SMF Team Green Spring 2023 Summary

University of Connecticut School of Business

Data as of April 10th, 2022

Letter to Investment Advisory Board

Members of the UConn Investment Advisory Board,

The 2022-2023 Student Managed Fund Team Green would like to thank you for the opportunity to participate in such a prestigious program. A top-notch educational environment is an excellent foundation for a career in finance. Yet nothing can rival the unparalleled experience of managing a portfolio, conducting market research, and working in a professional team setting.

While this program has been around for over twenty years, this is the first time a team has consisted of Storrs undergraduates, Stamford undergraduates, and MSFRM graduate students. It is a true privilege to be able to work with members of varying experiences. We have made the most of our experience and adapted to the remote style of work that is so common in the corporate world following the pandemic.

The appliance of market knowledge, critical thinking, and financial modeling all play a role in our day-to-day decisions within our portfolio. The most important lessons that stuck with our team are the significance of risk management and emotional control. In risk management, the team took time to understand how markets change in different environments, and that is why it is crucial to incorporate stop losses in our strategy. For emotional control, our team learned the hard way to properly contact research on your own and not get involved with trends.

We can put these lessons into action by managing a significant amount of real money. The consequences and rewards motivate and allow us to understand the reality when going into the workforce as we gain real-life experience.

As a team, we have grown tremendously from the start of the semester and have learned a lot about each other. Our debates, personal research, comments, and advice from the faculty have become more educated as the semester progresses, and we are excited to execute these lessons post-graduation.

Team Green

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Lead Managers: Andrew Brewer, Juan Perfumo
Portfolio Manager: Furkan Parcel, Juan Perfumo
Risk Manager: Yanting Lin
Communications Manager: Haoxin Zhang
Digital Media Manager: Guo Cheng

Investment Style Overview

Risk Management:
Risk management is one of the fundamental building blocks of our investment philosophy as we attempt to outperform the S&P 500 Index while maintaining the least amount of risk possible. Our fiduciary responsibility to the University of Connecticut Foundation caused our investment philosophy to be structured around capital preservation; in doing this, we have an in-depth understanding of the risk profile we constructed with our investments during the year. As a team, we look at how the specific company fits into our portfolio and the impacts on the portfolio. We would look at the Sharpe Ratio, the VaR, the alpha of each company, and the portfolio. Before making a financial decision regarding our investments, there is extensive discussion, questions, answers, and debate regarding the potential risks. The following are types of risk that we discuss:

Market Uncertainty: higher distribution of returns given different types of markets, sectors, companies, and industries

Market Risk: economic developments or other events that would cause a decline in value

Reduce Tail Risk: a concentration of a single stock, sector, or industry to affect the portfolio

Business Model Risk: A firm that’s product or service can be easily replicated or is unsustainable

Management Risk: a company that financial, ethical, or otherwise associated issues due to lack of proper management

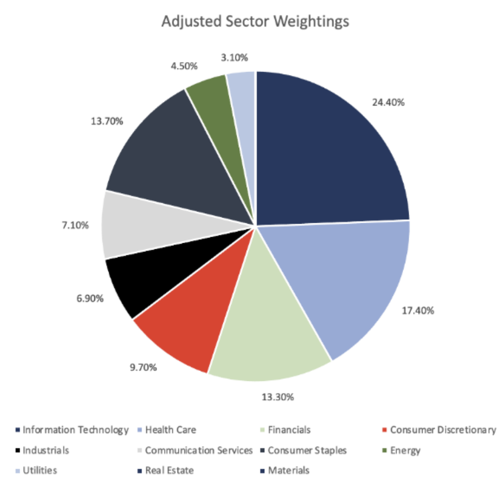
At the end of Spring 2022, our well-diversified portfolio consists of large-cap US equities, as well as smaller-cap US equities. We focused on different types of companies to maximize returns and have similar index volatility. For example, we invested in WMT, CME, and AMZN. We also had members pitch NVDA, MSI, and SCHW. The portfolio position shows a well-diverse allocation of different market caps with solid performance.

We learned risk management is critical in making investment decisions. It has been used continuously throughout the year, as it is considered when screening new equities to enter the fund and whether to maintain or adjust current equity holdings. We will leave the program with the ability to achieve financial goals by making investment decisions emphasizing personal or client risk tolerance.

Benchmark & Weighting:

For performance calculations, we used the S&P 500 as a benchmark for overall performance. We also used the SPDR 500 ETF Trust (SPY) to calculate performance within our portfolio, finding the difference between our equities and the ETFs that comprise a considerable portion of our holdings. While the S&P 500 is our performance benchmark, we altered individual sector weightings to remain competitive in today's volatile market. The new weightings can be found below:

Sector	Adjusted Sector Weighting	Original S&P Sector Weighting
Information Technology	24.40%	26.40%
Health Care	17.40%	15.10%
Financials	13.30%	11.00%
Consumer Discretionary	9.70%	11.70%
Industrials	6.90%	7.90%
Communication Services	7.10%%	8.10%
Consumer Staples	13.70%	6.90%
Energy	4.50%	4.50%
Utilities	3.10%	3.10%
Real Estate	0.0%	2.80%
Materials	0.0%	2.50%



Investment Philosophy:

The foundation of our team's investment philosophy is a combination of bottom-up and top-down analysis of industries, sectors, and the firms that we research. We are looking for different drivers that would fuel long-term growth in a firm and have considered this when adjusting the S&P 500 sector weightings to accommodate our strategy.

The main pillars of our investment philosophy are as follows:

1. Outperform the index by finding companies further away from the mean
2. Find the early winners by investing in companies below their intrinsic value

3. We seek companies that have strong balance sheets.
4. We invest in monopolistic companies that have substantial competitive advantages.
5. Prioritize companies with a lower correlation to the overall index.

