



Communication Services Sector Report

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Investment Management Program 2024 Spring Semester



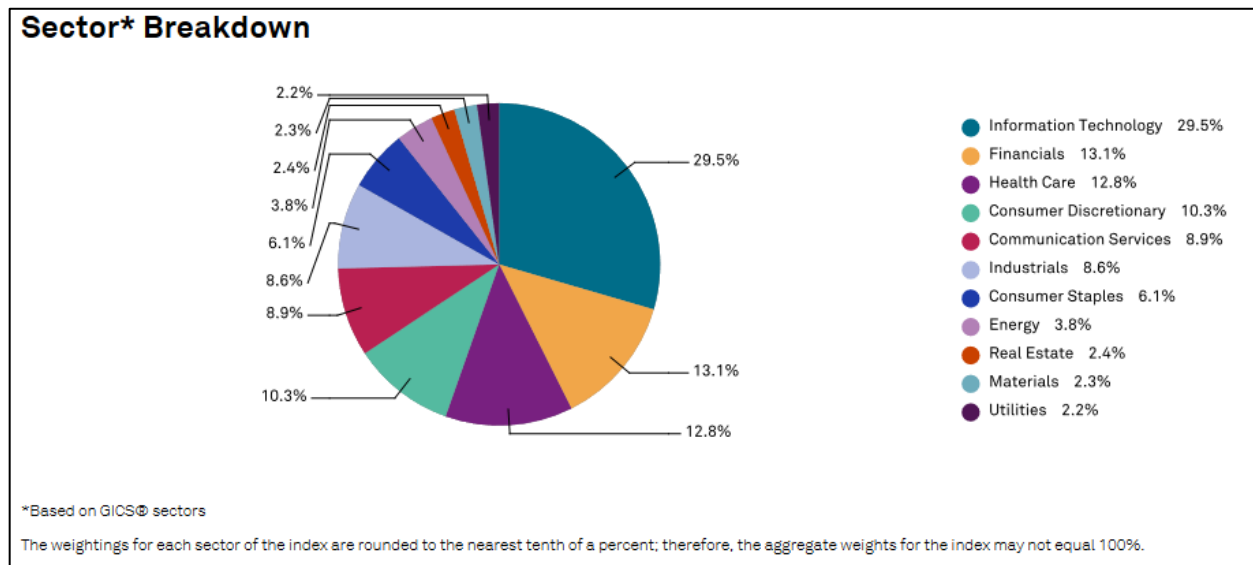
Introduction

The communication services sector is an extremely diverse sector that connects individuals through information and interaction. Although not a need, the services provided in the sector have become the norms of everyday life and will continue to be for the foreseeable future. One of the newest sectors in the S&P 500 index, communications services offer an array of services from telecommunications to media, to entertainment and more. This equity sector report offers and evaluation of the communication services sector including the sector’s size and historical performance, supplemented with financial and economic data. The data analyzed throughout the report will help to make decisions relating to sector allocation and security choices.

Wisman Fund Current Holdings

Alphabet Inc. (GOOG), Comcast Corporation (CMCSA), Meta Platforms Inc. (META), T-Mobile US Inc. (TMUS)

Size and Comparison



As of February 27th, 2024, the communication services sector accounts for 8.9% of the S&P 500 index's market capitalization (see the figure above). The Wisman Fund weighs the materials sector at 9.9%. The total market capitalization of the materials sector is \$4.927 trillion.

Historical Performance



This graph shows the sectors historical underperformance of the S&P 500 index. More recently it nearly mimicked the movements of the index, at a lower return.

