies that cannot meet regulations and standards won’t be valuable.

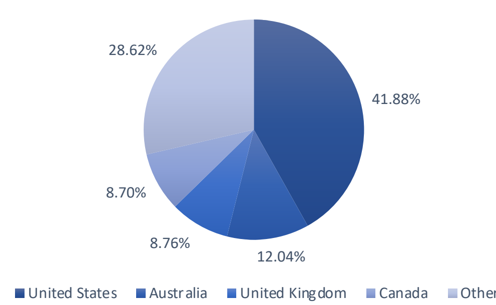
The materials sector is so diverse that each subsector has trends and catalysts that vary greatly from one another but generally all companies are shifting towards sustainability; producing green metals in line with the principles of sustainable development as much as possible and the circular environment.

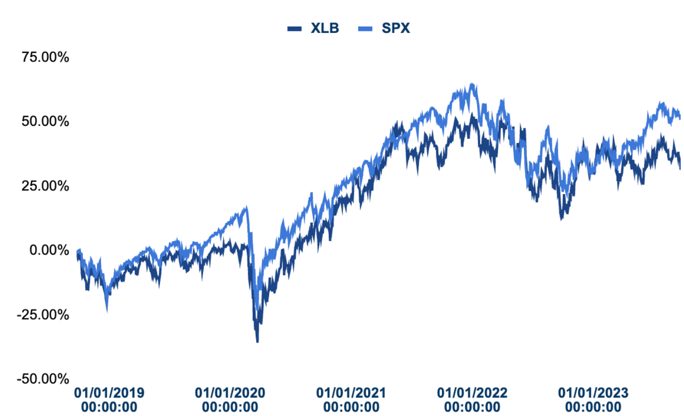
1. Market Cap: Market Capitalisation is the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price.

Sub-Industry Weights



Country Weights





Key Players & Performance Indicators

The materials sector, even when split into subsectors, is still incredibly diverse but the main subsectors with their respective key players and performance indicators are;

Metals and Mining

This industry involves the discovery, extraction, processing and selling of metals and minerals around the world. Generally, when we look at this sector, the biggest subgroups we look at are;

- *Precious Metals*: metals that are of a high economic value, rare and have unique uses. Examples include gold and platinum.
- *Industrial Metals*: metals that are used in construction, manufacturing and development. These metals are crucial for any industrial application and used widely. Examples include copper and nickel.

Key trends for this industry include;
- *Weakening economies and lower prices*
- *Increasing demand for critical metals due to increasing green energy infrastructure*

Key Players: BHP and Rio Tinto
KPI's: Capex, GDP, Commodity Prices

Construction Materials

This industry involves the production and supply of the raw materials used by construction firms when building commercial and residential properties. This is a huge subsector of the broader 'Metals and Mining' ones.

Key trends in this sector include;
- *High labour costs and supply-chain disruptions which lead to lower profits*
- *Weak Chinese demand (a once booming housing market in China fell rapidly after Covid)*

Key Players: Saint-Gobain, China National Building
KPI's: GDP, Housing Starts, Consumer Demand

The materials sector, even when split into subsectors, is still incredibly diverse but the main subsectors with their respective key players and performance indicators are;

Containers and Packaging

This industry involves the manufacturing and distribution of packaging and plastic solutions for diverse applications. This subsector's significance is its preservation and enhancement of functionality of goods for consumers and businesses which contributes to a base stable nature. The main subgroups are
- *Plastic Manufacturing*
- *Packaging Solutions*

Key trends for this industry include;
- *Sustainable packaging solutions*
- *Innovative packaging solutions in e- commerce such as on-demand and personalized packaging*

Key Players: WestRock, Intl Paper Co.
KPI's: Cost of raw materials, GDP, Consumer sentiment

Forestry and Paper

This industry involves the extraction of timber and processing of wood into paper and other products. The subgroups in this subsector all tend to follow the same trends, unlike other subsectors, and are very cyclical. The biggest subgroups we look at are;
- Pulp and Paper Manufacturing
- Timber Production and Logging

Key trends for this sector include;
- *Falling demand due to weakening economies*
- *Digital acceleration and sustainable regulations*

