

Information Technology Sector Report Joshua Summers



Investment Management Program 2024 Spring Semester

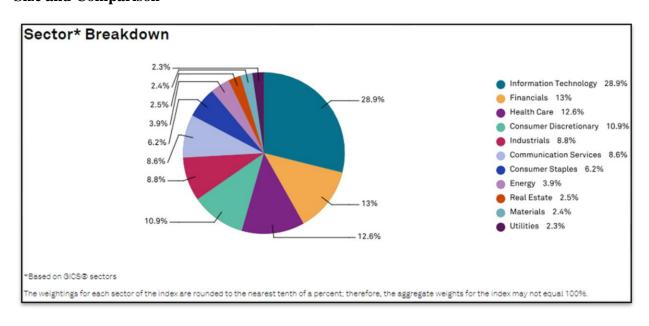
Introduction

The information technology sector comprises of companies that offer software and information technology services, manufacturers, and distributors of technology hardware & equipment such as communications equipment, cellular phones, computers & peripherals, electronic equipment and related instruments, and semiconductors. This equity sector report delves into a thorough examination of the information technology sector including the sector's size and historical performance, supplemented with financial and economic data. This report will ultimately offer data to drive decisions relating to sector allocation and security choices.

Wisman Fund Current Holdings

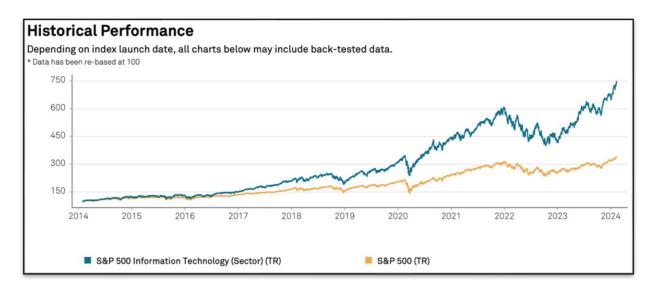
- NVIDIA Corp. (NVDA)
- Microsoft Corp. (MSFT)
- Apple Inc. (AAPL)
- Salesforce Inc. (CRM)
- Taiwan Semiconductor Manufacturing Co. (TSM)
- Roper Technologies Inc. (ROP)

Size and Comparison



As of December 29th, 2023, the Information Technology sector accounts for 28.9% of the S&P 500 index's market capitalization (see the figure above), 64 different companies. The Wisman Fund weighs the Information Technology sector at 39.4% as of February 28th, 2024. The current total market capitalization of the Information Technology sector is \$17.02 trillion.

Historical Performance



The graph above shows the cyclical nature of the Information Technology sector and its historical overperformance compared to the S&P 500 index.

Composition of Information Technology Sector

The Information Technology sector is made up of 6 different industries: communications equipment; electronic equipment, instruments, and components; IT services; semiconductor and semiconductor equipment; software; and technology hardware, storage, and peripherals. The top ten weighted companies in the S&P 500 index Technology Sector (XLK) are seen in the list below. These constituents make up approximately 69.12% of the Information Technology sector. The Wisman Fund contains four of the top weighted stocks within the S&P 500 including: NIVIDA Corp; Microsoft Corp; Apple Inc.; and Salesforce Inc. All of the Wisman Fund's Information Technology holdings except for 1, Taiwan Semiconductor Manufacturing Co. (TSM), are also held within the Technology Sector of the S&P 500 index.

Ticker	Company	S&P 500 Tech Sector Weight	Market Cap
MSFT	Microsoft Corp.	22.71%	3.03T
AAPL	Apple Inc.	19.46%	2.82T
NVDA	NVIDIA Corp.	6.76%	1.97T
AVGO	Broadcom Inc.	5.60%	606.82B
CRM	Salesforces, Inc.	2.97%	289.92B
AMD	Advanced Micro Devices	2.93%	287.61B
ADBE	Adobe Inc.	2.56%	249.73B

ACN	Accenture plc	2.42%	236.95B
CSCO	Cisco Systems Inc.	1.99%	195.62B
INTU	Intuit Inc.	1.91%	187.41B