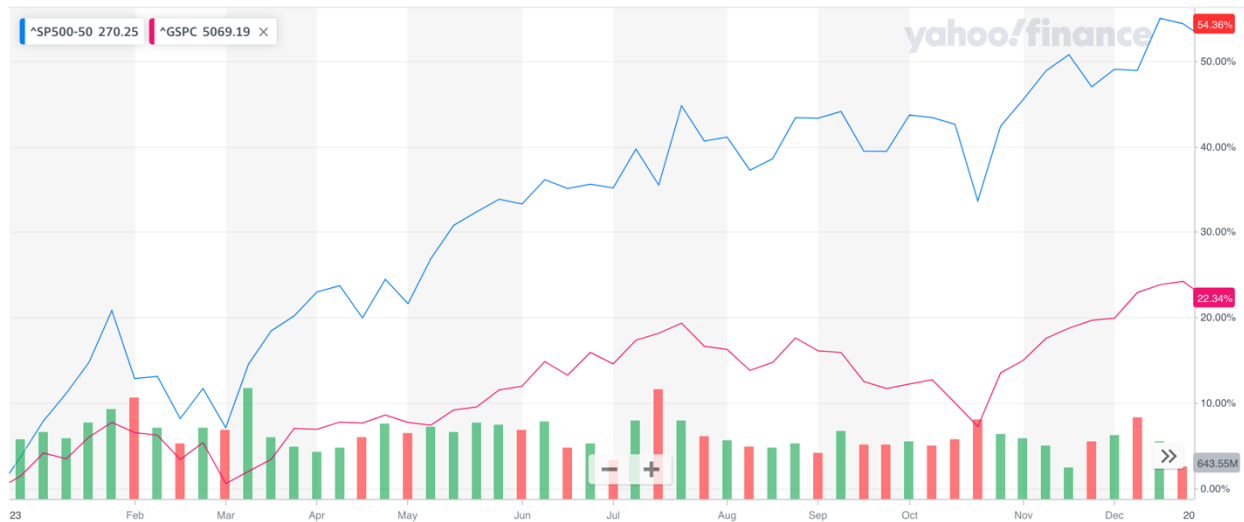
Composition of Communication Services Sector

The communication services sector is made up of 5 different industries: diversified telecommunication services, entertainment, interactive media and services, media, and wireless telecommunication. The top ten weighted companies in the S&P 500 index are seen in the list below. These constituents make up over 81% of the materials sector. All 4 of the current Wisman Fund holdings are in the top weighted stocks.

Ticker	Name	Sector Weight	Mkt. Cap
META	Meta Platforms Inc. Class A	29.98%	\$1.233 T
GOOGL	Alphabet Inc. Class A	11.27%	\$1.722 T
GOOG	Alphabet Inc. Class C	9.58%	\$1.724 T
NFLX	Netflix Inc.	5.29%	\$258.36 B
DIS	Walt Disney Company	4.79%	\$198.83 B
VZ	Verizon Communications Inc	4.17%	\$166.59 B
TMUS	T-Mobile US Inc.	4.16%	\$193.73 B
CMCSA	Comcast Corporation Class A	4.05%	\$166.72 B
EA	Electronic Arts	4.05%	\$37.64 B
T	AT&T Inc.	3.99%	\$118.99 B

Overall, Price Returns

As of December 29th, 2023, 1-year returns for the communication services sector and the S&P 500 from December 29th 2022, to December 29th 2023 are shown below. The communication services sector saw a staggering return of 54.36%, more than doubling the return for the S&P 500 at 22.34%. Communication services accounts for 8.42% of the IMP portfolio and provided an overall 1-year weighted return of 3.7%. This illustrates the vast overperformance of the sector in terms of 1-year returns compared to the S&P 500 index. (*^GSPC is the S&P 500 index ticker symbol, ^SP500-50 is the communication services sector ticker symbol*)