Combining these four pillars with our bottom-up and top-down analysis provides a minimal-risk approach to investing in S&P 500 securities. We believe that this l approach maximizes returns while minimizing risk. It is superior in the current market conditions as high inflation and fear of recession bring uncertainty and lots of market volatility.

Investment Process:

Pitches

When pitching equities, analysts typically split into groups of 2-3 members and delegate research, financial modeling, and construction of the presentation. Discounted cash flow analysis, sensitivity charts, and comparative analysis are among the financial models used in determining forecasts and estimating a security's intrinsic value. ESG score, revenue compound annual growth rate, and key ratios such as P/E and EV/EBITDA are all presented in pitch decks, along with details of a company's corporate strategy and management.

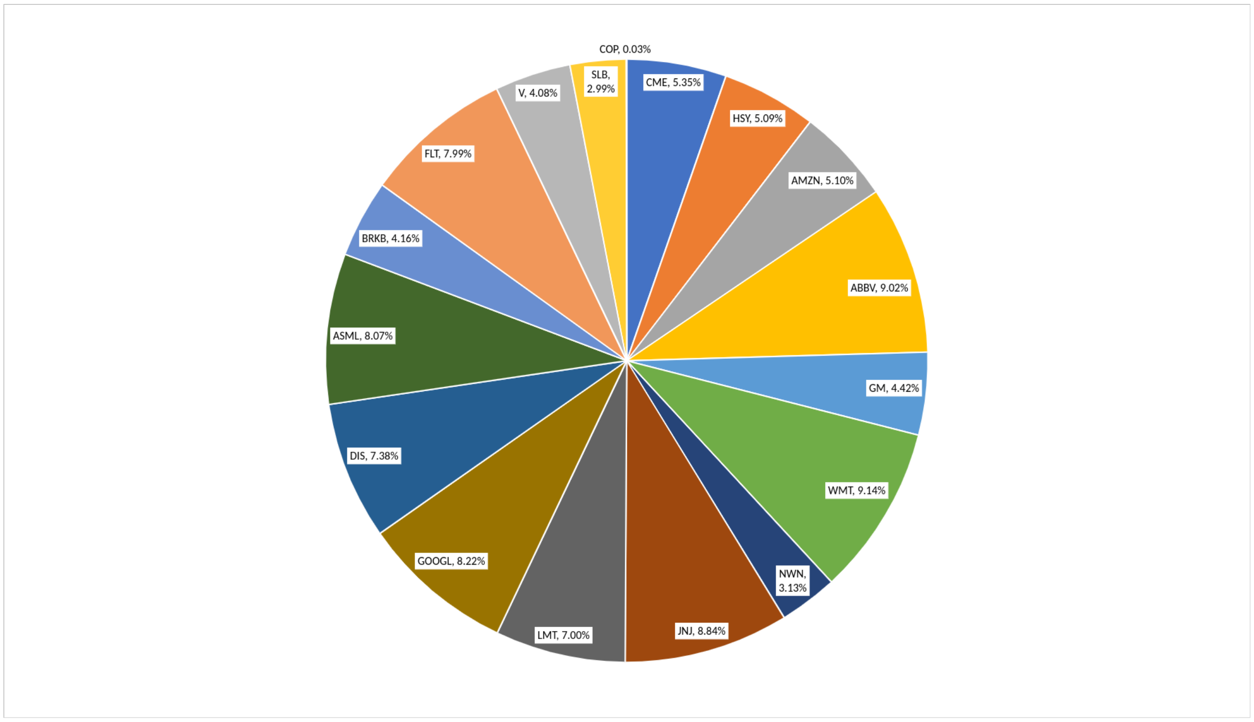
Voting & Allocation:

Once a stock is pitched to the group, we must make our final investment decision. For any equity to be bought, there needs to be a majority vote of 9/12 members to approve a buy. Otherwise, the company will not be invested in the portfolio. As a team, we decided to create a diverse allocation to our portfolio with 16 stocks.

Portfolio Performance:

We invested 100% of our portfolio with 16 securities. These securities fall within the following sectors of the S&P 500. The summative data detailing our portfolio's performance can be found below:

Portfolio Beginning Balance	$ 1,074,441.70
Portfolio Ending Balance	$1,164,557.60
Portfolio Returns	8.39%
SPY Beginning Balance	$ 3,859.11
SPY Ending Balance	$ 4,109.11
SPY Returns	6.48%
Portfolio Returns	8.39%
SPY Returns	6.48%
Outperformance	1.91%



Company	Ticker	Price as of 4/10/23	Shares @ 4/10/23	Ending value	Initial cost	Special div not reinvested	Return
CME Group Inc.	CME	$ 192.74	315.70	$ 60,848.29	($54,052.44)	$1,404.00	15.17%
The Hershey Company	HSY	$ 258.75	228.97	$ 59,245.24	($52,738.68)	$0.00	12.34%
Amazon.com Inc.	AMZN	$ 102.17	581.00	$ 59,360.77	($53,061.22)	$0.00	11.87%
AbbVie Inc.	ABBV	$ 161.28	651.00	$ 104,993.28	($97,835.54)	$0.00	7.32%
General Motors Company	GM	$ 35.73	1442.00	$ 51,522.66	($48,629.58)	$0.00	5.95%
Walmart Inc.	WMT	$ 150.51	707.00	$ 106,410.57	($100,478.20)	$0.00	5.90%
Northwest Natural Holding Company	NWN	$ 48.82	747.00	$ 36,468.54	($34,814.96)	$0.00	4.75%
Johnson & Johnson	JNJ	$ 164.32	626.59	$ 102,961.27	($98,767.38)	$0.00	4.25%
Lockheed Martin Corporation	LMT	$ 496.75	164.03	$ 81,481.70	($78,506.70)	$0.00	3.79%
Alphabet Inc. (Class A shares)	GOOGL	$ 106.44	899.00	$ 95,689.56	($92,296.73)	$0.00	3.68%
The Walt Disney Company	DIS	$ 100.81	853.00	$ 85,990.93	($83,177.66)	$0.00	3.38%
ASML Holding N.V.	ASML	$ 661.64	142.00	$ 93,952.88	($92,210.02)	$0.00	1.89%
Berkshire Hathaway Inc. (Class B shares)	BRKB	$ 312.62	155.00	$ 48,456.10	($47,900.41)	$0.00	1.16%
Fleetcor Technologies Inc.	FLT	$ 210.42	442.00	$ 93,005.64	($92,901.78)	$0.00	0.11%
Visa Inc.	V	$ 226.43	210.00	$ 47,550.30	($47,782.41)	$0.00	-0.49%
Schlumberger Limited	SLB	$ 50.04	697.00	$ 34,877.88	($35,100.78)	$0.00	-0.64%
ConocoPhillips	COP	$ 105.95	1.33	$ 27,490.76	($37,885.77)	$196.70	-26.92%
Apple Inc.	AAPL	N/A	0.00	$ 44,532.98	($52,330.25)	$0.00	-14.90%