Overall, Price Returns

As of December 29th, 2023, 1-year returns for the Information Technology sector in the S&P 500 saw growth at 56.39%, from December 29th, 2022. Whereas the S&P 500 saw a sizeable 24.58% increase over the same period. The Information Technology sector in the Wisman Fund accounted for 26.42% of the portfolio and has provided an overall weighted 1-year return of 24.94% during 2023. The graph below shows the overall performance data from Dec. 29th, 2022, to Dec. 29th, 2023. This illustrates the vast overperformance of the sector in terms of 1-year returns compared to the S&P 500 index. (*SP500-45 is the IT sector ticker symbol*, *GSPC is the S&P 500 index ticker symbol*)



S&P 500 YTD Returns

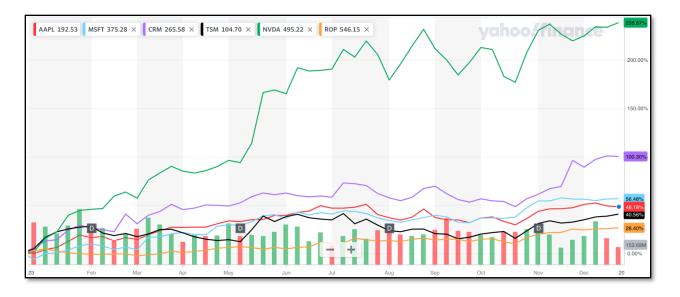
Reviewing the table to the right reveals two key elements. Information Technology not only overperformed the S&P 500, but also led all sectors in price return (56.39%) in 2023. There was a significant gap between the top three performers (IT, Communication Services, and Consumer Discretionary) and the rest of the sectors which is confirmed using the accompanying table created by IMP's accounting group.

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 IT sector in the Wisman Fund provided weighted 1-year return contribution (for the entire fund) as follows: AAPL = 3.39%; MSFT = 4.69%; NVIDIA = 16.03%; ROP = 0.31%.; CRM = 0.10%; TSM = 0.41%.

The chart below shows the 1-year (2023) fluctuations and growth for the current holdings.



Industry Returns

Industries	Today* 	5-day ♦	1-month ♦	3-month ♦	YTD 	1-year ♦	5-year \$	10-year \$
Information Technology	+0.06%	+3.38%	+3.54%	+14.01%	+9.67%	+57.04%	+199.14%	+529.62%
Communications Equipment	-0.25%	+1.30%	-3.69%	+5.80%	+1.68%	+16.83%	+26.62%	+125.54%
Electronic Equipment, Instruments & Components	+0.03%	+1.64%	+5.36%	+15.47%	+4.85%	+13.75%	+57.37%	+173.85%
IT Services	+0.19%	+2.64%	+0.16%	+13.08%	+7.43%	+39.26%	+72.23%	+218.07%
Semiconductor & Semiconductor Equipment	-0.28%	+8.20%	+15.43%	+39.48%	+27.45%	+110.66%	+332.12%	+877.47%
Software	-0.06%	+1.31%	+0.54%	+8.73%	+7.36%	+60.99%	+206.13%	+701.77%
Technology Hardware, Storage & Peripherals	+0.80%	+0.65%	-5.00%	-3.49%	-5.01%	+24.20%	+282.40%	+709.43%

The graphic above depicts the importance of the semiconductor and semiconductor equipment industry to the IT sector as a whole. In synopsis, the semiconductor industry is crucial for much more than AI alone. It fuels economic development as it generates billions of dollars in revenue annually and also provides employment to individuals on a global scale. It drives technological innovation because as semiconductors and semiconductor equipment improve, so does the ensuing: computing power, energy efficiency, device size, and the growth of industries reliant upon electronics. We are also in the infancy of AI. 2023 was a year full of capital investments targeting the implementation of AI and building AI infrastructure to enable businesses of all types to be more efficient and better suited to compete in the global environment. The software industry must not be overlooked as well. Software enables businesses and consumers to leverage the digital age to streamline workflows, progress education, enable the automation of tasks, and overall, improve the current quality of living.

