

ECONOMICS QUARTERLY



US, China, EU Macroeconomic Outlook

Recommended Holding

Why Oil Prices are on the Rise, Again

Scrubbing Off The Green

Investing Concepts 1:
Fundamental Analysis

Vol. I

Economics Quarterly

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US, China, EU Macroeconomic Outlook

Late 2023 / Early 2024

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It's been a complicated road for stocks coming out of COVID. Ever since 2020, the theme of a "COVID recovery" has been extremely prevalent, forming the basis of many investment strategies. With generous amounts of stimulus spending, the economy was indeed able to recover by 2021, largely reaching pre-pandemic levels.

Yet this recovery wasn't perfect. The past three years have brought us three things: i) High inflation ii) Prolonged rate hikes by central banks, and iii) Residual effects of COVID on firms and consumers.

Now, we stand at what is called a late cycle stage. You can think of this as kind of like the sunset period of a day. That short period of time where daylight has already passed, and we're getting closer and closer to the night. This is the general state of the economy right now, especially in the US, where the probability of a coming recession is almost certain. There's convincing economic evidence in this regard.

First is an earnings recession. Firms have experienced continued pressure on earnings margins. It may seem as if we've already escaped the COVID era, at least in the US, but we haven't escaped its impacts. During COVID, due to many logistical systems being disrupted, companies had to acquire materials and equipment at large costs, leading to similarly high costs of production. This is what we call "supply chain shocks".

Now, as many of these logistical issues have been resolved with the easing of restrictions, these supply chain shocks are largely gone. But at the same time, demand from consumers is going through a downcycle, and labor markets in certain industries remain tight, meaning higher wage costs.

These companies now have large inventories of goods, produced at high costs during COVID, now having to be sold at significantly lower prices in end markets. This will cause continued negative operating leverage (production costs exceeding sales) for the remaining 2023, until inventories are cleared.

Following from this is of course decreasing inflation. Stubbornly high inflation, especially gas prices in the US has been a consistent headache for many. To put it in perspective, general agreement is that around 2% inflation is healthy, anything below that is concerning, and 3 or 4% is starting to be dangerous. We reached 8% in 2022.

This has caused the Federal Reserve (USA's central bank) to raise interest rates non-stop in an attempt to reign in this inflation (in general, central banks have the power to control interest rates. Raising interest rates, or as we say "hiking rates", is meant to bring down inflation, and vice versa). Now, it's finally working. Inflation is indeed projected to decrease in 2023, then even more in 2024. Furthermore, with a continued earnings recession, tight labour market, and weak consumer sentiment, the economy is also cooling down significantly, entering into a cyclical downturn. This means the Fed will likely reverse its policy direction and cut rates sometime in early 2024.

So far we've only talked about the US. What about the other two major regions, the EU and China? They aren't any better either. Coming out of the severe "Zero-COVID lockdowns" in China, we expected to see an unprecedented, colossal recovery, more successful than the US. In many ways, this was true. China's economy is as of this moment largely recovered from the impacts of COVID.

But now, as the recovery comes to an end, so does the excitement that comes with it. Recent data shows that China is experiencing faster-than-expected deterioration in the macro environment, leading to low market confidence.

The Euro region is similar as well. High bond yields continue to put stocks out of favor, leading to low equity valuations and poor investor sentiment. In both regions, an EPS downcycle is extremely probable in the coming quarters (EPS is a metric for companies' profitability. EPS = companies' earnings / the number of shares).

This weakness in both markets has placed a severe dampener on optimism. This leads us to the conclusion that Euro and China should be underweighted, at least for the coming quarter or two.

Perhaps surprisingly, the same might not be true for the US. Recent macroeconomic data has shown that in fact, it is the most probable for the US to go through what has been termed a "soft-landing" — a mild cyclical recession, without any significant structural harm.

The US earnings recession has gone on since the start of 2023. As we approach 2024, inventories are beginning to be cleared up, and companies are more able to adjust to this new post-COVID environment. This has led to general consensus among economists that earnings will rebound sometime in 2024. At the same time, as rate cuts occur and supply-side inflation subsides, demand will also likely see an upturn in the coming year.

With that being said, all this is unlikely to occur anytime in the coming quarter. Therefore, we maintain our conclusion that a recession is coming to the US. But after that recession, significant opportunities do indeed lie ahead. That is why our strategy currently is to focus on traditional defensive sectors (healthcare, consumer staples, and utilities) as well as common late-cycle winners (industrials and energy).

References

CMorgan Stanley, Sept 10 2023, "MS_Global US Equities & Bonds".