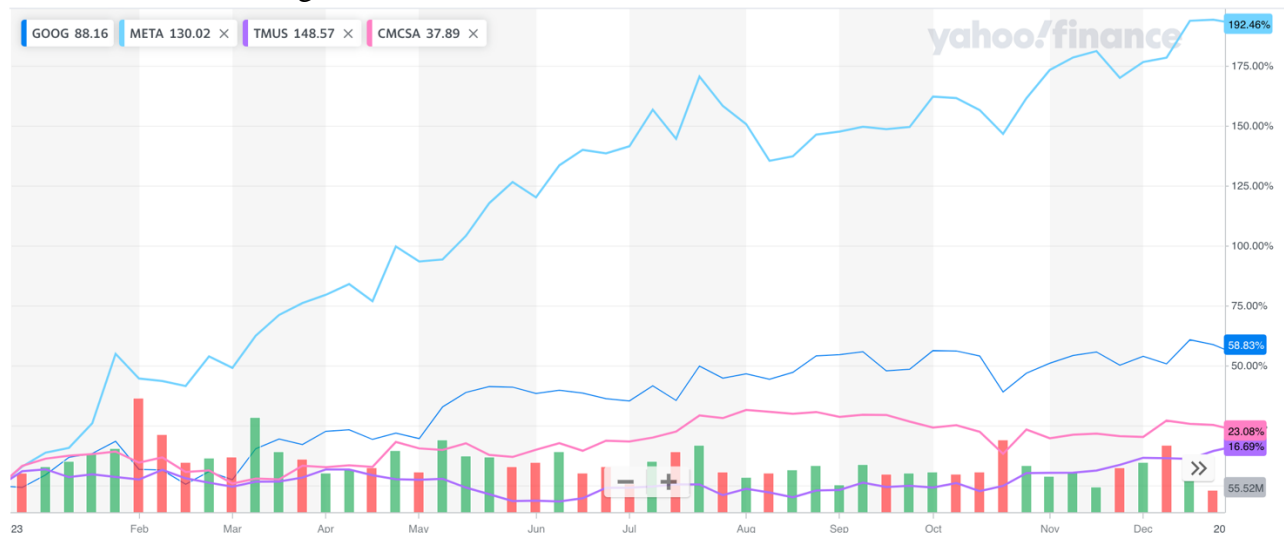
S&P 500 YTD Returns

Communication services enjoyed a fantastic 2023 with a YTD return of 54.36%. More than doubling the S&P 500, communications services was only slightly beat out by the information technology sector. This is confirmed in the graphic to the right, computed by calculations completed by the IMP class.

S&P 500 RETURN YTD 2023	
12/31/2023	Price RETURN
Energy	-4.80%
Materials	10.23%
Industrials	16.04%
Consumer Discretionary	41.04%
Consumer Staples	-2.16%
Health Care	0.30%
Financials	9.94%
Information Technology	56.39%
Communication Services	54.36%
Utilities	-10.20%
Real Estate	8.27%
S&P 500	24.23%

The Wisman Fund

The securities from the communication services sector in the Wisman fund provided weighted 1-year returns (for the entire fund) as follows: CMCSA = 0.07%, GOOG = 1.44%, META = 1.82%, and TMUS = 0.33%. The graph on the below shows the 1-year fluctuations and growth for the current holdings.



The graphic to the right shows the industries within the communication services sector and their respective one-year returns. Leading the way is interactive media and services with a 1-year return of 89.62%. Most industries enjoyed positive returns, but it is important to note the underperformance of the diversified telecommunication services industry. Having a 1-year return of -5.23% it was by far the worst performing industry. The industry as a whole is starting to become outdated in today's times. With the majority of the population switching to wireless and streaming options the industry has struggled to keep up with the rest. With the vast expansion of 5G networks across the globe the industry must be able to adapt to keep up with consumer preferences. With negative returns during a 1-, 5-, and 10-year outlook, change needs to happen quickly, or the portfolio should not consider to hold securities from this industry.

Industries	1-year ↕
Communication Services	+56.05%
Diversified Telecommunication Services	-5.23%
Entertainment	+36.78%
Interactive Media & Services	+89.62%
Media	+2.24%
Wireless Telecommunication Services	+13.51%