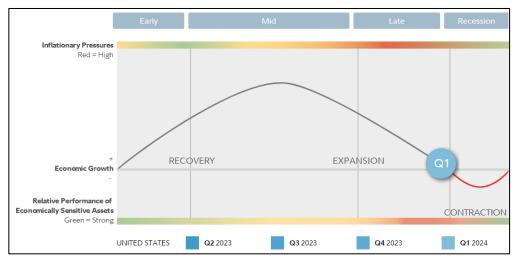
Industry Descriptions

- <u>Communication Equipment</u>: Responding to the demands of an increasingly interconnected world, the communications equipment industry creates infrastructure to meet growing data volume demands and improve network coverage and access. Products must be designed for low energy consumption. In addition, systems are shifting from predominantly hardware-only to software-defined networking and cloud-enabled solutions. Major products and services include wireless networking equipment; radio station equipment; broadcasting equipment, GPS, and the main driver of the industry is the production of microwave communications equipment as well as antennas for phones and cars.
- <u>Electronic equipment, instruments, and components</u>: This industry includes the manufacturers of electronic equipment, components, and instruments. The equipment is mainly for Original Equipment Manufacturers (OEM) markets. This includes analytical, electronic test and measurement instruments, electronic components, and connection devices. It also includes the distributors of technology hardware and equipment.
- <u>IT services</u>: IT is made up of several segments, including outsourcing, managed services, security services, data management, and cloud computing. This industry also offers consulting, and integration services to businesses seeking to optimize their IT infrastructure, improve cybersecurity, or implement digital transformation initiatives. Services may include IT advisory, system integration, cybersecurity solutions, and managed services. Generally, the profitability of companies in the industry depends on their ability to innovate their services and grow their technical expertise.
- <u>Semiconductor and semiconductor equipment</u>: Includes manufacturers and designers of semiconductors, chips, and/or integrated circuits. Semiconductors (Carbon, Germanium, and Silicon) and their related byproducts are used in the majority of electronic devices. Semiconductors was the second largest U.S. export within the Capital Goods category in 2023 equating to \$57.06 billion.
- <u>Software</u>: The software industry focuses on developing, selling, and maintaining software solutions for specialized applications in both the business and consumer markets. It includes applications and operating systems that are deeply interwoven with the 21st century lifestyle. Inside the software industry, there is a significant push to move to cloud computing. This takes form as a switch from on-premises software to software-as-a-service (SaaS) which conveys a third of the overall software market.
- <u>Technology hardware, storage, and peripherals</u>: This includes manufacturers of cell phones, personal computers, servers, networking equipment, computer hardware components, consumer electronic and peripherals. These extend to data storage components, motherboards, audio and video cards, monitors, keyboards, printers, and other peripherals.

Business Analysis

Economic Cycle

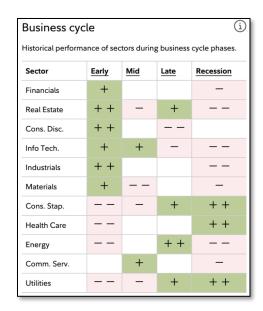
Fidelity indicates that the US economy is in the very late expansion stage of the economic cycle, as seen in the graphic directly below.



The late expansion stage of the economic cycle represents a mature phase of economic growth where growth marginally diminishes. During the late phase the following develop: high inflationary pressures that lead to contractionary monetary policy (high interest rates); company earnings become pressurized; peak employment levels; both business and consumer confidence begins to fade; stock market volatility develops amid uncertainty; and recessionary risks increase as the economy slows. It's key to understand the overlying economic condition while following a top-down investentment style to ensure that decisions have rationale and are grounded in relevant information.

Business Cycle

As seen below, Fidelity's table shows that the performance of the Information Technology sector is good in both the early and mid business cycles. Conversly, it depicts that IT does worse than others in the late business cycle, and vastly underperforms during recessions. Why? "Inflationary pressures hurt profits and capital spending by corporations . . . [and] investors move away from the most economically sensitive areas (Late Cycle)." It's noteworthy however to acknowledge that we've been classified in the late business cycle for approximately a yaer and a half (summer of 2022) by Fidelity. The chart suggest that IT should be underperforming, but in reality we see quite the opposite. Looking at the historical data (1960-2019) it can be seen that the actual results do not share a strong correlation to the theory in the instance of late cycle performance. The recent overperformance may stem from the fact that consumer spending remains high and continues to drive GDP growth even as the FED's monetary policy is contractionary.