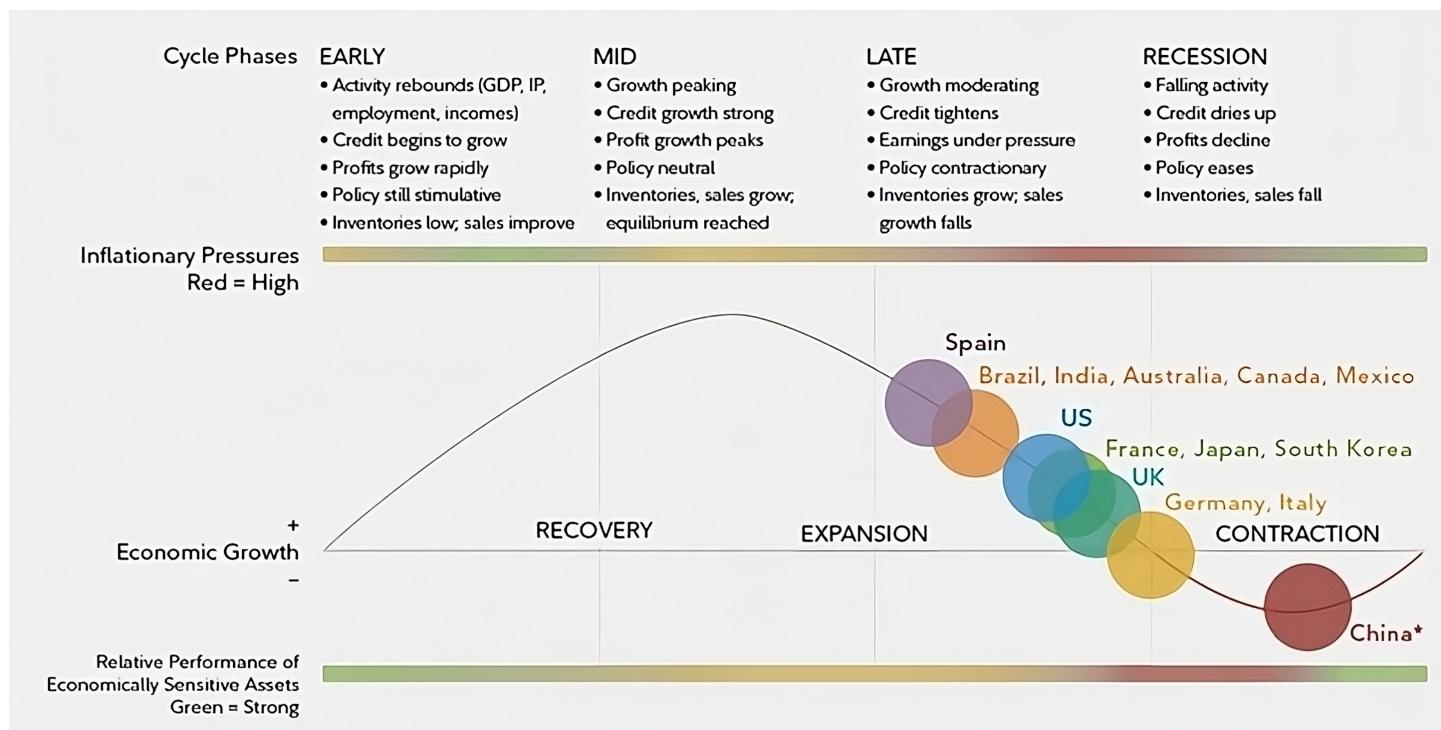
Morgan Stanley, Jan 6 2023, "10 Big Themes – Macro x Micro".

Morgan Stanley, November 13 2022, "2023 Asia EM Quant Outlook".

Purdue University. Warehouse Operations.



Warehouse Operations [Purdue University]





Recommended Holding

TIM HE

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Volkswagen Group OTCPK: VWAGY

Note: This holding was recommended on September 22nd, when the share price of the respective stock at market close was \$13.98.

Company Overview

The Volkswagen Group, also known as Volkswagen AG, is a multinational automotive manufacturer headquartered in Germany. Its major subsidiaries include Volkswagen (founded), Audi (acquired 1966), Bentley (acquired 1998), Lamborghini (acquired 1998), Porsche, SEAT (controlled 1986), and Bugatti (acquired 1998).

After that incident, the company redirected its focus on sustainability, and began to introduce new electric car models such as the Audi e-tron (first delivery 2019) and the Volkswagen ID. (first delivery 2020) series. With consumer preferences shifting toward sustainability worldwide, this is another example of the Volkswagen Group's versatility.

Historical evidence demonstrates Volkswagen's adaptability and resilience through various financial crises, wars, company-specific errors, and shifting consumer preferences. As of now, Volkswagen Group is the second largest automobile manufacturer in the world, taking a combined 24.7% of the European market share (as of 2022) [Statistica] and 12.9% of the global market share (as of 2019) [Volkswagen Group].

Fundamentals Analysis

Demonstrated Resilience Over Decades of Operation

Volkswagen is a company nearly a century old, founded in 1937. The company has overcome numerous obstacles and challenges through its arduous journey through time.