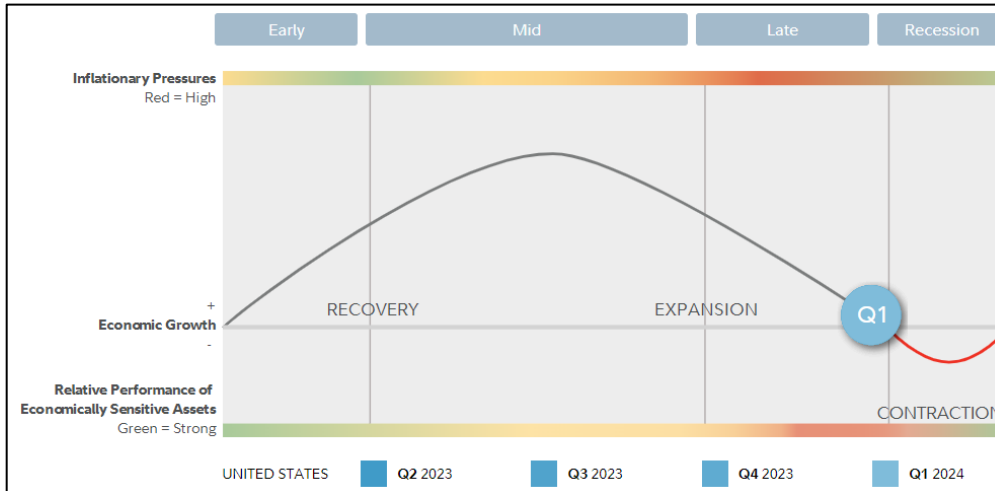
The Wisman Fund

The Wisman fund contains companies from the interactive media and services industry (GOOG, META), the media industry (CMCSA), and the wireless telecommunication services industry (TMUS).

Business Analysis

Economic Cycle

Fidelity indicates that the US economy is in the very late expansion stage of the economic cycle, as seen in the graphic directly below.



Businesses are currently navigating the late expansion stage of the economic cycle, and preparing for a potential recession. This phase presents a unique blend of opportunities and challenges. While low unemployment and rising wages fuel economic activity, growth momentum slows, inflation rises, and potential market volatility emerges. Recognizing these dynamics necessitates a strategic shift from solely pursuing growth to prioritizing risk mitigation through cost management, strategic investment, and revenue diversification.

Business Cycle

As seen below, the communication services sector is rather neutral in the late stage of the business cycle, and does not perform well in recessionary periods. This is due to people spending less in these periods, hurting many industries within the sector. Spending on movies, theme parks, etc. go down and this directly impacts the sector. These predictions are to be taken with a grain of salt however, as last year in the late period the sector performed phenomenally. Additionally, during the last recession in 2020, the communication services sector was the 3rd highest performing sector with a return of 26.82%, beating the S&P 500 which returned 11.29%.

Sector	<u>Early</u>	<u>Mid</u>	<u>Late</u>	<u>Recession</u>
Comm. Serv.		+		-

Communication Services Sector in the Economy

The communication services sector has become a vital part of everyday life and the economy. Although not deemed necessities, the greater part of the population relies on many of the services offered within the sector for everyday life. The popularity of social media, cell phones, entertainment, streaming, and more fuels innovation and efficiency, serving as a catalyst for economic growth.

Relationship with the Economy

The communication services sector is a great indicator of economic performance as it historically mirrors the S&P 500's performance. During recessionary periods spending in the sector decrease as the services provided are not necessities. However, the sectors standard to stay up to date has created numerous jobs and helps to impact the economy.

Product Segmentation:

- ***Diversified Telecommunication Services:*** Companies that offer a broad spectrum of communications services, including fixed-line, wireless, internet, and other data transmission services.
- ***Entertainment:*** Caters to leisure and recreational needs by providing experiences and content like theme parks, video games, and movies.
- ***Interactive Media & Services:*** Companies that provide interactive experiences and services, like social media, search engines, and streaming platforms, fostering online engagement and content consumption.
- ***Media:*** Companies that create and distribute content, informing and entertaining audiences through various platforms.
- ***Wireless Telecommunication Services:*** Facilitates mobile voice, data, and video communication through cell phone networks and other wireless technologies.

SWOT Analysis: Communication Services Sector

- **Strengths (Internal):**
 - *Growing Essential Demand:* Across media, entertainment, telecom, and more the services provided in the sector are a part of everyday life with extremely high demand.
 - *New Technologies:* Being a former part of IT, they constant demand for services keeps the technology needed to run networks up to date and constantly updating for the best service possible.
 - *Diversification:* The sector encompasses numerous different industries that mitigates risk when a specific industry is not performing well.
- **Weaknesses (Internal):**
 - *High Infrastructure Costs:* The resources needed to run and operate a network are extremely high and limit potential company ventures.

- *Cyberattacks*: With nearly all companies handling copious amounts of user data, the sector has been victim to numerous cyber attacks and data leaks.
- *Customer Service*: With hundreds of millions users/customers, many companies within the sector are know for having below average customer service.
- **Opportunities (External)**:
 - *Artificial Intelligence*: AI's rapid growth creates a more tailored experience through customer service and targeted advertizing.
 - *Expanding 5G Networks*: With 5G networks expanding companies have opportunities to further connect people and machines around the world.
 - *Expansion of the Cloud*: Cloud servers offer an array of remote computing for data, servers, software, and many more.
- **Threats (External)**:
 - *Looming Recession*: The communications services sector historically not a strong performer in recessionary periods.
 - *Adapting with the times*: As they world moves to become more wireless and cloud based, it is imperative for companies, especially the telecommunications indusrty, to be open to changing with the times.
 - *Increased Government Regulations*: New and continous government regulations (ex: advertising) limit the outreach the sector can have.