	Cons. Disc.	Cons. Staples	Energy	Financials	Health Care	Industrials	Materials	Real Estate	Technology	Utilities
Average Monthly Return (%)	0.8	1.3	1.0	1.0	1.3	1.1	0.9	0.5	1.0	1.0
Average Monthly Excess Return (%)	-0.1	0.3	0.0	0.0	0.3	0.1	-0.1	-0.4	0.0	0.1
Average Period Return (%)	5.5	14.6	8.5	13.7	15.0	11.9	6.5	2.4	10.1	11.8
Average Period Excess Return (%)	-5.0	4.0	-2.0	4.0	5.0	2.0	-4.0	-8.0	0.0	2.0
Hit Rate (% of Months Outperforming the Market)	46.9	57.9	51.4	48.0	54.2	53.1	48.3	44.7	48.9	50.3
Hit Rate (% of Periods Outperforming the Market)	36.0	73.0	55.0	36.0	73.0	73.0	36.0	27	45.0	55.0
Aggregated Z-Score	-5.4	8.1	-0.3	0.5	7.3	3.8	-3.8	-10.8	-0.9	1.4

Information Technology Sector in the Economy

The Information Technology sector is indispensable to the global economy due to multiple reasons: IT increases productivity and efficiency; aids in the competition of the global markets; supports sustainable business practices; helps to develop professional knowledge and skills; facilitates large levels of employment; and ultimately, IT innovation reshapes the world.

Macroeconomic Factors: The IT sector's success is tied to the broader macroeconomic environment. It relies on factors such as economic growth, digital infrastructure development, government regulations, supply chain issues, and monetary policy.

- *Economic Growth:* The overall health of the economy is a primary driver of demand for the goods and services the IT sector offers businesses and consumers alike. During periods of strong economic growth, there is increased demand for products, therefore the companies can achieve profit growth, which in turn enables them to continue their capital investments in a sector where innovation is the competitive advantage.
- *Digital Infrastructure Development*: The digital environment is just as important in the modern age as the physical environment. The macro-digital infrastructure is the foundation of the entire IT sector. Federal Funding is a sizable source of funding with IT, and through the funding of physical infrastructure, the digital side also develops.
- Government Regulations: Regulations related to environmental sustainability, emissions, data privacy and security, intellectual property protection, antitrust laws, and tax policies can affect Information Technology production processes and costs. Balancing regulatory objectives with the need for innovation, investment, and market competition remains a key challenge for policymakers and the sector as a whole.
- Supply Chain Issues: supply chain issues can pose significant challenges for the IT sector, impacting production, distribution, pricing, and customer service. IT companies must proactively manage supply chain risks, diversify suppliers, and implement

- contingency plans to mitigate the impact of supply chain disruptions on their business operations and customer relationships.
- *Monetary Policy:* In theory, the monetary policy (open market operations, discount rate, and reserve requirements) when it's expansionary should encourage, as Fidelity suggests, the information technology sector to see larger growth. Vice Versa, when it's contractionary the sector's performance should also reflect the tightening rates and the decline in demand. In the real world, there is some residual data from what theory suggests (see below).

Sector Returns during Early Cycle (Recovery) (1960 – 2019)										
	Cons. Disc.	Cons. Staples	Energy	Financials	Health Care	Industrials	Materials	Real Estate	Technology	Utilities
Average Monthly Return (%)	3.4	1.9	2.8	2.4	2.3	2.9	3.0	3.6	3.0	1.6
Average Monthly Excess Return (%)	1.1	-0.3	0.6	0.1	0.0	0.6	0.7	1.3	0.7	-0.6
Average Period Return (%)		18.0	27.1	23.1	21.4	27.4	29.3	39.2	28.4	14.7
Average Period Excess Return (%)	12.0	-3.0	6.0	2.0	0.0	6.0	8.0	18.0	7.0	-7.0
Hit Rate (% of Months Outperforming the Market)	64.5	43.5	53.2	54.8	46.8	56.5	61.3	58.1	53.2	45.2
Hit Rate (% of Periods Outperforming the Market)	86.0	29.0	57.0	57.0	43.0	71.0	71.0	57.0	71.0	29.0

Sector Returns during Mid Cycle (Expansion) (1960 – 2019)										
	Cons. Disc.	Cons. Staples	Energy	Financials	Health Care	Industrials	Materials	Real Estate	Technology	Utilities
Average Monthly Return (%)	1.4	0.9	1.2	1.7	1.0	1.4	1.2	1.5	1.8	0.7
Average Monthly Excess Return (%)	0.1	-0.4	-0.2	0.4	-0.3	0.1	-0.2	0.1		-0.6
Average Period Return (%)	16.6	10.6	15.5	18.7	10.8	16.2	13.1	17.8	21.0	7.
Average Period Excess Return (%)	1.0	-5.0	0.0		-4.0	1.0	-2.0	3.0	6.0	-8.
Hit Rate (% of Months Outperforming the Market)	50.7	47.3	47.8	58.0	47.3		46.8			41.
Hit Rate (% of Periods Outperforming the Market)	73.0	45.0	45.0	91.0	27.0	55.0	55.0	55.0	82.0	9.