Key Players: West Fraser Timber Co Ltd, SCA- B Shares
KPI's: GDP, Regulations, Customer Demand

Key Players & Performance Indicators

The chemicals is the largest subsector in the materials sector currently, so here's an expansive overview of the key industries within that sector;

Specialty Chemicals

Specialty chemicals are chemicals required for niche markets and strongly affect the core product they're used for. Due to their specific use, they're generally far less vulnerable to price weaknesses. Examples of speciality chemicals include antibiotics which are made in small volumes to tackle a specific disease

Key Trends include;

- *Demand for sustainable specialty chemicals*
- *Personalised Solutions*
- *Growing range of applications, particularly sustainable applications*

Key Players: Solvay, Evonik
KPI's: Consumer Demand, Price of raw materials*, regulatory changes

Commodity Chemicals

Commodity Chemicals are the opposite to specialty chemicals; they're produced in bulk quantity to a standard quality. Examples of commodity chemicals are acids used for industrial and cleaning purposes.

Key trends include;

- *Weak margins due to high feedstock costs, additional capacity, and soft demand*
- *Reduction of production operations in Europe*

Key Players: BASF, Dow, SABIC
KPI's: Price of raw materials, inflation

*Historically specialty chemical companies have been able to profit off increasing price of raw materials but price of these chemicals are becoming more standardized.

Fertilisers and Agricultural Chemicals

This subsector focuses on supporting and improving the overall yield and quality of crop growth. While this subsector is very competitive and typically doesn't have huger margins there are a lot of opportunities.

Key Trends include;

- *Record fertiliser prices*
- *Crop protection products to increase yields in less space*

Key Players: Bayer AG, BASF SE
KPI's: Inflation, Government subsidies, crop yields, weather patterns

Industrial Gases

This subsector involves the production of essential gases for a wide range of applications. This subsector, like agricultural chemicals, is very resilient in poor economic conditions. Examples of industrial gases are the production of gases like hydrogen and oxygen.

Key Trends include;

- *Frequent new innovative applications across a broad range of markets*
- *Huge applications to mitigate climate change*

Key Players: Linde, Air Liquide, Air Products and Chemicals
KPI's: PMI and GDP

Current Climate

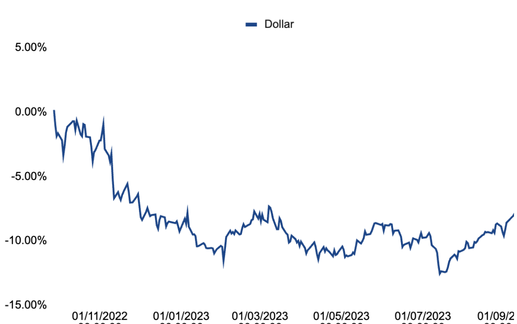
So far, this year has been volatile. The global economy has had to deal with one challenge after another from the pandemic, to Russia's invasion of Ukraine, huge inflation and the March banking crisis[1]. The current economic condition is still unsettling particularly concerning the slow growth of the economy and the height of interest rates (at 5.5.%, the Fed has raised interest rates to their highest in 22 years). Further indicators of economic decline are the economic headwinds facing the world's largest economies; the US with a depletion of savings from the pandemic due to living prices and China with a weakening property sector.

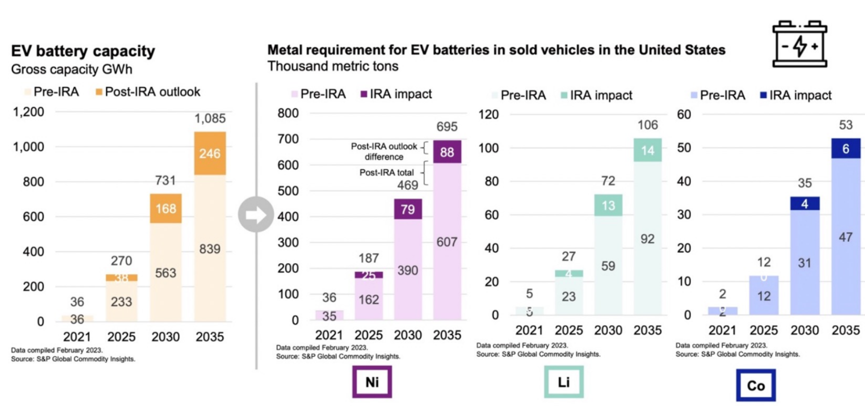
The dollar matched this economic volatility, falling from a 20 year high after an 18 month bull period in April but has been rising steadily since August due to consumer spending, the Fed's hiking of interest rates and weakness in China's economy. While it is very unlikely the dollar will lose its dominance, de-dollarisation (a significant reduction in the use and demand of dollars in financial and trade markets) is expected due to increasing deglobalization where countries are trying to diversify to protect their reserve assets and a potential (albeit unlikely) BRICS currency.