Economic Analysis

This economic analysis will consider important factors like PCE Inflation, Unemployment, the FED interest rate and monetary policy.

- *Inflation*: The PCE (Personal Consumption Expenditures) inflation rate is at 2.8%, which is above the Federal Reserve's target of 2%, but lower than the 3.3% projection. This indicates that there is currently elevated inflation in the economy. The FED acknowledges this and expresses its commitment to returning inflation to its 2% objective.
- *Unemployment*: The unemployment rate is at 3.8%. This suggests a very tight labor market with low levels of unemployment, which is typically associated with a strong job market.
- *Economic Activity*: The Federal Reserve indicates that economic activity has been expanding at a solid pace. This is a positive sign for the overall health of the economy, although it mentions that job gains have slowed in recent months. Despite this slowdown, the job market remains strong. 2023 percent change in GDP was well above the September projection.
- *Monetary Policy*: The Federal Reserve has decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. This suggests that the FED is holding interest

rates steady at a relatively high level, likely to combat inflation. The Fed also mentions its commitment to reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, which is a part of its strategy to normalize its balance sheet.

- *Uncertainty:* The FED acknowledges uncertainty regarding the effects of tighter credit conditions on economic activity, hiring, and inflation. This uncertainty suggests that the central bank is closely monitoring economic developments and may adjust its monetary policy as needed.

The table below acknowledges changes, and projections in real GDP, unemployment, PCE inflation and core PCE inflation.

Percent															
Variable	Median ¹					Central Tendency ²					Range ³				
	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run
Change in real GDP	2.6	1.4	1.8	1.9	1.8	2.5-2.7	1.2-1.7	1.5-2.0	1.8-2.0	1.7-2.0	2.5-2.7	0.8-2.5	1.4-2.5	1.6-2.5	1.6-2.5
September projection	2.1	1.5	1.8	1.8	1.8	1.9-2.2	1.2-1.8	1.6-2.0	1.7-2.0	1.7-2.0	1.8-2.6	0.4-2.5	1.4-2.5	1.6-2.5	1.6-2.5
Unemployment rate	3.8	4.1	4.1	4.1	4.1	3.8	4.0-4.2	4.0-4.2	3.9-4.3	3.8-4.3	3.7-4.0	3.9-4.5	3.8-4.7	3.8-4.7	3.5-4.3
September projection	3.8	4.1	4.1	4.0	4.0	3.7-3.9	3.9-4.4	3.9-4.3	3.8-4.3	3.8-4.3	3.7-4.0	3.7-4.5	3.7-4.7	3.7-4.5	3.5-4.3
PCE inflation	2.8	2.4	2.1	2.0	2.0	2.7-2.9	2.2-2.5	2.0-2.2	2.0	2.0	2.7-3.2	2.1-2.7	2.0-2.5	2.0-2.3	2.0
September projection	3.3	2.5	2.2	2.0	2.0	3.2-3.4	2.3-2.7	2.0-2.3	2.0-2.2	2.0	3.1-3.8	2.1-3.5	2.0-2.9	2.0-2.7	2.0
Core PCE inflation ⁴	3.2	2.4	2.2	2.0		3.2-3.3	2.4-2.7	2.0-2.2	2.0-2.1		3.2-3.7	2.3-3.0	2.0-2.6	2.0-2.3	
September projection	3.7	2.6	2.3	2.0		3.6-3.9	2.5-2.8	2.0-2.4	2.0-2.3		3.5-4.2	2.3-3.6	2.0-3.0	2.0-2.9	
Memo: Projected appropriate policy path															
Federal funds rate	5.4	4.6	3.6	2.9	2.5	5.4	4.4-4.9	3.1-3.9	2.5-3.1	2.5-3.0	5.4	3.9-5.4	2.4-5.4	2.4-4.9	2.4-3.8
September projection	5.6	5.1	3.9	2.9	2.5	5.4-5.6	4.6-5.4	3.4-4.9	2.5-4.1	2.5-3.3	5.4-5.6	4.4-6.1	2.6-5.6	2.4-4.9	2.4-3.8

Financial Analysis

These financial fundamentals are used together to assess the financial health and performance of a company. Analysts often consider them alongside other metrics, industry benchmarks, and qualitative factors to form a comprehensive view of a company's financial situation and prospects. It's important to note that the interpretation of these metrics can vary depending on the industry, company size, and economic conditions, so they should be analyzed in context.