The first major challenge it had to overcome was the onset of World War II. Although the war interrupted civilian car production, Volkswagen was quick to adapt to the new economic environment by constructing and selling military vehicles instead. The company has also gone through most of the major economic recessions in history as well as the "Dieselgate" scandal in September 2015 in which the Environmental Protection Agency (EPA) discovered that Volkswagen had modified the software in their car engines to thwart emissions tests, leading to Volkswagen vehicles emitting 40% more pollutants into the atmosphere above the legal amount in the United States [BBC News]. However, the company handled the situation well, apologizing to both customers and investors sincerely, and paid a fine of 620 million (€).

Recent News

On September 6th, the Volkswagen CEO Oliver Bloom asserted that the company will strive to maintain its position within the top three automotive manufacturers in the Chinese market, while also focusing on their growth in North American markets [Reuters]. The company's initiative had been demonstrated by its budgeting of 122 billion (€) for electric vehicle research and development in order to compete with current EV makers in Chinese and North American markets [Energy World].

Furthermore, Volkswagen is expanding its influence in the EV market through the installation of electric vehicle fast chargers. Thomas Schall, a Volkswagen board member, announced that half of the 40,000 chargers the company plans to install by 2025 have already been set up [Reuters].

In August, Volkswagen began pre-orders for their new ID.7 electric sedan [Zacks]. It announced on September 6th that the company planned to launch another 11 new electric vehicle models by 2027 [Zacks].

Financial Statement Highlights

- Vehicle sales increased 15.5% from 2.011 million to 2.324 million units (2023 Q2 vs 2022 Q2)
- Net liquidity amounts to 33.6 billion (€) as of June 30, 2023
- 4.2% increase in R&D investment from 4.93 billion (€) to 5.135 billion (€) (2023 Q2 vs 2022 Q2)
- Delivery of electric vehicles went up by 48.1%, making up 7.4% of the group's total deliveries

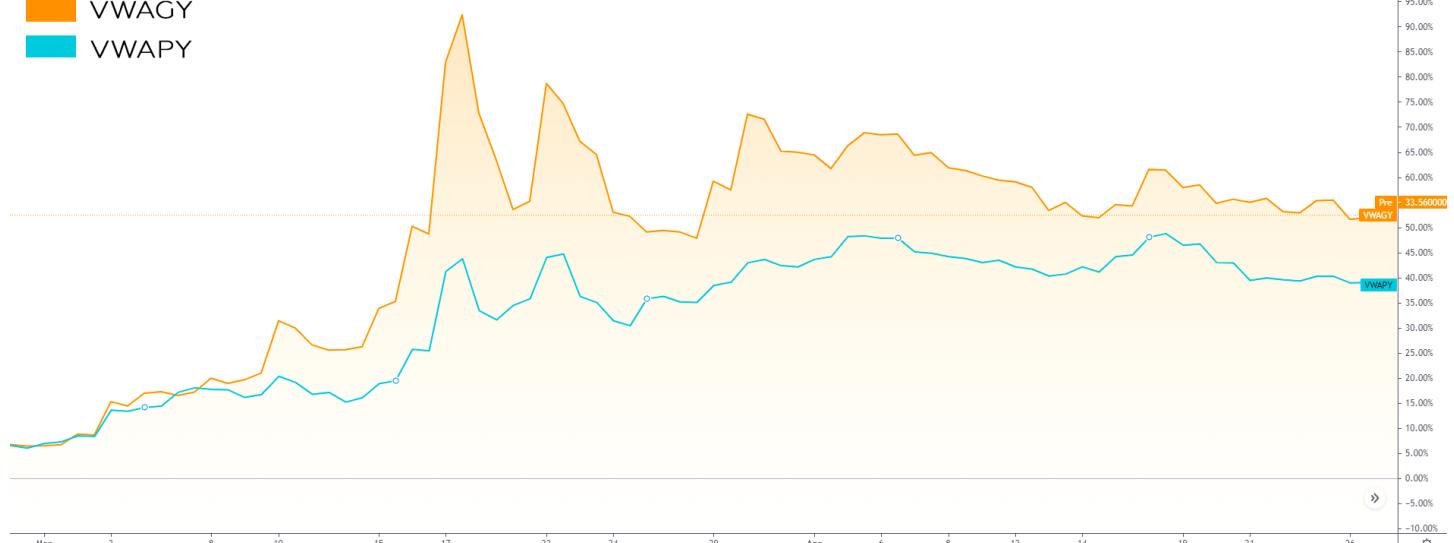
High Dividend Yield

Volkswagen also pays a relatively high dividend to its shareholders, paying around \$2.83/7.13% per share annually (trailing) split into two payments in December and May. Although the high annual dividend rate only surfaced recently, the company pays 3.03% on average annually, which is still substantially higher than the payments of other companies.