Economic Outlook

We expect the feds to pause raising interest rates. The impact of the 500 basis point increase in such a short period of time is not clear as it has not yet fully propagated into the economy. We have recently seen some slowdown in inflation, economic activity, and employment. There are fears that we may head into a recession, especially after the recent collapse of the banks, which will further tighten credit and slow down economic activity. However, with no further rate raises, we expect the economy to have a soft landing and avoid a severe recession. Therefore, we recommend an overweight technology and an overweight in financials given certain financial institutions that were hit hard in the recent events.

Sector Analysis

Energy:

Current holding: Schlumberger Limited ((NASDAQ: SLB)

The energy sector comprises companies involved in the exploration, production, and distribution of energy resources such as crude oil and natural gas. Some types of companies in the energy sector are oil and gas drilling and production, pipelines and refining, mining companies, renewable energy, and chemicals. These companies also supply drilling and other energy-related services. Companies like ExxonMobil, Chevron, Schlumberger, EOG Resources, and ConocoPhillips, to name a few, are considered leaders in the energy industry. Their performance often sets the tone for the broader energy sector.

Consumer confidence and business cycles are two economic factors that directly affect the energy sector. Demand for energy resources and prices may decrease during market downturns as consumer spending on energy decreases. In contrast, higher demand for energy resources and higher prices may result from periods of economic growth when consumer spending on energy increases. The energy sector is also highly impacted by government policies and regulations, including taxes, subsidies, and environmental regulations.

Strong performance has been attributed to a rebound in oil prices, increased demand for energy resources, and the ongoing war between Russia and Ukraine. The war has disrupted the supply chain for the entire globe and has increased energy prices.

For 2023-2024, the energy sector will continue to struggle as inflation continues. Consumers will focus on value products and managing money for essentials like healthcare and utilities. Furthermore, Sustainability is important, so companies focusing on renewable or electric power will thrive, while oil power companies will struggle in the next decade.

Communication Services:

Current holding: Walt Disney CO (NYSE: DIS)

The Communication Services segment consists of social media companies, Internet search companies, video game makers, telecommunications providers, and streaming media, among other communication services that make up the bulk of this sector. The sector showed a gradual upward trend as the COVID-19 pandemic ended. The Communication Services sector is cyclical and sensitive to business cycles. The Communication Services sector's Communication Services sector stocks follow the overall economy.

The outlook for this area is mixed at best. Market volatility, the risk of recession, higher inflation, etc., will heavily influence the sector. It will be difficult for the industry to remain unaffected by these factors in the future. Meanwhile, the telecom services industry includes a wide range of companies and sectors, with companies providing utility services supplying slow and steady growth. Overall, we believe there is a long-term investment opportunity in the communication services sector, but it will underperform the S&P 500 briefly.

Technology:

Current holding: ASML Holding N.V. (NASDAQ: ASML)

Current holding: FLEETCOR Technologies, Inc. (NASDAQ: FLT)

Current holding: Alphabet Inc. (NASDAQ: GOOGL)

The Technology sector includes IT Services, Software, Communications Equipment, Technology Hardware, Storage and Peripherals, Electronic Equipment, Instruments and Components, and Semiconductors and Semiconductor Equipment. Software is the largest sub-sector, taking up more than half of the sector's market value. Companies in the technology sector engage in research, development, and distribution of technologically based goods and services. Companies within this sector offer a wide range of products and services, from individual consumers to large corporations. Consumer goods include computers, mobile devices, wearable technology, home appliances, and other products. Many corporations rely on companies within the technology sector to help them grow or improve their business operations. The technology sector also comprises tech-run social media platforms like Facebook and Twitter. The technology sector is slowly shifting into the blockchain, which includes metaverse, NFTs, and cryptocurrencies. The outlook for the industry in 2023 shows limited growth due to continued inflation and low economic growth. The consensus is that the technology sector will have returns around the single digits in 2023.

Financials:

Current holding: Chicago Mercantile Exchange Group (NASDAQ: CME)
Current holding: Berkshire Hathaway Inc. (NASDAQ: BRK/B)
Current holding: Visa Inc. (NASDAQ: V)

The financial sector comprises companies whose business operations provide financial services to commercial and retail customers. This sector includes many industries: traditional banks, investment banks, insurance companies, real estate brokers, consumer finance companies, and mortgage lenders. This sector is heavily regulated. The economy's health depends mainly on the strength of its financial sector. The financial industry's revenue comes from loans, insurance, and transactional services. The outlook for the sector in 2023 largely depends on the economy's stability, but the continued rise of interest rates will help the industry.

Consumer Staples:

Current holding: The Hershey Co. (NYSE: HSY)
Current holding: Walmart Inc. (NYSE: WMT)

The consumer staples sector comprises companies manufacturing products that are typically used/consumed daily. Packaged foods, cleaning supplies, and other household goods with relatively inelastic demand provide this sector with a robust reputation during economic uncertainty and help to maintain price levels.