A weakening dollar is good for the materials sector because it drives demand for precious metals as a safe haven and demand for other commodities (which are usually priced in the USD) as prices become relatively lower. This year, the materials sector has underperformed the benchmark YTD by 11% mainly due to a slowdown in demand of materials resulting in a price decrease of materials because of weak demand in China and a supply surplus of metals.

Over the year, many economic incentives have been introduced to encourage investment in clean energy technologies as governments try to to ensure adequate and sustainable mineral supplies. The most significant of these was the IRA (Inflation Reduction Act), which allocated billions in incentives to reduce emissions and boost domestic production. The IRA has affected materials demand-wise by having major subsidies for material-intensive decarbonisation technologies, and supply-wise by promoting mineral development by imposing minimum requirements for minerals from the US or countries which it has a free trade agreement with. Post- IRA demand projections for some of these metals are already materially higher than pre- IRA demand (for example, the demand for lithium, nickel and cobalt will be 23 times in higher in 2035 than it was in 2021) and it's very unlikely that demand for some of these critical materials can be met under the IRA's sourcing requirements, assuming the regulations aren't relaxed, which should lead to a surge in price for some of the metals in the materials industry.

1. On the 10th March, Silicon Valley Bank (SVB) closed due to a bank run because of a combination of significant client withdrawals requiring funding led SVB to sell bonds at a loss, sparking concerns and further withdrawals (simplified for easier understanding)



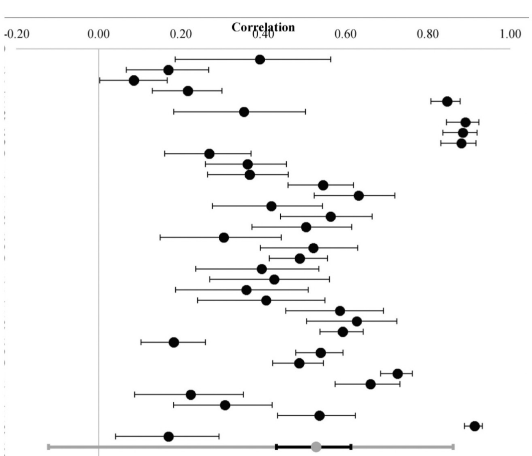


Investing Themes

<u>Going Green</u>

Being a green materials company isn't just about the materials produced, processed or manufactured it's about the company itself. Fundamentally, a green company is going to give value back to its shareholders and companies that are currently 'greener' have a competitive advantage due to the high environmental costs and increasing regulations other companies need to meet to catch up. Also, by simply being recognised as 'green', companies can achieve greater strategic freedom (from easing regulatory pressure) – which is particularly advantageous in the mining industry. Conversely, being recognised as a 'browner' company can risk adverse government action such as tariff regulation, renewables subsidies, interconnection, and access rights.

A by-product of companies in the materials sector who have an established 'green' reputation likely means they are more innovative, as shown by the graph below. This, especially in the materials industry, where relatively few companies have economic moats, is incredibly valuable. Companies that are competitive rather than just compliant will drive shareholder value and can weather downturns, evidenced by the fact that green companies have generated higher stock returns compared to their brown peers since 2012 (a study conducted on carbon premiums found that by using emission levels to create portfolios from 2010 to 2021 green portfolios had a cumulative return up to 70% percent higher than brown portfolios).