Volkswagen Share Type Explanation

The Volkswagen Group has four share tickers, VOW, VWAGY, VOW3, and VWAPY. VOW and VWAGY shares both give shareholders voting rights while VOW3 and VWAPY do not. However, VOW3 and VWAPY are preferred shares, which means investors holding those shares have the priority to receive dividends first in a situation where the company is unable to pay dividends to all of its shareholders. VOW and VOW3 are listed on German stock exchanges, while VWAGY and VWAPY are listed on exchanges in the United States. There is no specific reason to choose VWAGY over VOW, and purchasing VOW will not yield a different degree of capital gain than purchasing VWAGY. VWAGY is an example of an American Depository Receipt (ADR), which in simple terms is essentially a packaged security derived from its foreign counterpart. You are welcome to learn more about the specifics of ADRs [here](#).

VWAGY
VWAPY



However, VWAGY/VOW was chosen over VWAPY/VOW3 because the VWAGY/VOW common shares have an amplified performance historically when compared to the VWAPY/VOW3 preferred shares, and are generally more volatile.

Technical Analysis

In the 1 day candlestick chart of VWAGY's share price below, key price levels have been marked out below (light blue lines). The levels below the current share price act as buy-side volume areas in which price can bounce from, while the levels above the share price represent sell-side volume areas optimal for selling the stock and taking profits.

In the last few days, price has closed above the 8 Exponential Moving Average (EMA8), and subsequently the 20 Simple Moving Average (MA20). Furthermore, price has done so by opening a green candle above the opening price of the previous red candle below the EMA8, creating a kicker candlestick pattern. Another kicker pattern appeared in the last two candles, with the most recent one opening above the open price of the previous red candle. These are all bullish signals, the kicker patterns in particular signifying a dramatic change in the company's fundamentals.

Additionally, a bit of Relative Strength Index (RSI) Divergence was identified two weeks ago, in which the share price forms lower lows while the RSI forms higher highs. This is another signal of a potential trend reversal.

(VWAGY/VWAPY share price change (%) comparison)
[Special Situation Investments]



Recommended Investment Time Horizon

The recommended investment time horizon, which is the approximate amount of time to hold the respective equity, is a minimum of 6 months for this holding recommendation. Keep in mind this is a relatively long term investment, and small price changes should not prompt one to immediately exit.

References

- Amelang, Sören, and Benjamin Wehrmann. “Dieselgate’ - a timeline of the car emissions fraud scandal in Germany.” Clean Energy Wire, 25 May 2020, www.cleanenergywire.org/factsheets/dieselgate-timeline-car-emissions-fraud-scandal-germany#:~:text=April%202020,total%20of%20620%20million%20euros. Accessed 23 Sept. 2023.
- Energy World. “Volkswagen presents new low-price electric car, ID.2all.” Energy World, 16 Mar. 2023, energy.economictimes.indiatimes.com/news/power/volkswagen-presents-new-low-price-electric-car-id-2all/98691573#:~:text=Volkswagen%20had%20said%20on%20Tuesday,drive%2C%22%20the%20group%20said. Accessed 23 Sept. 2023.
- Hotten, Russell. “Volkswagen: The scandal explained.” BBC News, 10 Dec. 2015, www.bbc.com/news/business-34324772. Accessed 22 Sept. 2023.
- Mellow, Craig. “German Auto Makers Are Pouring \$406 Billion Into EVs. The Race Is On.” Barron’s, 22 Sept. 2023, www.barrons.com/articles/german-auto-makers-are-pouring-406-billion-into-evs-the-race-is-on-894cc3f7?siteid=yhoof2. Accessed 23 Sept. 2023.
- Reuters. “Volkswagen has set up half of EV fast chargers planned until 2025.” Reuters, 4 Sept. 2023, www.reuters.com/business/autos-transportation/volkswagen-has-set-up-half-ev-fast-chargers-planned-until-2025-2023-09-04/. Accessed 23 Sept. 2023.
- Special Situation Investments. “Volkswagen (VWAPY) – Premium Mean Reversion – 18% Upside.” Special Situation Investments, 28 Apr. 2021, www.specialsituationinvestments.com/2021/04/volkswagen-vwapy-discount-mean-reversion-18-upside/. Accessed 22 Sept. 2023.
- Volkswagen Group. “Half-Yearly Financial Report 2023.” Volkswagen Group, 27 July 2023, www.volkswagen-group.com/en/publications/corporate/half-yearly-financial-report-2023-2466. Accessed 23 Sept. 2023.
- Volkswagen Group United Kingdom LTD. “RECORD MARKET SHARE FOR VOLKSWAGEN GROUP UK.” Volkswagen Group United Kingdom LTD, 6 Jan. 2021, www.volkswagengroup.co.uk/en-gb/releases/8. Accessed 23 Sept. 2023.
- Waldersee, Victoria. “Volkswagen CEO: We want to be among top three carmakers in China.” Edited by Friederike Heine. Reuters, 6 Sept. 2023, www.reuters.com/business/autos-transportation/volkswagen-ceo-we-want-be-among-top-three-carmakers-china-2023-09-06/. Accessed 23 Sept. 2023.
- Zacks Equity Research. “Volkswagen (VWAGY) Begins Pre-Orders for ID.7 in Europe.” Zacks, 25 Aug. 2023, www.zacks.com/stock/news/2140678/volkswagen-vwagy-begins-pre-orders-for-id7-in-europe#:~:text=Per%20Volkswagen%2C%20European%20buyers%20can,of%20up%20to%20532%20liters. Accessed 23 Sept. 2023.
- Zacks Equity Research. “Volkswagen (VWAGY) Plans to Launch 11 New Electric Cars by 2027.” Zacks, 6 Sept. 2023, www.zacks.com/stock/news/2145480/volkswagen-vwagy-plans-to-launch-11-new-electric-cars-by-2027. Accessed 23 Sept. 2023.