This sector's defensive position was able to outperform the S&P and resist inflationary threats. This trend is projected to continue into 2023, with the most promising performance coming from companies that offer private-label brands and essentials. Rising input costs and wavering consumer sentiments pose less of a threat compared to other sectors, and while costs of goods might increase, margins are projected to stay relatively stagnant. The consumer staples sector will remain defensive in 2023 and provide the portfolio with a low-risk component.

Consumer Discretionary:

Current holding: Amazon.com (NYSE: AMZN)
Current holding: General Motors Company (NYSE: GM)

The consumer discretionary sector consists of companies whose business operations are mainly focused on hotels and leisure, automotive, durable goods, restaurants, apparel, and leisure equipment, media services, and consumer retail. The Consumer Discretionary sector covers the industries most sensitive to economic cycles as they make up for consumer discretionary spending, which typically corresponds to booms and busts within the economy. They are highly influenced by consumer confidence or sentiment. The consumer discretionary sector faced severe challenges due to several kinds of economic conditions in 2022, from supply chain issues to inflation and changes in consumer spending. The outlook for the sector in 2023 largely depends on how price levels continue to fluctuate, the disposable income of consumers, and how the economy as a whole. This is because consumers will have less income and have less budget for nonessential items. In 2023, companies may face hard times during stagnation or low economic growth. There are discussions about the fear of recession and deflation as the federal government still wants to tackle inflation by raising interest rates. Wage growth and higher employment levels, while businesses are forced to hold lower inventory levels and sell at full price, will help luxury goods companies in the coming year. Our team believes the consumer discretionary sector will underperform the S&P 500 in 2023.

Healthcare:

Current holding: AbbVie Inc. (NYSE: ABBV)
Current holding: Johnson & Johnson (NYSE: JNJ)

The Healthcare sector consists of businesses that provide medical services, manufacture medical equipment or drugs, provide medical insurance, or otherwise facilitate the provision of healthcare to patients, which contains a diverse array of industries with six sub-sectors: Health Care Providers & Services, Pharmaceuticals, Health Care Equipment & Supplies, Biotechnology, Life Sciences Tools & Services, and Health Care Technology. As of November 20, 2021, the market capitalization of the healthcare sector is $7.86 trillion, making up approximately 14.53% of the S&P 500. The TTM P/E ratio for the entire industry is 22.43x, and the dividend yield for the sector is 1.54%. The industry has returned 4.02% this calendar year, underperforming the S&P 500 by 1.02%.

The primary drivers unfolding in the Healthcare sector are integrating data and technology to lower the cost of care. This is especially visible since the COVID-19 pandemic, with a greater emphasis on healthcare spending by governments worldwide. People are now more inclined to see their doctor, whether that's in person or virtually. Integrating data and technology within healthcare will reduce costs and increase efficiency while passing down those cost savings to consumers. As healthcare is an essential expense, there is a good indication of growth with high-interest rates, economic slowdown, and fear of recession. This will drive the health insurance sector. Now, the team views the development of digital medical consultations and other technological innovations as a positive trend that will cause lower costs and higher efficiency for the sector. The team also views the managed care sub-industry as benefiting from increased price transparency, a change in patient demographics, and the proliferation of off-brand drugs. Lastly, the global pandemic caused advances in medical science, digital transformation in data and analytics, and providing more informed and empowered consumers worldwide. Ultimately, the pandemic caused the discussion of mental health, which was not a topic that wasn't widely discussed, but is now front and center in healthcare services.

Industrials:

Current holding: Lockheed Martin Corporation (NYSE: LMT)

The Industrials sector comprises corporations in general manufacturing capital goods, providing commercial services and supplies, or transportation services. It is a diverse industry with fourteen sub-sectors. These subsectors are Air Freight & Logistics, Airlines, Building Products, Commercial Services & Suppliers, Construction & Engineering, Electrical Equipment, Industrial Conglomerates, Machinery, Marine, Professional Services, Road & Rail, Trading Companies & Distributors, and Transportation Infrastructure are classified as Industrials, along with the most significant component of the industry, Aerospace & Defense (A&D). Industrial firms' market capitalization is 8.57% of the S&P 500 total capitalization. The sector returned 7% in one year, outperforming the S&P 500 by 2%. Industrials have a mixed forward outlook due to the variety of sub-sectors within it. They face many fixed costs, which can be detrimental during low economic growth or a recession.

Utilities:

Current holding: Northwest Natural Holding Company (NYSE: NWN)

The utility sector consists of companies that provide electricity, gas, or water. As of May 5th, 2023, the market capitalization of the utility sector is $1.68 trillion, accounting for 2.9% of the S&P 500.
The utility sector contains four sub-sectors: Electric Utilities, Independent Power and Renewable Electricity Producers, Multi Utilities, and Water Utilities within the four sub-sectors. The industry is highly regulated with little to no competition.

The TTM P/E ratio for the utility industry is 24.15x, slightly higher than the P/E ratio of 20.76x for the S&P 500. The dividend yield for the Utility industry is 3.01%, which is higher than the dividend yield of 1.55% for the S&P 500. We foresee higher residential electric demand as this sector is considered an essential expense. We expect a gradual increase in C&I sales as the economy's growth slowdown. Of course, Inflation and possible recession are also significant to this sector, as aggregate consumer electric rates are a key industry driver.

We continue to see a transition toward clean energy, boosting the need for capital investment and governmental efforts to reduce carbon emissions. Several utilities already set goals to generate carbon-free electricity to adapt to an uncertain regulatory future. We expect these trends to continue as foreign nations look to reduce their carbon emissions amid the clean-energy transition.