Correlation between innovation and sustainable performance, E.Kuzma et Al

<u>Supply Chain Security</u>

After Covid-19, the Russian invasion of Ukraine, severe fluctuations in China and the US relationship and the recent strengthening of BRICS, the world seems to be moving from 'slowbalisation' to fragmentation. Choosing supply chain security as a theme means analysing the markets we're exposed to and choosing companies that can both overcome supply chain issues and benefit from said issues by having the ability to replace the companies that can't overcome these issues.

Deglobalisation is a key trend for the year ahead and one that has a huge impact on the materials sector. Deglobalisation means the world is becoming less unified; and countries aren't relying or cooperating with others unnecessarily. This means countries are turning inwards for their needs, supply chains are being disrupted and trade is being limited which increases the value of local companies in areas unlikely to be isolated.

Deglobalisation means a fair and free market for commodities (China already controls more than 65% of the EU's listed five critical minerals and more than 70% of rare earth minerals) will be replaced by one with interregional competition and volatile availability and pricing. Thus vertical integration is becoming more and more popular to hedge against production and price risks leading to an increase in onshoring. Offshoring was so popular because of its low costs and many companies have almost disappeared from Western countries, due to the inability to compete with the low costs in emerging markets which means that now companies that have remained there have huge competitive advantages in terms of supply chain security. The importance of supply chain security was evidenced recently again when China curbed exports of germanium and galium (metals used for chips). This could happen again with other materials in different sectors which will lead to an increase in demand for Western–focused suppliers.

Priced in Sector Drivers

Commodity Prices

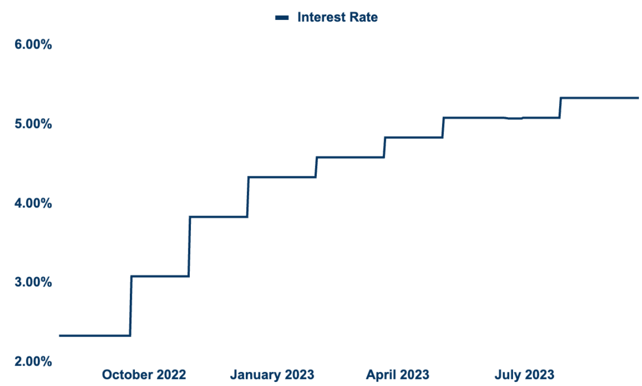
The price of raw materials and other commodities has the most obvious effect on companies in the materials sector as it directly affects their revenue. Due to the breadth of the materials sector, the spike in prices of raw materials over the last two years affected subsectors differently. For example, the metals and mining industry hugely benefits from an increase in prices because products can be sold for more while for other subsectors, like the packaging and containers industry, which use raw materials as inputs, margins are reduced significantly.

Prices of commodities are coming down from the highs last year, mainly due to supply chain disruptions, but are mostly still at historic highs. However, these prices remain very volatile due to supply and demand risks from Russia and China as well as supply chain issues in the energy transition which can affect stock prices of companies in the materials sector significantly in the short run.

A key indicator of commodity prices is GDP but is particularly significant in the case of China's GDP as China is a massive consumer, and even bigger importer of commodities. Growth in the Chinese economy is matched with large levels of industrial and infrastructure development which increase demand for construction metals and materials. Additionally, metrics like PMI and export levels give insights into manufacturing levels which have a direct consequence on commodity prices.

Interest Rates

The materials sector is very capital intensive as a result of the large development costs, large research costs and a high level of mechanization. So earlier in the year, the Fed's hiking of interest rates meant the cost of borrowing became higher which reduces margins.



Chinese Demand

China is a huge commodity consumer so its dramatic slowdown recently, especially regarding falling demand and a prolonged property market slump means demand and prices for many commodities are falling. While demand for some commodities (notably copper ore and iron) has held up so far, these prices will be impacted along with mining companies around the world if the slowdown continues. China's economy relied heavily on a booming real estate sector fueled by population growth but population growth is no longer as strong and Covid policies have shaken consumer demand. On top of this, the cracking down on risky practices in the real estate industry has left developers with huge debt and more housing units than buyers. While prices for most materials are still at historic highs, this decreasing demand causes prices of materials to fall in the short term which can lead to a drop in share prices of companies supplying the commodities.