Why Oil Prices are on the Rise, Again

SEBASTIAN ZHU

During the first half of 2022, geopolitical tensions in the world had risen due to the expansion of NATO to the east. Russia foreboded Ukraine from joining NATO, and launched a full-scale invasion of Ukraine. In this period of time, oil prices soared to over \$120 USD, as Russia is the third largest producer of crude oil in the world, accounting for over 12 percent of the world's productions. In the second half of 2022, due to fear of recession and strict lockdown policies in China decreasing demand, crude oil prices dropped back down to around \$85 USD (Brent Crude) at the end of 2022.

Since July 2023, oil prices have gained around 30 percent. With Brent crude prices currently sitting at 95.15 (9:00 Sept 28), it means that consumers are paying higher prices for gas and possibly a rebound in inflation rates, if the prices stay high for sustained periods.

Like any other commodity, at the core of crude oil prices, is basic supply and demand. There are other factors that come into play, such as cost of production, investors and hedgers. This is why when Covid-19 hit, while oil demand dropped brutally, prices only went down marginally.

The recent surge in oil prices is partially due to the voluntary production cuts made by OPEC, and OPEC+ members. The organization is made up of a group of oil producing countries, which together control 40% of crude oil production and around 80% of estimated oil reserves. This gives these countries the ability to control oil prices, by withholding crude oil export capabilities. Members of OPEC+ are currently estimated to be withholding more than five percent of global supplies, which is five million barrels per day. This is benefiting Russia, according to economists. With high oil prices and lower supply, Russia is able to earn more from their oil exports through higher prices and lower discounts, amid the export cuts of diesel, sanctions and price-caps placed on crude oil from Russia.

As the Saudis, the de facto leader of OPEC announced that they are not ready to pump more oil and will not be reducing the production cuts until the end of the year, economists from JPMorgan estimated that Brent crude prices can jump to \$120 USD per barrel. With the dwindling stockpiles of fuel, more analysts are forecasting a sustained period where the price of a barrel reaches above \$100 USD.

However, not all analysts are optimistic about the rally. Analysts from Goldman Sachs stated that "most of the rally is behind us." There are a number of reasons for this speculation as well. High interest rates and inflation always reduces demand, and non-OPEC oil-producing countries such as China, USA and Brazil are already speeding up their production lines. Sustained periods of export cuts from OPEC countries will also reduce their market share, which will ultimately drive the Saudi economy downwards. Governments have also started to act on reducing gas prices with fiscal measures, with Joe Biden promising to cut prices, although not specifying how.

With the high oil prices, the economy is expected to be slightly dampened, as it is usually associated with slowing economic growth and increasing inflation. Analysts from both Goldman Sachs and JPMorgan have predicted a lowered GDP growth of around 0.5 percent over two quarters.

Principally, the volatility of crude oil prices is caused by geopolitical factors, where their uncertainty in turn creates much unpredictability for the governments and investors alike.

References

- Analysis: Oil price rally set to falter as demand doubts loom. Reuters, www.reuters.com/markets/commodities/oil-price-rally-set-falter-demand-doubts-loom-2023-09-25/. Accessed 28 Sept. 2023.
- Ferre, Ines. "Oil prices hold steady at \$90 a barrel as Wall Street weighs GDP impact." Yahoo Finance, Yahoo!, 27 Sept. 2023, finance.yahoo.com/news/oil-prices-hold-steady-at-90-a-barrel-as-wall-street-weighs-gdp-impact-190220029.html. Accessed 28 Sept. 2023.
- "OPEC." OPEC, www.opec.org/opec_web/en/. Accessed 28 Sept. 2023.
- Reed, Stanley. "Oil Prices 'Melt Up' in a March Toward \$100 a Barrel." The New York Times, New York Times, www.nytimes.com/2023/09/27/business/oil-price-100-barrel.html. Accessed 28 Sept. 2023.
- Troderman, Jimmy. "Crude oil prices increased in first-half 2022 and declined in second-half 2022." eia, Energy Information Administration, 4 Jan. 2023, www.eia.gov/todayinenergy/detail.php?id=55079. Accessed 28 Sept. 2023.
- What Determines Oil Prices? Investopedia, www.investopedia.com/articles/economics/08/determining-oil-prices.asp. Accessed 28 Sept. 2023.