Yet, in 2023, while interest rates were high and while being in a late cycle, IT was the top-performing sector (10 Year Sector Returns).

2014	2015	2016	2017	2018	2019	2020	2021	2022	20231
Utilities 28.59	Consumer Discretionary 9.94	Energy 28.01	Technology 34.28	Health Care 6.29	Technology 49.97	Technology 43.57	Energy 53.02	Energy 64.42	Technology 55.98
Health Care 25.18	Health Care 6.86	Financials 22.69	Materials 23.94	Utilities 4.03	Financials 31.90	Consumer Discretionary 29.58	Real Estate 45.97	Utilites 1.44	Communication Services 52.84
Technology 17.75	Consumer Staples 6.83	Industrials 19.95	Industrials 23.84	Consumer Discretionary 1.65	S&P 500 31.49	Communication Services 26.82	Financials 34.77	Consumer Staples -0.82	Consumer Discretionary 39.64
Consumer Staples 15.86	Technology 5.63	Materials 16.66	Consumer Discretionary 22.77	Technology -1.57	Communication Services 31.23	Materials 20.34	Technology 34.53	Healthcare -2.05	S&P 500 26.29
Financials 15.03	S&P 500 1.38	Utilities 16.00	Financials 22.04	Real Estate -2.27	Industrials 29.12	S&P 500 18.40	NYSE Equal Sector Weight 29.46	Industrials -5.54	Industrials 18.05
S&P 500 13.69	NYSE Equal Sector Weight -1.37	Technology 14.82	S&P 500 21.83	S&P 500 -4.38	Real Estate 28.84	Healthcare 13.27	S&P 500 28.71	Financials -10.56	NYSE Equal Sector Weight 16.99
NYSE Equal Sector Weight 13.41	Financials -1.60	NYSE Equal Sector Weight 14.31	Health Care 21.70	NYSE Equal Sector Weight -6.74	Consumer Discretionary 28.42	NYSE Equal Sector Weight 11.29	Consumer Discretionary 27.83	NYSE Equal Sector Weight -10.48	Materials 12.46
Industrials 10.45	Industrials -4.25	S&P 500 11.96	NYSE Equal Sector Weight 18.27	Consumer Staples -8.00	NYSE Equal Sector Weight 28.21	Industrials 10.83	Materials 27.43	Materials -12.31	Real Estate 12.38

Most recent Recession per the National Bureau of Economic Research (NBER) was February 2020 through April 2020.

To the right, the chart spans the dates of our last official recession.

Black Line (S&P 500) = -12.24%

Red line (IT) = -3.90%

Blue line (Cons. Stps) = -8.91%

Purple (Health Care) = -1.39%

Orange (Utilities) = -18.99%

IT performed 2nd best out the 4 industries while rated a double negative (--) on Fidelity and the others were all double positive (++)



SWOT Analysis: Information Technology Sector

• **S**trengths (Internal):

- o *Innovation and Adaptability:* The sector is known for its constant technological advancements which continually evolve to improve upon itself and to meet the ever changing needs of all consumers.
- High Profit Margins: IT can achieve high profit margins due to the scalability of their products and services, low marginal costs, and recurring revenue streams.
 This enables companies to generate significant returns and maintain strong financial performance.
- O Global Footprint and Talent Aquistion: IT connects the world. Thus, the global footprint provides opportunities for diversification of revenue, market expansion, and access to a worldwide customer base. It's scale and constant modernism also attracts employees with the top of the line expertise.

• <u>Weaknesses</u> (Internal):

- Dependent on Supply Chain: The IT sector highly relies upon the global supply chain to source components, manufacture products, and provide services. Breaks in the supply chain can cause customer dissatisfaction and increased costs.
- Regulatory Concerns: The IT sector is subject to regulatory scrutiny and compliance requirements across multiple jurisdictions. Regulations related to data privacy, intellectual property rights, antitrust, and taxation can vary significantly, leading to compliance complexities and legal risks for companies.
- High Capital Requirements: IT sector businesses require substantial capital for infrastructure, equipment, and R&D from constant innovation, making it capitalintensive.