According to the International Renewable Energy Agency (IRENA), renewable power generation reduces costs more than the cheapest new fossil fuel-fired capacity, incentivizing corporations to transition to cleaner energy resources. With further cost reductions projected in the next decade or two, wind and solar farms will threaten existing coal-fired plants immensely. Major utilities in the country have pledged to slash their emissions by midcentury.

Portfolio positions:

Chicago Mercantile Exchange Group (NASDAQ: CME)

Performance as of 4/10/2023: **+15.17%**

On October 27, 2022, we purchased 312 shares of Chicago Mercantile Exchange for $173.25 per share at a total cost of $54,054

CME is the largest derivatives exchange (marketplace) in the world, trading $350 billion of notional value per day. They allow clients to trade futures, options, cash, and OTC markets, optimize portfolios, and analyze data. They are headquartered in Chicago, IL. CME is used to hedge exposure in many different areas. For example, Global banks hedge their exposure to interest rates in their mortgage loans, credit card loans, and commercial loans. Global banks also use CME to hedge their exposure to foreign exchange from international commerce from banks' clients. Asset managers hedge exposure to investments in equities and fixed income—commodity producers hedge fluctuations in the commodity price. Trading firms trade futures to speculate on the future price of an instrument.

CME's most significant revenue drivers are average daily volume, revenue per contract, and trading days. The biggest cost driver is compensation which can be influenced based on the inflation percentage. CME's most significant and indirect competitors are ICE, MSCI, NDAQ, SPGI, and LSEG.L. They do not offer the same contracts based on their current offerings. For example, an individual can trade the Euro-dollar contract only with CME. The most considerable risk CME faces is if regulators step in to remove their monopoly or have a similar case to the 2008 financial crisis, where too many people defaulted at once. CME is the largest exchange in future contracts, with about 96% market share. CME is a natural monopoly. CME's moat is robust and allows it to control almost all derivative markets. Their most significant economic moats are the network effect, strong pricing power, high switching cost, and high marginal contribution.

The Hershey Co. (NYSE: HSY)

Performance as of 4/10/2023: **+12.34%**

On November 21, 2022, we purchased 228 shares of Hershey for $231.31 per share at a total cost of $52,738.68.

The Hershey Company, together with its subsidiaries, engages in the manufacture and sale of confectionery products and pantry items in the United States and internationally. The company operates through three segments: North America Confectionery, North America Salty Snacks, and International. Hershey's innovation, resistant business model, and strong free cash flows help support its status as a market leader in an industry where growth is not as expected amongst competitors. Hershey faces risks such as higher costs of raw materials and supply chain disruptions, yet they still saw a revenue increase of 16% in 2022.

The Walt Disney Co. (NYSE: DIS)

Performance as of 4/10/2023: **+3.38%**
On November 21, 2022, & March 29, 2023, we purchased a total of 853 shares of Walt Disney Co for $97.51 per share at a total cost of $83,177.66

The Walt Disney Company (DIS) is a diversified international family entertainment and media company. It operates through the following divisions: media networks, parks, experiences and products, studio entertainment, and direct-to-consumer and international (DTCI). The media networks segment includes cable and broadcast television networks, domestic television stations, radio networks, and stations. The parks, experiences, and products segment owns and operates Walt Disney parks and resorts worldwide. The studio entertainment segment produces and acquires live-action and animated films, direct video content, music recordings, and live stage productions.

ConocoPhillips (NYSE: COP)

Performance as of 4/10/2023: **-26.92%**
On November 14, 2022, we purchased 281 shares of ConocoPhillips for $134.82 per share at a total cost of $37,884.42.

Conoco Phillips is a U.S. multinational exploration and production company specializing in early-stage production of liquified natural gas, crude oil, bitumen, and natural gas liquids. The firm produces 1,731 million barrels of oil daily and has 6.1 billion in proven reserves. Conoco currently has revenue-producing assets and operations on six continents across the globe, including the land in the Permian basin.

The majority of COP earnings come from the lower 48 of the United States while still diversified across the globe, with roughly 35 percent of profits coming from outside the lower 48. This provides an economic advantage relative to other exploration and production firms that don't have a global reach. ConocoPhillips also has a strong balance sheet with a total debt to EBITDA ratio of .92 and net debt to equity of 37.62. We believe COP is in a solid position to continue to provide value to shareholders for a prolonged period.

Schlumberger Limited. (NYSE: SLB)

Performance as of 4/10/2023: **-0.64%**
On April 10, 2023, we purchased 697 shares of Schlumberger Limited. for $50.36 per share at a total cost of $35,100.78

SLB is an oilfield equipment and service provider supplying the world's largest exploration and production companies. Innovations in eCommerce make it easier than ever to start an online business, increasing competition. Amazon deals with this by offering lower prices and convenient shipping for customers. The most significant risks of SLB are changes in consumer spending due to economic uncertainty, foreign exchange risk exposure due to transaction exposure, translation exposure and operating exposure, anti-trust lawsuits putting pressure on Amazon's low-price policies, and pressured margins due to rapidly rising fulfillment and delivery costs. Amazon is also starting to reduce costs and focus on profitability, allowing SLB to be more involved in the digital space. This is done by slowing down hiring and subletting excess space.

The eCommerce market is projected to reach $4.11T in 2023. Revenue is expected to show an annual growth rate (CAGR 2023-2027) of 11.51%, resulting in a projected market volume of $6.35T by 2027. By the end of 2023, one in five retail sales will be made online.

Walmart Inc. (NYSE: WMT)

Performance as of 4/10/2023: **+5.90%**

On March 24, 2023, we purchased 707 shares of Walmart Inc. for $142.12 per share at a total cost of $100,478.20

Walmart is a multinational retail corporation operating a variety of supermarkets that provide an array of everyday items. They focus heavily on low-priced essential consumer products, achieved through economies of scale. There is an expected increase in demand for trading down products for consumers in the next couple of years. This will bring consumers towards stores like Walmart and away from luxury goods. The consumers focus on value-priced products. They will still turn to a discount retail store to purchase necessities. The risk for Walmart is lingering inflation and failure to execute and properly grow the new e-commerce business model. Walmart has a strong position in capital allocation, expanding market share, pricing power, and fresh grocery edge.