Financial fundamentals

Why these factors?

- *ROE:* a financial ratio that shows how much net income a company generates per dollar of invested capital. It helps investors understand how efficiently a firm uses its money to generate profit.
- *EPS Growth Rate:* the net income generated in a given period as allocated to each common share outstanding.
- *ROA:* measures how efficient a company's management is in generating profit from their total assets on their balance sheet.
- *Profit Margin:* represents the portion of a company's sales revenue that it gets to keep as a profit, after subtracting all of its costs.

	S&P 500	Communication Services Sector
ROE	23.24%	20.35%
EPS Growth Rate	3.2%	28.37%
ROA	4.44%	13.44%
Net Profit Margin	10.7%	19.37%

Apart from ROE, the sector significantly outperforms the S&P 500. These differences may be attributed to the extreme revenue companies within the sector can generate on a year-to-year basis. With numerous different revenue streams across numerous different industries, the revenue generated is more aggressive than many of the slower growing securities included in the index.

Major Companies

	Meta Platforms Inc. (META)	Alphabet Inc. Class A (GOOGL)	Alphabet Inc. Class C (GOOG)
ROE	28.04%	27.36%	27.36%
EPS Growth Rate	73.11%	27.19%	27.19%
ROA	18.83%	19.23%	19.23%
Net Profit Margin	18.87%	24.01%	24.01%

These major companies in the S&P 500 index communication services sector outperform the market and the sector on every front.

Valuation Analysis

Valuation ratios, including metrics like the P/E ratio, P/B ratio, P/S ratio and DY play a crucial role in evaluating a company's worth. These ratios are evaluated in conjunction with other financial indicators, industry benchmarks, and qualitative factors to develop a comprehensive understanding of a company's financial standing and future potential.

Why these ratios?

- *P/E*: a way to value a company by comparing the price of a stock to its earnings.
- *P/B*: measures the market's valuation of a company relative to its book value.
- *P/S*: an investment valuation ratio that shows a company's market capitalization divided by the company's sales for the previous 12 months.
- *DY*: a financial ratio that tells you the percentage of a company's share price that it pays out in dividends each year.

	S&P 500	Communication Services Sector
P/E	23.27	26.82
P/B	4.04	3.64
P/S	2.33	2.96
Dividend Yield	1.51%	0.78%

The communication services sector apart from the P/B ratio is higher than the S&P 500. This can be taken as the sector being overvalued or having a high growth potential with a high worth. The dividend yield is also lower than the S&P 500, not generating that extra source of income for investors.

Major Companies

	Meta Platforms Inc. (META)	Alphabet Inc. Class A (GOOGL)	Alphabet Inc. Class C (GOOG)
P/E	31.83	25.16	25.37
P/B	7.91	6.42	6.47
P/S	9.22	6.04	6.09
Dividend Yield	0.42%	0.00%	0.00%

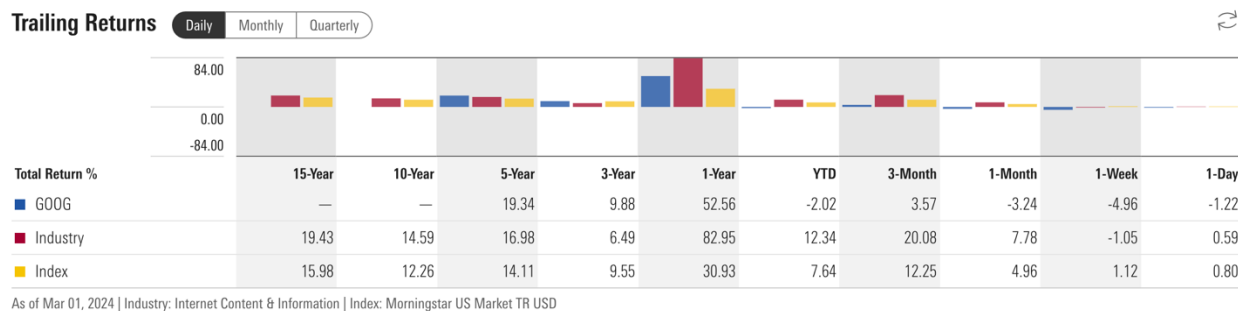
These major companies show an overvaluation in reagrds to the index and the sector. Also notably is the major companies offer little to no dividend income, common within the sector.