• Opportunities (External):

- Digital Transformation: Businesses seek to leverage technology to improve efficiency, enhance customer experiences, and gain a competitive advantage in the digital economy. The digital environment is only growing so providers can capitalize on the demand from businesses trying to compete in the global markets.
- AI/Cloud Computing Adoption: The adoption of cloud computing continues to grow, driven by factors such as cost savings, scalability, and flexibility. AI follows the same trend of reducing computational time to do larger amounts of data processesing more quickly which in turn enables greater workloads.
- Emerging Technology: Emerging technologies such as artificial intelligence, blockchain, 5G, and Internet of Things (IoT) offer new growth opportunities for the IT sector. Companies that invest in these categories now position themselves well for capturing the profits of the emerging and growing markets.

• Threats (External):

 Economic Downturns: Economic recessions can lead to reduced demand for products. Downturns can also inhibit the ability for firms to invest in the IT sector

- resources. As well as the sector itself, it can face challenges in R&D and difficulty mainting working capital.
- o *Geopolitical Instability:* Political tensions and conflicts in resource-rich regions can disrupt supply chains which IT is highly dependant upon.
- Cybersecuirty Threats: Cyberattacks targeting data breaches, ransomware, and phishing attacks can disrupt operations, compromise sensitive information, and damage reputations.

Economic Analysis

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

- *Inflation:* The Core PCE (Personal Consumption Expenditures) annualized inflation rate was reported at 2.9% in December 2023, which is approaching the Federal Reserve's target of 2%.
- *Unemployment:* The unemployment rate is at 3.7%. This suggests a very tight labor market with low levels of unemployment, which is typically associated with a strong job market and associated with the expansionary phase of the business cycle.
- *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. "Compared to the third quarter of 2023, the deceleration in **real GDP** in the fourth quarter primarily reflected slowdowns in private inventory investment, federal government spending, residential fixed investment, and consumer spending. Imports decelerated (BEA)."
- Monetary Policy: The Federal Reserve decided on January 31st, 2024 to maintain the target range for the federal funds rate at 525 to 550 basis points (bps).
 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															
		1	Media	n ¹			Cent	ral Tendenc	y^2			I	Range ³		
Variable	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run
Change in real GDP September projection	2.6 2.1	1.4 1.5	1.8 1.8	1.9 1.8	1.8 1.8	2.5-2.7 1.9-2.2	1.2-1.7 $1.2-1.8$	1.5–2.0 1.6–2.0		1.7-2.0 1.7-2.0	2.5–2.7 1.8–2.6	$0.8-2.5 \\ 0.4-2.5$	1.4-2.5 1.4-2.5		1.6-2.5 1.6-2.5
Unemployment rate September projection	3.8 3.8	4.1 4.1	4.1 4.1	$\frac{4.1}{4.0}$	4.1 4.0	3.8 3.7–3.9	4.0-4.2 3.9-4.4	4.0 – 4.2 $3.9 – 4.3$		3.8-4.3 3.8-4.3	3.7-4.0 $3.7-4.0$	3.9-4.5 3.7-4.5	3.8-4.7 3.7-4.7	3.8-4.7 3.7-4.5	
PCE inflation September projection	2.8 3.3	2.4 2.5	$\frac{2.1}{2.2}$	$\frac{2.0}{2.0}$	2.0 2.0	2.7-2.9 3.2-3.4	2.2-2.5 $2.3-2.7$	2.0-2.2 $2.0-2.3$	2.0 2.0–2.2	2.0 2.0	2.7–3.2 3.1–3.8	2.1-2.7 $2.1-3.5$	2.0-2.5 2.0-2.9	2.0-2.3 2.0-2.7	2.0 2.0
Core PCE inflation ⁴ September projection	3.2 3.7	2.4 2.6	$\frac{2.2}{2.3}$	$\frac{2.0}{2.0}$		3.2–3.3 3.6–3.9	2.4-2.7 $2.5-2.8$	2.0-2.2 $2.0-2.4$	2.0-2.1 2.0-2.3		3.2 – 3.7 3.5 – 4.2	2.3 – 3.0 2.3 – 3.6	2.0-2.6 2.0-3.0	2.0-2.3 2.0-2.9	
Memo: Projected appropriate policy path															
Federal funds rate September projection	5.4 5.6	4.6 5.1	3.6 3.9	2.9 2.9	2.5 2.5	5.4 5.4–5.6	4.4–4.9 4.6–5.4	3.1–3.9 3.4–4.9	2.5 - 3.1 2.5 - 4.1	2.5-3.0 2.5-3.3	5.4 5.4–5.6	3.9-5.4 4.4-6.1	2.4 - 5.4 2.6 - 5.6	2.4-4.9 2.4-4.9	

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.