Northwest Natural Holding Company (NYSE: NWN)

Performance as of 4/10/2023: **+4.75%**

On April 3, 2023, we purchased 747 shares of Northwest Natural Holding Company for $46.61 per share at a total cost of $34,814.96

NWN Holdings is a holding company headquartered in Portland, Oregon, and owns NW Natural, NW Natural Water Company, LLC, and NW Natural Renewables Holdings. Its subsidiary, Northwest Natural Gas Company, provides regulated natural gas distribution services to residential, commercial, industrial, and transportation customers in Oregon and Southwest Washington. The utility sector includes electric, gas, and water utilities. It has large companies that offer multiple services, such as electricity and natural gas, or specialize in just one type of service, such as water. Some utilities use clean and renewable energy sources like solar panels to produce electricity. The utility sector has little competition. As a result, Utilities typically offer investors stable and consistent dividends with less price volatility relative to the overall equity markets. In addition, utilities tend to perform well during recessions and economic downturns. This can be seen in recent times with higher for more prolonged inflation, the Russia and Ukraine war, and signals of a severe economic downturn if interest rates continue to rise. The most common risks are regulatory, environmental, and Competitive risks. The natural gas industry is subject to regulatory oversight, and changes in regulations or laws could impact the company's operations and financial performance. As a natural gas company, Northwest Natural Gas Company's operations significantly affect the environment. Lastly, Northwest Natural Gas Company faces competition from other natural gas providers and alternative energy sources. NWN has stable investment holdings, excellent operations, and long-term growth opportunities

Fleetcor Technologies Inc. (NYSE: FLT)

Performance as of 4/10/2023: **+0.11%**

On April 3, 2023, we purchased 442 shares of Fleetcor Technologies Inc. for $210.19 per share at a total cost of $92,901.78

FLT is the leading global provider of payment solutions to businesses. It operates in 80 countries with 800,000 business customers. They help companies improve efficiency and manage expenses by Providing fuel cards, corporate payment solutions, and expense management programs. FLT offers other items, including Toll cards, lodging cards, and gift cards. Consumers will turn to a discount retail store to purchase basic needs. The most considerable risk of FLT is credit risk. They are involved in some minor lending businesses, FTC lawsuits could hinder the company, and Fuel price volatility could lower margins. FLT provides excellent capital allocation, consistent revenue growth, a significant client retention rate (92%), and an increasing digital payment transition.

ASML Holding N.V. (NYSE: ASML)

Performance as of 4/10/2023: **+1.89%**

On March 29, 2023, we purchased 142 shares of ASML Holding N.V. for $649.36 per share at a total cost of $92,210.02

ASML produces machinery used to create microchips, selling them to producers such as TSMC, Intel, and Samsung. A technological breakthrough in lithography establishes a monopoly in the market for producers looking to manufacture cutting-edge chips. ASML employees service and operate machinery due to the specialized nature of the product. A breakthrough in the EUV makes their product the only one capable of producing cutting-edge chips. They are the only producer of the machinery used to create microchips which means there is no threat from competitors. ASML has many dangers, such as a slowdown in the broader economy that may affect chip demand and delay manufacturers' CAPEX plans, current labor shortages affecting customer capacity to produce, declining demand, and geopolitical tensions in Eastern Asia threatening the target market. ASML is a monopolistic company on the equipment required to create advanced semiconductors; providing global diversification in the semiconductor workforce will reduce risk and lead to higher demand for lithographic machines. Continued innovation in technology increases the need for chips with more computing power.

Amazon.com, Inc. (NYSE: AMZN)

Performance as of 4/10/2023: **+11.87%**

On February 18, 2022, we purchased 581 shares of Amazon.com, Inc. for $91.33 per share at a total cost of $53,061.11

Amazon engages in the online international retail sale of consumer products. The company operates through three segments: North America, International, and Amazon Web Services. Amazon opened for business in July 1995 and went public in 1997 at a split-adjusted stock price of $1.50 per share. Over the years, Amazon has expanded into several service offerings, including fulfillment, advertising, publishing, subscriptions, and its leading cloud computing business. Amazon is exposed in many ways that can cause serious risk to the companies, such as changes in consumer spending, Foreign exchange risk, also known as exposure due to transaction exposure, translation exposure and operating exposure, Anti-trust lawsuits that put pressure on Amazon's low-price policies and pressured margins due to rapidly rising fulfillment and delivery costs. Amazon sees growth in revenue in the eCommerce market is projected to reach $4.11T in 2023. Revenue is expected to show an annual growth rate (CAGR 2023-2027) of 11.51%, resulting in a projected market volume of $6.35T by 2027. By the end of 2023, one in five retail sales will be made online. Innovations in eCommerce make it easier than ever to start an online business, increasing competition. Amazon deals with this by offering lower prices and convenient shipping for customers. Amazon is also beginning to reduce costs to focus on profitability. This is being done by slowing down hiring and subletting excess space. Currency volatility and inflation are short-term headwinds and should not impact the long-term success of Amazon.