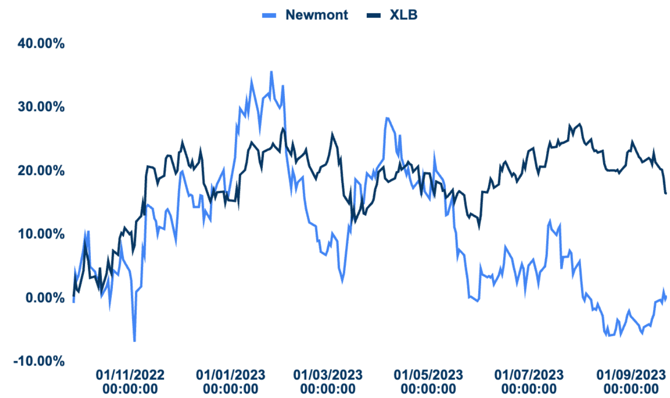
Current Holdings – Newmont(Sell)

Newmont's last year has been volatile as can be seen from the diagram. Newmont's stock price has very much been affected by the price of gold. For the majority of the first half of the year, gold had a strong performance due to a relatively stable US dollar and interest rates, the SVB crash and continued central bank demand. The hikes in the price of gold would have massively increased earnings which corresponds to the increase in Newmont's stock price

However, falling gold prices, increasing global costs and lower gold production by nearly 17% (because of strikes in Mexico and wildfires in Canada) led to a 12% YoY decline in revenue which was followed by a 7% dip in share price in a single day. However, Newmont has a positive outlook for the second half of the year as CEO Tom Palmer assured shareholders that Newmont was still "on track to achieve our full-year guidance" which would mean higher than usual production in the next two quarters (which the recent acquisition of Newcrest should help with). On top of this, consistently high gold prices (encouraged by economic slowdowns), a relaxing of interest rate hikes and a weakening dollar should help Newmont's price realisations. The acquisition of Newcrest (An Australian Mining Company) is a deal valued at ~$19 billion and will provide the company with a larger footprint of Tier 1 ranked jurisdictions including Havieron (70%) a world-class gold-copper project with considerable mineral endowment and Fruta Del Norte (32%)one of the world's most profitable mines with a 450,000 ounce per annum production profile at sub $850/oz AISC.

From the reasons listed above, I believe we should hold Newmont until the start of Q4 (and possibly continue into Q4) which should lead to an increase in earnings and consequentially, stock price.
Increases in earnings after Q4 are unlikely due to the fact that gold prices are around all-time highs and probably won't increase by a huge amount again (although they could increase because of elevated inflation and uncertainty) and so there is no key driver in Newmont's stock price in 2024.