Fundamentals	S&P 500	Information Technology Sector
ROE	23.24%	45.18%
EPS Growth Rate	3.2%	149.79%
ROA	4.44%	11.45%
Net Profit Margin	10.7%	20.66%

The Information Technology sector outperforms the S&P 500 in terms of ROE, EPS growth rate, ROA, and net profit margin. These differences may be attributed to the specific characteristics of the economy such as global economic conditions. Also, the excitement within the IT sector, such as AI adoption, and the ever-growing reliance upon technology, could contribute to the differences between the S&P 500 and IT sector.

Major Companies

	Apple Inc. (AAPL)	Microsoft Corp. (MSFT)	NVIDIA Corp. (NVDA)
ROE	171.95%	38.82%	91.46%
EPS Growth Rate	0.33%	0.31%	585.63%
ROA	27.50%	18.63%	55.67%
Net Profit Margin	25.31%	34.15%	48.85%

These major companies in the S&P 500 index IT sector tend to outperform the market. The top performers are NVIDIA Corp., Microsoft Corp., and Apple Inc.

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	Information Technology Sector
P/E	23.27	42.82
P/B	4.04	11.42
P/S	2.33	-
Dividend Yield	1.51%	0.93%

The information technology sector has a higher P/B ratio indicating that the S&P 500 may be a more attractive investment. These ratios conclude that the IT sector is either overvalued or the sector is expected to see continued growth. The S&P 500 does offer a higher dividend yield which may be more attractive to investors with shorter investment horizons, but IT's yield is small because generally tech companies maintain most of their profits. This is done in order to meet the capital-intensive needs of the sector, for M&A, and reinvestment into R&D to power innovation.

Major Companies

Valuation	Apple Inc. (AAPL)	Microsoft Corp. (MSFT)	NVIDIA Corp. (NVDA)
P/E	28.23	36.87	65.22
P/B	48.17	12.66	36.71
P/S	7.94	12.86	27.48
Dividend Yield	0.53%	0.74%	0.021%

Apple and Microsoft actually show an undervaluation with respects to P/E ratios to the IT sector as a whole. However, it is important to remember that a stock's historical ratios are more revealing when being compared to itself than when comparing it to the overall sector due to companies falling within different industries (different roles).

Current Holdings Trialing Returns

Why Trailing Returns?

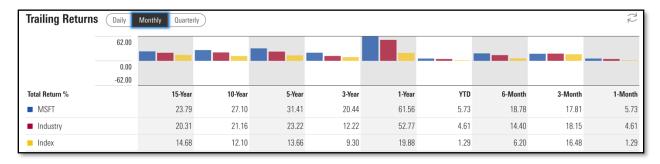
Trailing returns on an absolute basis can give you an idea of how much an investment has grown on a nominal basis, which can be compared to the benchmark. Trailing returns relative to a benchmark can tell you if an investment has outperformed or underperformed the benchmark over the measured time horizon.

Apple Inc. (AAPL)



AAPL demonstrated reliant performance, particularly spanning from the 1-Year total return back unto the 15-Year period, and consistently outperformed both its industry peers and the broader market. The correlation to the industry is worthwhile to mention as it's very observable how tightly the two track one another. AAPL, over the long-run, significantly outperforms the index.

Microsoft Corp. (MSFT)



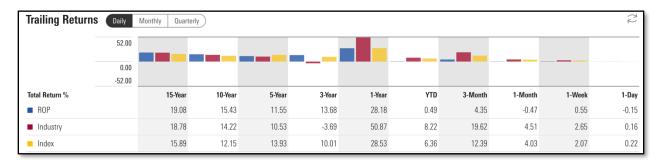
MSFT is another staple within the portfolio. As shown, it historically outperforms both the industry and the index on every time variable. This stock continues to broaden it's exposure into different industries within the IT sector, and is a long-term hold for the foreseeable future.