Alphabet Inc. (Class A shares) (NYSE: GOOGL)

Performance as of 4/10/2023: **+3.68%**

On April 3, 2023, we purchased 899 shares of Alphabet Inc. (Class A shares) for $102.67 per share at a total cost of $92,296.73

Google is an American multinational technology company that specializes in Internet-related services and products. The company was founded in 1998 by Larry Page and Sergey Brin while they were Ph.D. students at Stanford University. Google is now a subsidiary of Alphabet Inc., which is Google's parent company. Alphabet (GOOG) is the world's dominant internet search engine, with between 80% and 90% of the internet's search engine queries and close to 90% of all search engine revenue. Smartphones enable searches anytime, anywhere, and their proliferation has boosted usage considerably, with 70% of queries now mobile. The search engine's everyday presence became so common so quickly that "Google" was recognized as a verb by the Merriam-Webster and Oxford English dictionaries in 2006. In addition to search (55% to 65% of total revenue), Google generates ad revenue from its display ad network (10% to 12% of total) and YouTube (10% to 13% of total). Google is nurturing many other businesses, including "moonshots," with little revenue but tremendous long-term potential, e.g., autonomous vehicles, quantum computing, and drone delivery. Google Cloud is its most significant source of non-ad revenue (6% to 9% of the total), competing with Amazon AWS and Microsoft Azure.

The technology industry is one of the largest and fastest-growing industries in the world, with a market size continually increasing. The industry is expected to continue growing rapidly in the coming years, driven by digital transformation, cloud computing, and the Internet of Things trends. Google is one of the key players in the technology industry, alongside other giants such as Apple, Microsoft, Amazon, and Facebook. These companies compete in search engines, cloud computing, hardware, and software products and services. Innovation is a crucial driver of growth in the technology industry, and Google is known for its innovative culture and focus on research and development. The company invests heavily in artificial intelligence, machine learning, and cloud computing and has launched several successful products and services in these areas. Google operates in the technology industry, characterized by rapid innovation, intense competition, and high levels of investment in research and development. Google is well-positioned to continue innovating and driving growth in the years ahead. However, the industry also faces challenges in regulation, cybersecurity, and the pace of technological change, which will require ongoing investment and attention from companies like Google. The biggest threats to Google are increasing demand for AI, as seen with ChatGPT, online advertising dependence, regulatory pressures, and data privacy & security concerns. Google shows market dominance, growth opportunities in many sectors, wide economic moats, innovation focus, strong financials, aggressive buybacks, increased AI demand, and increased ad spending.

Visa Inc. (NYSE: V)

Performance as of 4/10/2023: **-0.49%**

On February 10, 2022, we purchased 210 shares of Visa Inc. for $227.54 per share at a total cost of $47,782.41

Visa is one of the world's leaders in digital payments. Our purpose is to uplift everyone, everywhere, by being the best way to pay and be paid. We facilitate global commerce and money movement across more than 200 countries and territories among a worldwide set of consumers, merchants, financial institutions, and government entities through innovative technologies. Consumer spending has progressively moved away from cash. As non-cash transactions grow worldwide, payment processors are positioned to capture a portion of those dollars. Consumer spending will shift with the increased use of digital currencies and e-commerce. The most significant risk of Visa is a possible cyber attack or government regulation. Visa offers high marginal contribution, network externality, and high-scale ability.

General Motors Company (NYSE: GM)

Performance as of 4/10/2023: **+5.95%**

On March 20, 2022, we purchased 1,442 shares of General Motors Company for $33.72 per share at a total cost of $48,629.58

General Motors designs, manufactures, and sells internal combustion and electric vehicles through its various brands, including Chevrolet, Buick, Crysler, and GMC. Automakers benefited greatly from pent-up demand from record low-interest rates that led to selling out inventory. Inventory levels are back and set to rise as the consumer begins to weaken. Most traditional ICE automakers are investing in the EV pivot, and GM is a leader in making the switch while also investing heavily in autonomous vehicle development. GM faces a risk that consumers are weakening, and GM is in a cyclical business. A Slowdown in consumer spending and heavy investment in CAPEX may result in lower free cash flow in the near to medium term. General Motors's dominant share of the U.S. auto industry is the foundation of our thesis. The solid position in the industry allows them to be leaders in vertical integration of EV manufacturing among legacy autos. R&D spending in AVs provides the potential for a market-leading position in the case of breakthrough innovation.

Lockheed Martin Corporation (NYSE: LMT)

Performance as of 4/10/2023: **+3.79%**

On February 14, 2022, we purchased 163 shares of Lockheed Martin Corporation for $481.64 per share at a total cost of $78,506.70

Lockheed Martin Corporation is a global defense contractor supplying governments and commercial clients with state-of-the-art defense products, systems, and services. Defense spending across the globe is increasing due to geopolitical turmoil. Military equipment for most NATO countries is outdated and needs to be replaced with modern technological products. LMT faces high dependence on the U.S. defense budget, roughly 70% of revenue. Governments can cancel contracts anytime, and increased competition and bid protests can lower margins. LMT consistently provides cash flows, reliable and high-quality products like the ongoing appeal for stealth helicopters and F-35 fighter jets, and increased defense spending within NATO countries.

Berkshire Hathaway Inc. (Class B shares) (NYSE: BRK/B)

Performance as of 4/10/2023: **+1.16%**

On February 10, 2022, we purchased 155 shares of Berkshire Hathaway Inc. (Class B shares) for $309.03 per share at a total cost of $47,900.41

Berkshire Hathaway is a multinational holding company and conglomerate run by the investor, chairman, and CEO Warren Buffett. The company was originally a textile manufacturer but now owns or holds controlling interests in dozens of big companies. Over the past two years, the financial services industry has demonstrated its ability to successfully navigate unprecedented levels of uncertainty, from real estate to insurance to investment management to banking and capital markets. The aggressive actions by the Fed have pushed interest rates considerably higher, boosting earning-asset yields and margins for many financial institutions. Higher rates are generally favorable for U.S. banks, which will see their net interest margins recover. Still, they also threaten credit quality since the shift and elevated inflation promises higher costs for borrowers. The most significant risk involved in the business is that it is dependent on a few critical people for substantial investment and capital allocation decisions; investments are unusually concentrated; deterioration of general economic conditions may significantly reduce operating earnings; derivative contracts may require significant cash settlement payments and result in substantial losses in the future. They also can face terrorism, cyber risks, and regulatory risks. Warren Buffett and his team aren't afraid to invest in businesses they don’t control. This applies to Berkshire’s subsidiaries, as well as to the famous stock portfolio. The company generates revenue from over 60 different subsidiaries in many other businesses. Berkshire’s investments -- including its wholly owned subsidiaries and stock portfolio -- represent businesses that pass the 50-year test.