Current Holdings Trialing Returns

Trailing Returns

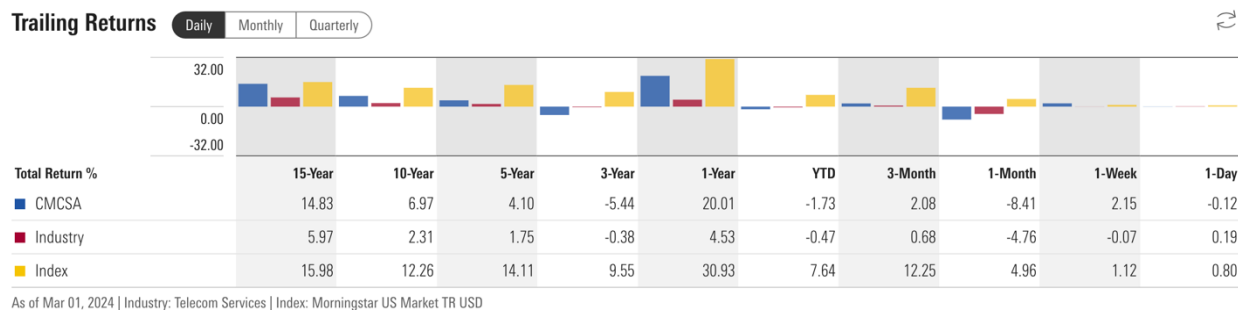
Trailing returns are a look into how a security has performed over 15 year periods against their respective industry, and the index. Trailing returns are a great tool to visualize and analyze the nominal growth of a security against a benchmark

Alphabet Inc. (GOOG)



GOOG has shown a strong long term performance, outperforming the industry and index in both the 5-year and 3-year returns. The short term outlook has shown a much different story, as it has underperformed both industry and index in the 1-year, YTD, and more. GOOG has especially had a rough start to the 2024 calendar year, where the stock dropped after earnings were reported, which is depicted above.

Comcast Corporation. (CMCSA)

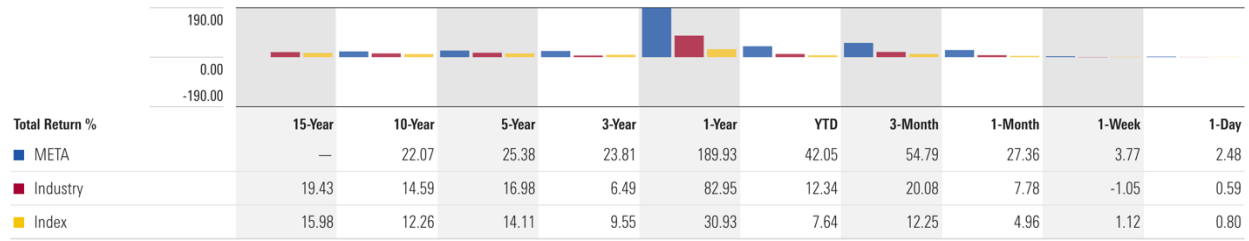


Long term Comcast has been a strong performer against the industry, however has never outperformed the index. Apart from the 1-year return, the short term has been a struggle for Comcast, underperforming both the industry and the index. Its inability to outperform the index will be evaluated further, looking to potentially sell off the security.