Scrubbing Off The Green

COLIN NGAN & TIM HE

Over the past years, regulators have attempted to use ‘ESG’ (environmental, social, and governance) principles to influence companies, including financial firms, to act in more environmentally and socially responsible ways. This has included incentives being put in place for companies to adopt these ESG labels. Some say that these measures have indeed led to companies acting in more environmentally friendly ways, whereas others say that this is simply a way for companies to create an attractive image in pursuit of greater profits. Whichever it is, there's no doubt that many companies, and among them almost all financial firms, have to some extent participated in ESG-related themes, whether they do or do not intend to commit to actually putting those themes into practice. Yet recent news proves that ESG might not be as free of a label as we might have thought. As the regulatory measures regarding ESG investment funds tighten, many fund managers begin to remove the label “sustainable” from their fund branding in fear of facing charges.

Greenwashing

As the emphasis on engaging in sustainable practices around the world grows, the incentives for companies to brand their products and services as environmentally friendly increases correspondingly. The accelerating shifting of consumer demand and preferences towards sustainability subsequently instigates a wave of false labeling and misleading branding.

The term “greenwashing” was coined in the 1960s when the hotel industry discovered they could capitalize on reduced laundry costs by leaving a note in the hotel bathroom attempting to convince customers to reuse their towels for the greater good of “saving the environment”. This practice is still prevalent in modern-day hotels, the effectiveness of which is likely increasing with the sustainability shift in consumer preferences.

On the United States government’s Code of Federal Regulations website, general examples of greenwashing are given as well as some general principles companies are required to follow. When a company utilizes the marketing claim of “sustainable”, they have to specifically state whether the claim concerns only parts of the product or the whole. For example, when the term “recyclable” is printed on the plastic packaging of a shower curtain, the company has to specify if the plastic packaging is recyclable or only the shower curtain, or both. Otherwise, if either the packaging or the shower curtain cannot be recycled, the claim is considered misleading and a violation of the guidelines.



Image source: [Pote]

In the above case concerning investment funds, if there are no regulatory restrictions in place, fund managers can simply allocate a tiny fraction of the fund’s portfolio in ESG investments and claim that their fund is consequently an ESG fund.

Greenwashing

Greenwashing practices gradually became more blatant over the years, which subsequently lead to crackdowns and investigations into the sustainability claims of various companies by government institutions.

Not wanting to face such public scrutiny and get involved with these investigations, companies scrambled to remove sustainability-related labels from their product branding. Even companies that make legitimate claims concerning green practices frequently participate in greenwashing, fearing that they would potentially face accusations of engaging in greenwashing. Although these accusations may be unfounded, the potential implications of a public accusation on the issue could be devastatingly harmful towards the company's reputation. The effects of these allegations are further amplified by near instantaneous communication through social media platforms.

Consider the case of the furniture company IKEA. At first glance, the company's use of large quantities of lumber to manufacture furniture products might seem extremely damaging towards the environment. However, according to a blog post by LSE Business Review, IKEA actually sources the lumber it uses from "forests certified by the Forest Stewardship Council". Instead of proudly reminding consumers and investors of their environmental uprightness, they keep quiet about it fearing accusations and allegations of greenwashing.

Although more action needs to be taken by regulatory authorities to deter companies from engaging in greenwashing and environmental hypocrisy, the encouragement of legitimately sustainable companies to adopt environmentally-friendly branding is also important in preventing consumers and investors from being misled.



Images from [Tognarini], [Edie], [Grist].

References

- Carlos, W. Chad, and Ben W. Lewis. "Strategic silence: Why are some companies not publicising their environmental certifications?" LSE Business Review, 24 Sept. 2018, blogs.lse.ac.uk/businessreview/2018/09/24/strategic-silence-why-are-some-companies-not-publicising-their-environmental-certifications/. Accessed 30 Sept. 2023.
- The European Commission. "COMMISSION DELEGATED REGULATION (EU) 2023/363." EUR-Lex, 31 Oct. 2022, eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R0363. Accessed 28 Sept. 2023.
- Hayes, Adam. "What Is Greenwashing? How It Works, Examples, and Statistics." Edited by Margaret James and Ryan Eichler. Investopedia, 31 Mar. 2023, www.investopedia.com/terms/g/greenwashing.asp#toc-examples-of-greenwashing. Accessed 30 Sept. 2023.
- Leung, Chloe. "Asset managers turn to 'green hushing' on sustainable funds." Financial Times, 26 Sept. 2023, www.ft.com/content/c3168f01-b918-48ae-9fe3-35902adb7874. Accessed 28 Sept. 2023.
- Livni, Ephrat. "Go Green, Then 'Go Dark'?" New York Times, 21 Apr. 2023, www.nytimes.com/interactive/2023/04/21/business/what-is-greenhushing.html. Accessed 30 Sept. 2023.
- National Archives and Records of Administration. "Title 16." Code of Federal Regulations, 28 Sept. 2023, www.ecfr.gov/current/title-16. Accessed 30 Sept. 2023.
- Pote, Bon. Greenwashing. Bon Pote, 9 Oct. 2020, bonpote.com/en/carbon-neutrality-new-greenwashing-or-real-progress/. Accessed 3 Oct. 2023.
- Edie. Shushing Card Placed on Grass. 22 June 2023.
- Grist. Trees inside Suitcase. 24 July 2023.
- Tognarini, Franco. Chimney Cutout over Green Grass. 15 Oct. 2022.