AbbVie Inc. (NYSE: ABBV)

Performance as of 4/10/2023: **+7.32%**

On February 17, 2022, we purchased 651 shares of AbbVie Inc. for $150.29 per share at a total cost of $97,835.54

AbbVie is a global, diversified research-based biopharmaceutical company positioned for success with a comprehensive product portfolio with leadership positions across immunology, hematologic oncology, neuroscience, aesthetics, and eye care. The biopharmaceutical market is growing at a rapid rate, and it accounts for around 20% of the global pharmaceutical industry. The increasing awareness about the effectiveness of biopharmaceuticals among the population is significantly boosting the global demand for biopharmaceuticals. The global biopharmaceutical market is expected to reach US$ 856.1 billion by 2030. The compound annual growth rate is 12.5% from 2021 to 2030. The most significant risk towards AbbVie is that Humira faces biosimilar rivals as it loses patent protection in 2023, has R&D costs account for nearly a dozen percent of sales, and has several compounds in clinical development and Government regulation. Reasons to invest in AbbVie are based on their diversified portfolio, strong financial performance, and a solid dividend. AbbVie’s portfolio includes a broad line of therapies, has a robust pipeline of new products, and is actively pursuing partnerships and acquisitions. AbbVie's Strong return stock performance reached 50%—a dividend king with 51 consecutive years of dividend increases.

Johnson & Johnson (NYSE: JNJ)

Performance as of 4/10/2023: **+4.25%**

On February 16, 2022, we purchased 622 shares of Johnson & Johnson for $158.79 per share at a total cost of $98,767.38

Founded in 1886, Johnson & Johnson carries many healthcare products in the consumer health, pharmaceutical, and medical devices industries. They create products focused on human well-being and health. The sector received boosts in operations from COVID-19. For Consumer Health, there is a demand shift in self-medication products, consumers are health-conscious, and brand loyalty is significant. They face a threat of Patent expirations and competition; having successful R&D plays a factor in future operations for J&J. Safety concerns are being a healthcare company. Ongoing economic conditions in the US and internationally affect the business, especially the global supply chain on which J&J relies. Johnson & Johnson has a robust capital allocation, investment in M&A, and dividends and shares repurchases, which are appealing. They focus on the future with a $15 billion R&D budget and enhanced drug pipeline. Their business model is strong and consistent, with 60 years of dividend increases and an AAA credit rating.

Lessons Learned

Throughout the year, Yaccov Kopeliovich facilitated massive amounts of investing knowledge ranging from technical to soft skills. The Student Managed Fund has been an extremely beneficial program for one reason. It is focused on getting students out of their comfort zone to grow, for this is the only way individuals can improve and be better investors, but more importantly, better people. We want to highlight several lessons learned throughout the semester.

Patience: Emotions and biases get the best of people in investing. As a result, it is essential to develop a consistent strategy for dollar cost averaging. It is impossible to time the market consistently. We learned this lesson with Lululemon Athletica Inc (NASDAQ: LULU). The stock jumped 11% the day after the team had voted to buy the stock, which resulted in putting the purchase of LULU to a halt. From this point forward, we will learn from this lesson and incorporate either limit orders or dollar cost averages into more positions, especially if an earnings report is scheduled.

Adaptation: There have been many occasions throughout this year when our team has had to adapt to current challenges and come to solutions. One example is restructuring all the work after Storrs and Stamford teams combined. This was especially seen when restructuring Asset Allocation to fit what everybody agreed on.

Financials vs. management: Just because a company is attractive from a financial perspective doesn’t mean non-financial factors can’t drastically change performance, at least in the short term. For example, Bob Chapek made many improper decisions, leading to less confidence in shareholders and the general public. However, Disney plans on changing management to Bob Igner. This taught us to pay more attention to non-financial factors as it plays a prominent role in each company.

How to properly apply different tools: The team has adequately been researching each company and industry with the use of Porter analysis, SWOT analysis, revenue/cost drivers, and investment thesis. The DCF is meant to understand a company's operations better. DCF is not meant to produce an answer as it depends on inputting "correct" assumptions after researching. The DCF model relies heavily on terminal value, so understanding the economic outlook is crucial. The team used Porter and SWOT analysis to find a range of companies and then used the investment thesis or their economic moats to pick a company to pitch and create a DCF. The ability to create a DCF allowed us to understand the driving factors of each sector and individual company for revenues and cost.

How to work as a team: Everyone's voice gets through in many ways, like asking questions in a stock pitch or presenting ideas in the group chat. Overall, the goal is to hear everyone's perspectives and create a consensus that most agree upon. We also allow analysts to work with others from different sectors to broaden their horizons in the investing world. We allow everyone to get their voice across without judgment. We had many informative debates, as few analysts had contrarian views compared to the team and the public in general. The goal is to establish clear communication, and each idea brings us progress.

Filtering news: We have been exposed to a vast amount of information on the internet from different sources. Our job is to understand the information in detail and determine what sources can be trusted and what cannot. For example, FTX went to Congress about getting a license to compete with CME because FTX believes they are better at handling risk management than CME. However, it was proved false after they collapsed and lost a lot of money.

The lessons learned with our top performers are to find monopolies and buy them when the overall market goes down, like waterfront properties. Monopolies tend to do better because when they are needed, there is no other place to go. For example, in the case of CME, when the banking crisis hit, all participants used CME to hedge loan portfolios. With our worst performers, the lessons learned were not to let emotions take over. This is especially true with market hype. It is vital to learn how to filter out the noise. For example, our case with the energy sector and investing in ConocoPhillips.

Team Green, thank you gratefully for reading this report.