Current Performance



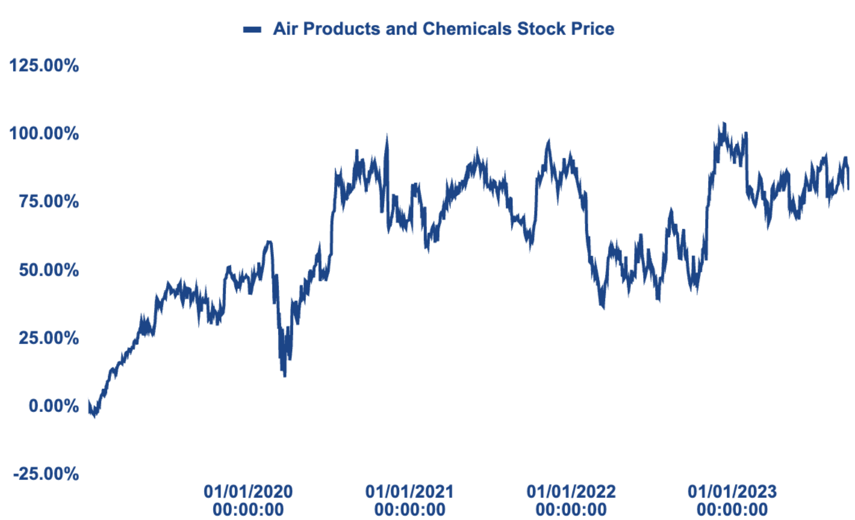
Case Study

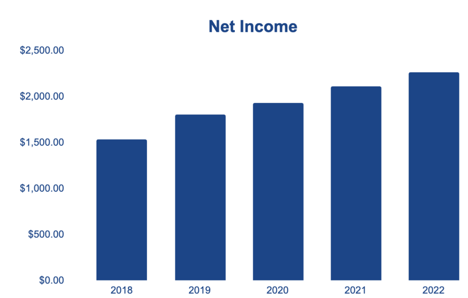
Air Products and Chemicals is a US-based company that provides industrial gases, related equipment and applications to customers in a wide range of industries and is the third largest company in its industry, with a market cap of over $65 billion. They are also the world's largest hydrogen supplier and global leader in the supply of liquefied natural gas process technology and equipment. While currently overvalued, the company's robust and relatively stable revenue stream, diversification in terms of supply chains and applications and increasing investment typify aspects of a materials' ideal stock.

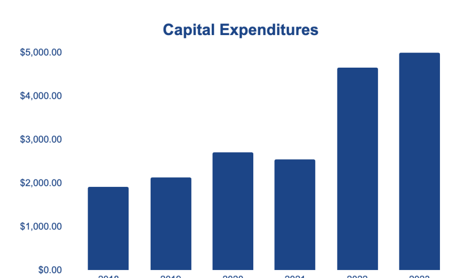
Broadly speaking, the industrial gases subsector is less cyclical than other subsectors despite organic revenue depending on economic conditions. This is because the need for reliability of these inputs means companies sign long-term contracts that have high switching costs leading to stable cash flows. Often these contracts also have cost pass-through and tolling arrangements to mitigate costs. Additionally, being the biggest hydrogen supplier in the world (for which CAGR is 62.6% from 2023-2030, according to Bloomberg) and a leader in LNG technology with winter approaching should increase interest in the company.

Air Products and Chemicals seems to be trading at a premium; with a high P/E and EV/EBITDA ratio relative to the industry. However, Air Products has a much higher dividend yield, higher capex as a percentage of revenue and lower debt compared to competitors which, along with high operating margins, means the company prioritises sharing value with its shareholders, investing in the future and hedging against a possible weakening demand.

Air Products has really invested in expanding its operations to become even more competitive and fuel additional revenue growth through acquisitions and, in particular, investing in projects in emerging markets such as the NEOM project in Saudi Arabia. By 2027, Air Products plans to have committed over $15 billion to blue and green hydrogen megaprojects alone – more than any other competitor. Along with emerging markets, Air Products is also investing in niche, clean-energy markets such as a $2.5 billion project to become the world's first commercial-scale SAF producer.





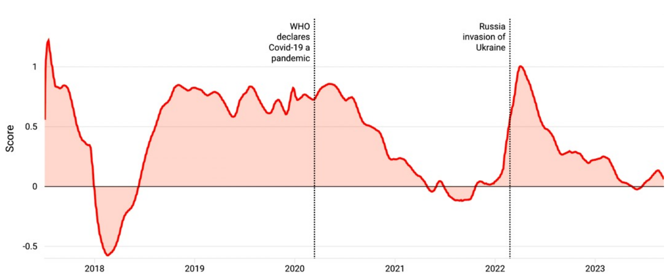


Risks

Geopolitical risk

One of the inherent risks of commodities is that the world's natural resources are located on various continents, and the jurisdiction over these commodities lies with sovereign governments, international companies, and many other entities. For example, to access the large deposits of oil located in the Persian Gulf region, oil companies have to deal with the sovereign countries of the Middle East that have jurisdiction over this oil. Negotiations for natural resource extractions can get pretty tense, pretty quickly, with disagreements arising over licensing agreements, tax structures, environmental concerns, employment of indigenous workers, access to technology, and many other complex issues. International disagreements over the control of natural resources are common. Sometimes a host country simply kicks out foreign companies involved in the production and distribution of the country's natural resources. However, one way to minimize it is to invest in companies with experience and economies of scale. For example, investing in an international oil company that has an established international track record. A company like ExxonMobil, for instance, has the scale, breadth, and experience in international markets to manage the geopolitical risk it faces. A smaller company without this sort of experience faces more risk than a bigger one. In commodities, size does matter.