Investing Concepts 1: Fundamental Analysis

SEBASTIAN ZHU

There are two main methods of approaching, understanding and analyzing a stock: Fundamental Analysis and Technical Analysis. Technical analysis focuses on analyzing the company's stock price chart, using various statistical techniques, such as moving averages and trendlines, to try and infer future price movements. Fundamental analysis is the more traditional approach – it considers the many factors that can affect a company's performance, such as the economy, market growth potential, inflation, the company's financial situation (looking at accounting data such as balance sheets and financial statements etc.) – and from that, infers how well the company is doing, and how well the company will do in the future. Generally this approach is for building longer-term portfolios, where the trader might look at charts over multiple years, as opposed to days, or even minutes in technical analysis.

In fundamental analysis, there are two different approaches to analysis: top-down and bottom-up. The top-down method first adopts a birds-eye view of the general environment, considering the economy, inflation, politics and so on, and eliminating undesirable stocks based on those considerations. Then, once that is done, the trader then zooms in on specific industries and markets, where they may analyze growth, consumer demand, operating margins, and outside competition. After selecting sectors, they then finally move to specific companies and then closely examine each company. The bottom-up method is the exact opposite, in which the trader will first collect a large pool of individual companies which it deems desirable, then filter those companies out based on larger scale, economic considerations.

The factors that may influence a company's financial well-being in Fundamental Analysis are grouped into two categories: Quantitative and Qualitative. As the names suggest, the first comprises numerical data, or any type of information that includes numbers such as ratios and formulas. Qualitative factors are less tangible such as a company's required regulations, business model, sustainability outlooks, executives, and the general forecast of the industry. Investors usually combine both quantitative and qualitative data to assist them in the determination of the value of a company.

There are many different tools and rubrics an investor can use when fundamentally examining a company or its sector. One of such analysis methods is using the Porter's Five Forces Model. This model is designed for the examination of industries, but it can be tweaked to also apply to specific companies. The model includes an appraisal of five factors: Competition in the Industry, Potential of New Entrants, Power of Suppliers, Power of Customers, and Threat of Substitutes. An example of a Porter's Five Forces analysis on a sector looks like this:

Information Technology

Competition in the Sector

Competition in the IT Sector is very fierce. There are a lot of players, which range from giants like Apple to small providers. In the US alone there are at least 585,000 IT companies (2023), of which just 65 constitute the S&P 500 Information Technology sector; indicating that most of the companies are small to medium sized, and are prone to mergers and acquisitions. The most common concentration ratio, the four firm concentration ratio, can be calculated as $\approx 55.79\% ((Apple: 2.75 + Microsoft: 2.44 + Nvidia: 1.16 + Broadcom: 0.37)/12.1)$ (as of September 2023). As the percentage is in the range of 50–100, this indicates that there is a lack of competition in the sector to these firms. The five firm concentration ratio is calculated as $\approx 58.6\% ((Apple: 2.75 + Microsoft: 2.44 + Nvidia: 1.16 + Broadcom: 0.37 + Oracle: 0.34)/12.1)$ (as of September 2023). This indicates that although a few firms in the sector hold significant market power/share, it has not reached the ratio of 60% to be considered an oligopoly. The S&P constituents concentration ratio is relatively high at 90.7%, the S&P 500 constituents having a total market cap of \$10.9 trillion USD, while the whole information technology sector market cap at \$12.1 trillion USD. However, as this is a fast growing sector with new products, companies with unique products and services have higher power compared to those without.

The amount of competition in the sector is HIGH.

Potential of New Entrants Into the Sector

There are currently already a large number of players in the information technology sector. New entrants into the sector would be going up against industrial giants such as Apple, Nvidia, Oracle, etc. As economies of scope is important, companies such as Apple can manufacture a wide variety of products and therefore lower production costs. Therefore a large amount of up-front capital is required to enter the sector. However, the uniqueness of this sector is that the rapidness of new technological advancements allow new entrants to make unique products. The operating margin of the S&P 500 Information Technology sector averages at 21.71%, compared to the overall average operating margin of S&P 500 at 11.91%. The high operating margin will attract new entrants and enable them to establish quick growth.

The threat of new entrants into the sector is MEDIUM.