NVIDIA Corp. (NVDA)



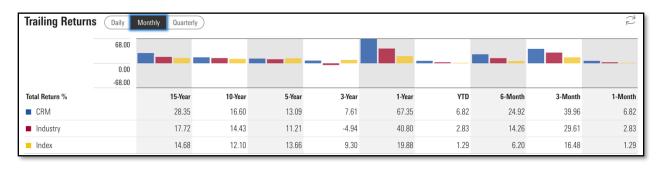
NVDA is the most aggressive stock in IMP's IT sector when it comes to beating the benchmark. Looking at both the long-term and short-term you can see it's success. Most notebly, the 1-year return that approximately tripled (2.9x) the return of the industry and significantly overshadowed the index. This stock should be discussed by the entire class as its size is continuing to grow into a larger percentage of our total holdings due to price increases.

Roper Technologies, Inc. (ROP)



ROP is the most questionable holding in the IMP Information Technology sector. Over the long run it's slightly overperforming the industry and index. However, in the short-term, it is underperforming both the inudstry and index. ROP will need to undergo further analysis as time continues to see if the company will undergo reversion to its mean or if there is a fundamental seperating point in which the class should move away from the stock.

Salesforce, Inc. (CRM)



CRM has seen success in both the long-term and short-term. In recent time frame, CRM has been beating both the industry and the index by larger margins than it has traditionally. CRM looks to be another position the class holds unless the company begins trending in a different manner.

Taiwan Semiconductor Manufacturing Company Limited (TSM)



TSM is one of our two current holdings that needs further analysis done. TSM is the world's largest contract chip manufacturer in the world. With the current push for AI and computing power, it has not fully joined some of the other semiconductor companies in the recent momentum push. It has benefitted from the movement as you can see in the *Current Holdings Table* below. A study should be done to see if the chip supply in the global economy is growing to the point where we will not meet a demand equilbrium point for some time such as IMP saw with the lithium prices and Tesla and/or SIGMA Lithium. Looking at the provided trailing returns, it has done a good job beating the index, however, it always falls short of the industry.

Recommendation

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

Overweight Information Technology Sector: Considering the cyclical nature, economic outlook, historical data, current financial data, and the SWOT analysis, the Information Technology sector should be **overweighted**. The weight of the IT sector in the S&P 500 Index as of December 29th, 2023, was 28.9%. It is recommended that the fund find a target weight between 30%-34.5%. Overweighting this sector will help us continue to meet our investment objective of outperforming the benchmark (S&P 500).

The Wisman Fund Current Holdings: Considering the overweighting recommendation, it is crucial to denote IMP's current holdings to determine what the fund should continue to hold or advance from. The information regarding these stocks can be found below.

	Apple Inc. (AAPL)	Microsoft Corp. (MSFT)	NVIDIA (NVDA)
YTD Return	-5.2%	9.1%	59.2%
Holding Return	2783.4%	1726.9%	1523.0%
Total Time	16 years 3 months	19 years 0 months	4 years 4 months
Held			
Portfolio	6.62%	8.43%	14.28%
Weight			
Sector Weight	18.5%	23.5%	39.8%
Market Cap	3.02T (Large)	2.78T (Large)	1.96T (Large)
(Size)			

	Roper Tech. Inc.	Salesforce, Inc. (CRM)	Taiwan
	(ROP)		Semiconductor
			Manuf. (TSM)
YTD Return	2.1%	11.3%	24.5%
Holding Return	41.6%	16.5%	12.6%
Total Time	3 years 3 months	0 years 2 months	2 years 10 months
Held			
Portfolio	0.81%	1.34%	0.94%
Weight			
Sector Weight	2.3%	3.7%	2.6%
Market Cap	58.22B (Large)	289.99B (Large)	661.06B (Large)
(Size)			

The Wisman Fund holdings in Apple Inc., Microsoft Corp., and NVIDIA Corp., are all very strong positions in the information technology sector. The two big winners (AAPL & MSFT) have greatly contributed to the success of our portfolio for more than 15 years each. The IMP cohort should look to overweight this sector by maintaining its position in these two securities. The class also needs to examine NVIDIA to determine if IMP wants to maintain the position where it is or decrease it. If a sell is decided upon then we can look into potentially increasing our holdings in the big winners, search out an alternative within the IT sector, or try to increase our exposure in another sector entirely.

Sources

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