BlackRock Geopolitical Risk Indicator



Business Cycle Risk

The Basic Materials sector is susceptible to cyclicality in the macro business environment. This means that the sector is sensitive to the business cycle, in that revenues are generally higher in times of economic expansion while they are lower in periods of economic contraction. This makes logical sense as during times of economic expansion there is more building and more desire for goods and thus the demand for basic materials such as metals, chemicals, minerals and forest products increase. While during times of economic downturn building activities are halted and demand for goods fall. Currently, inflation in the global economy has remained sticky (inflation is taking longer than initially forecasted to go down) which has led to Central Banks across the world to hike interest rates in order to control inflation. This will put downward pressure on short-term profits due to the increased borrowing rates.

Scarcity

There is a limited amount of natural resources on our planet. This scarcity element can lead to the price of commodities such as oil, gas and precious metals to fluctuate regularly. This price volatility is driven by the forces of supply and demand. For example, the price of Brent Crude Oil (The benchmark oil) has rallied since June at $74 dollars per barrel to $84 per barrel due to Russia and Saudi Arabia agreeing to cut oil production in the months of July and August. Due to this you will often see companies buying oil for the future (Oil futures) which is known as hedging. For example, Ryanair will buy oil futures for 3/6/9 months in advance. This reduces risks of price fluctuations as they have agreed a price to buy this oil in the future regardless of what the price is in the future and it also means that Ryanair do not have to store this oil for long periods of time. The fluctuations of the price of these commodities will naturally impact the profits of the companies involved in these industries which will lead to the stock prices being highly volatile.

Strategy for the Year Ahead

The coming year will provide opportunities and challenges for the materials sector. As a broad, cyclical sector, there are opportunities to invest in industries that perform well in a slowing, and possible recessionary, economy and opportunities to buy strong companies for the long- term at discounts because of these conditions. The industries I see the most opportunity in are;

- **Industrial metals:** In particular, I'm focusing on industrial metals like copper and nickel that are critical in the energy transition and are metals that Western countries don't have a readily supply of or have a strong relationship with countries that have a readily supply of, which should increase demand for these metals even further (both these metals have an incredible demand already). These metals are in the 'Mining and Metals' subsector which is poised to fall in the short term due to weak economic demand and so there might be opportunities in the upcoming year to buy when undervalued.

- **Precious metals:** There are opportunities in precious metals because they act as a safe haven for the current economic climate we're in and, also, the demand for PGMs (platinum group metals) is set to increase astronomically (x970 by 2050) for a wide range of applications in the energy transition. Currently, a lot of PGM companies are trading at all-time lows due to a drop in prices, a decrease in the rand (South Africa is the biggest exporter of platinum)and production issues (particularly with power in South Africa). The stock price of PGM companies are volatile for the same reasons listed above so shares in PGM companies mainly due to the would be held short term (usually PGM companies perform worst in the winter and best in the summer due to power consumption costs and use in South Africa).

- **Industrial Gases:** In the current economic climate, industrial gases tend to be more stable than other subsectors mainly because of their breadth of applications and necessity in those applications. I think there are huge opportunities in hydrogen in particular due to its ability to decarbonise other sectors (as blue or green hydrogen) as well as huge demand in the long-term to meet the world's green energy demands and, according to Bloomberg, by 2030, the supply of hydrogen will be less than half (47%) of its demand.

- **Fertilisers and Agricultural Chemicals:** One of the big trends is the growing need for more crop protection agents to protect against crop losses and increase yields and this demand will be accentuated by the ongoing war in Ukraine and fewer exports of such commodities due to domestic food security concerns stemming from the aftereffects of the pandemic. However, because many farmers are struggling with falling crop prices and higher operational costs, they have pulled back on buying crop protection products resulting in falling earnings for crop protection companies like Corteva CTVA which may provide an opportunity to buy shares in companies like these at a discount before demand picks up again around Spring.