Power of Suppliers

In the Information Technology sector, there are a large number of suppliers. The inputs are not standard, but rather different across the different companies that make them, which makes switching suppliers costly. When comparing a top player in the info-tech sector such as Microsoft to a top player in the communication services sector such as Vodafone, the latter only has around 9,000 suppliers, compared to Microsoft's 58,000. This means companies rely on a large number of suppliers for their various products, and that there are a large number of suppliers available, making the bargaining power of suppliers low.

The bargaining power of suppliers is LOW to MEDIUM.

Power of Customers

There are large numbers of buyers for products of the IT sector, as it has a CAGR (2023–2028) of 7.37%, the sector is expected to reach \$1771bn USD by 2028. The US market contributes the most amount of revenue. There are large amounts of both B2B and B2C customers, as there are both business IT outsourcing and the provision of direct services to consumers. Most IT products are comparatively highly unique, making the cost of switching high. The price sensitivity of consumers regarding new technologies are low, which lowers customer bargaining power.

Products are not manufacturable by the customers.

The bargaining power of customers is LOW to MEDIUM.

Threat of substitute

Substitutes pose a significant threat to any company in the sector. In the Information Technology sector, there are a large number of players, which means a large number of products and services that can be potential substitutes. The costs associated with switching suppliers are also minimal as digital information and software are easily transferable. However, there are little to no outside substitutes available, as a result of the unique features of the sector's products. Instead, the IT industry is seen replacing labor and features of other sectors, as seen from this paper as early as 1997.

The threat of substitutes is LOW.

Conclusion

Overall, according to the analysis, currently the sector is ATTRACTIVE to enter.

As seen from the analysis above, both quantitative and qualitative materials are used to determine the potential, competition, and attractiveness of the sector. However, finding and discerning data to form a comprehensive analysis can be quite difficult, so tools and ratios such as P/E ratio, D/E ratio, Return on Assets (ROA), Earnings per Share (EPS), Dividend Yield, and countless others are used by traders to determine the value of a particular company.

While most traders have their own set of rubrics that are used to assess a holding, one of the most widely used in Fundamental Analysis is the P/E ratio. The P/E ratio is a metric used to determine whether a stock is overvalued or undervalued. What does it mean? For instance, if a company is very high-performing, very solid, and should be very attractive, yet it is being traded at a very low price. That company would be undervalued, as its market price doesn't reflect its intrinsic value. Conversely, if a company is very average, doesn't have any particularly shining qualities, yet is being traded at an extremely inflated price, then it would be overvalued – the stock price is too high relative to the stock's quality. The P/E ratio is the way in which we quantify and put into specific numerical terms whether a company is over or undervalued.

The P/E ratio is calculated by dividing the stock price by its EPS. Earnings per Share comes in two forms which are used in the P/E, TTM (Trailing Twelve Months) and guidance EPS, which is a forecast of earnings expected in the future; thus P/E also has two forms. Typically, the higher the P/E, the more the company is overvalued, and the lower the P/E, the more the company is undervalued. However, there are no set benchmarks for a good or bad P/E ratio, as the best way to use it is to compare it to other companies in the same industry and to itself over time. As of September 22nd, the P/E (TTM) ratio of the S&P 500 sits at 24.77.

With all that being said, what is the main benefit of this fundamental analysis? For “value investors”, investors adopting a specific style of investing, fundamental analysis is used to determine a stock’s “intrinsic value” – what the stock should fundamentally be worth, based on various factors, economic or otherwise. Oftentimes, stocks are priced either above or below this “intrinsic value”. It is the belief of value investors that a stock’s price will always inevitably revert back to its intrinsic value. So value investors prefer to buy stocks that are undervalued, as they believe that the true, fundamental value of the stock will be realized at some point. “Growth investors” are different. They use fundamental analysis to determine which companies have a higher growth potential. They analyze a company’s fundamental factors to predict whether it will grow in size and earnings in the future. From this, they decide which stocks are the most attractive. Either way, different investors find different methods more appealing, and when all is said and done, the methods don’t matter – only the profits do.

References

- “Fundamental vs. Technical Analysis.” AMGfunds, AMG Funds, www.amgfunds.com/research-and-insights/investment-essentials/fundamental-vs-technical-analysis/ Accessed 23 Sept. 2023.
- Martin, Marci. “How Porter’s Five Forces Can Help Small Businesses Analyze the Competition.” Business News Daily, www.businessnewsdaily.com/5446-porters-five-forces.html. Accessed 23 Sept. 2023.
- Murphy, Chris B. “Using the Price to Earnings Ratio and PEG to Assess a Stock.” Investopedia, www.investopedia.com/investing/use-pe-ratio-and-peg-to-tell-stocks-future/. Accessed 23 Sept. 2023.
- “PE Ratio (TTM) for the S&P 500.” GuruFocus, www.gurufocus.com/economic_indicators/57/pe-ratio-ttm-for-the-sp-500. Accessed 23 Sept. 2023.
- Segal, Troy. “Fundamental Analysis: Principles, Types, and How to Use It.” Investopedia, www.investopedia.com/terms/f/fundamentalanalysis. Accessed 23 Sept. 2023.