Meta Platforms Inc. (META)

Trailing Returns

Daily Monthly Quarterly



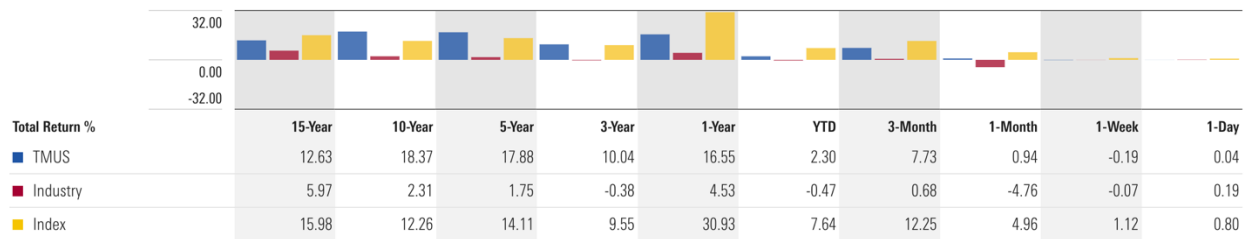
As of Mar 01, 2024 | Industry: Internet Content & Information | Index: Morningstar US Market TR USD

Meta has shown outstanding performances over the years, outperforming the industry and the index in every single return over the last 10 years. Meta continues to grow and innovate their company, which makes Meta a must have in the IMP portfolio for the foreseeable future.

T-Mobile US Inc. (TMUS)

Trailing Returns

Daily Monthly Quarterly



As of Mar 01, 2024 | Industry: Telecom Services | Index: Morningstar US Market TR USD

T-Mobile has shown excellent returns versus the industry, outperforming in every metric over the last 15 years. Over the long term they have been strong performers against the index as well, outperforming in the 10, 5, and 3-year returns. More recently they have had solid returns, with the index edging them out.

Recommendation

Based on the current market conditions and historical performance, we recommend the following actions regarding the Wisman Fund's allocation within the materials sector:

Overweight Materials Sector: Although a recession may be looming the communication services sector has been an excellent performer over the past year. With the buzz of AI at an all-time high, the potential growth of the sector offers incredible upside. In the recession of 2020 the sector held its own and was the 3rd highest performing sector in the S&P 500 index. In the late period we are currently in the sector was the 2nd highest performing sector last year and YTD is the 2nd highest performing sector as well. The S&P 500 index currently weighs the sector at 8.9% and the IMP portfolio current weighs the sector at 9.9%. My recommendation is to keep our portfolio in the 9-10% range. This will give the team room to potentially sell off current holdings while staying in our range, while looking to add new securities without the weight getting too high.

The Wisman Fund Current Holdings: Although overweighted to achieve the 9.0%-10% range it is crucial to look at the current holdings to determine if the fund should sell. The information regarding these stocks can be found below.

	Comcast Corporation (CMCSA)	Alphabet Inc. Class C (GOOG)
YTD Return	-3.9%	-0.7%
Holding Return	0.3%	-4.1%
Total Time Held	0 yr. 2 mo.	2 yr. 3 mo.
Portfolio Weight	0.81%	2.70%
Sector Weight	9.0%	30.0%
Market Cap (Size)	\$167.414 B (Large)	\$1.701 T (Mega)

	Meta Platforms Inc. (META)	T-Mobile US Inc. (TMUS)
YTD Return	36.9%	2.3%
Holding Return	101.0%	41.2%
Total Time Held	6 yr. 10 mo.	2 yr. 4 mo.
Portfolio Weight	4.10%	1.39%
Sector Weight	45.5%	15.4%
Market Cap (Size)	\$1.234 T (Mega)	\$194.409 B (Large)

The Wisman Fund holdings are in Alphabet inc. (GOOG), Comcast corporation (CMCSA), Meta platforms inc. (META), and T-Mobile US inc. (TMUS). Our holdings in META have been a catalyst for the sector leading the way in terms of success we have seen. Alphabet has seen a slow start to the year but should see a solid rebound on the back of a solid 2023 as the year progresses. T-Mobile has been a great addition to the portfolio providing a great holding return. With the expansion of 5G networks they should expect to see solid returns in the 2024 calendar year. Comcast is an interesting holding as it is extremely undervalued and analysts praise it for its expectations of steady cash flows, giving it a buy rating. However, with our goal of beating the benchmark, Comcast has proven to not be able to achieve this goal. With the world changing to wireless streaming, Comcast will have to adapt to be able to compete with other potential holdings. A conversation needs to be had on our current position in the security.

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