

Annual Report

2020

The Student-Managed Endowment for Educational Development (SEED)

Compiled By:
Derek Stoughton, Co-CEO
Emma Roby, Co-CEO
Shloak Patil, CIO
Aryan Kumar, CAO

Virginia Tech Pamplin
College of Business

<https://seed.pamplin.vt.edu/>



Table of Contents

SEED 2020 Operating Highlights	2
Year in Review	7
Sector Highlights	11
Contact Information	18

Notable Placements**Full Time:**

Gretchen Halloran -
BAML, DCM

Nate Post -
BAML, ECM

Faycal El Jai -
BAML, IB

Nick Reisenweaver -
BAML, Rates & Currencies

Aryan Kumar -
BAML, Software Engineer

Chase Babus -
Alliance Bernstein, Equity
Research

Thomas Rios -
J.P. Morgan, Credit Trading

Raya Mufti -
Credit Suisse, FI S&T

Will Vu -
Berenberg, Capital Markets

Michael White -
Walmart, e-commerce
Engineer

Nate Fender -
Capital One, Rotational

Noah Goebel -
RSM, Business Valuation

Quinn O'Neill -
KPMG, Securitization

Hayden Kickbush -
KPMG, Deal Advisory

James Compton -
KPMG, Deal Advisory

Natalie Khoury -
Booz Allen Hamilton,
Healthcare Consulting

Tanner Doverspike -
Global Evolution, Asset
Management

Connor Johnson -
Epic Systems, Tech Solutions
Engineer

SEED 2020 Operating Highlights

Financial Highlights

In 2020, the Student-Managed Endowment for Educational Development (SEED) delivered a total return of 9.23%. The S&P 500 Index, our benchmark, returned 18.40% over the same year, giving us an active return of -9.17% for 2020. Thus, SEED underperformed the benchmark by a considerable margin. We concluded 2020 with \$5,674,785 in Assets Under Management. SEED's risk-adjusted return using Jensen's Alpha was -8.44% based on our portfolio beta of 0.96. With a 9.23% absolute return, a risk-free rate of 0.46% based on the monthly yields on U.S. Government bonds in the year 2020, and a weighted portfolio beta of 0.96, we concluded 2020 with a Treynor ratio of 9.14. This underperformed the market on a risk-adjusted basis as the S&P 500 Treynor ratio was 17.94. Exhibit 1 portrays SEED's performance vs. the S&P 500 for the year 2020.

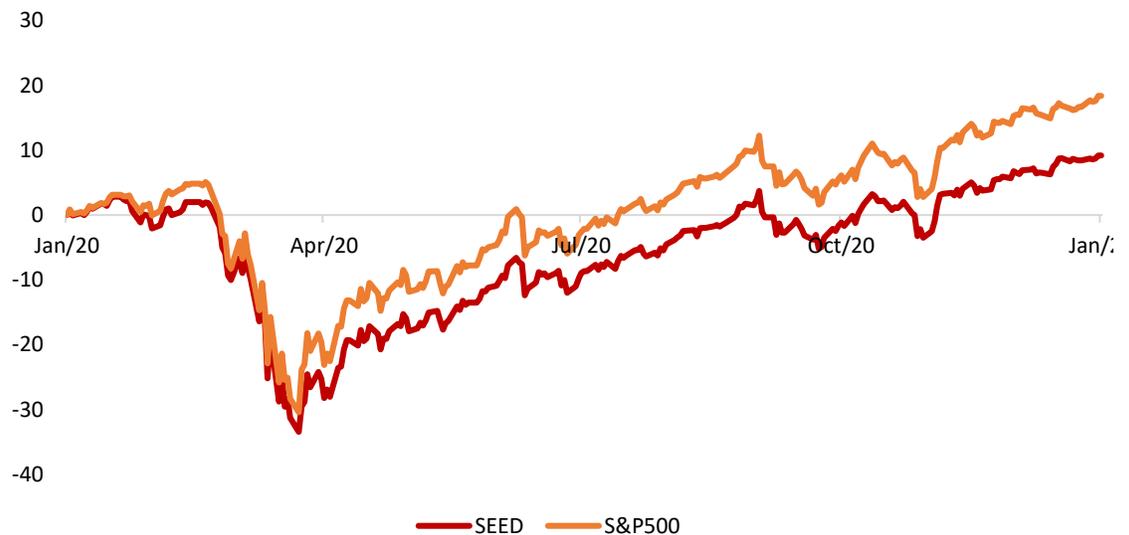


Exhibit 1
Seed Return vs. S&P 500 2020

Exhibit 2 shows SEED's absolute performance and compares it with the S&P 500's return and the CAPM return to find the absolute performance and risk-adjusted performance.

Risk-Adjusted Performance		SEED vs. S&P 500 Return	
SEED Return	9.23%	SEED Return	9.23%
<u>CAPM Return</u>	<u>17.66%</u>	<u>S&P 500 return</u>	<u>18.40%</u>
SEED Alpha	-8.44%	SEED Raw Relative Performance	-9.17%

Exhibit 2
Risk-Adjusted Performance vs. Relative Performance

Notable Placements**Internships**

Emma Roby -
RBC, FICC Origination

Derek Stoughton -
EY, FSO Tech Consulting

Shloak Patil -
Barclays, FI Research

Christopher Royal -
Goldman Sachs, IB

Mason Moriarty -
BAML, ECM

Joseph Mazzone -
BAML, ECM

Vraj Patel -
BAML, Software Engineer

Demitri Gamble -
Citi, Sales and Trading

Jake Cullen -
Morgan Stanley, Wealth
Management

Daniel Petrenko -
Alliance Bernstein, Business
Analyst

Tyler Renner -
Aronson LLC, Tax &
Assurance

Christian Parana -
Northwestern Mutual,
Financial Representative

Jacob Cohen -
KPMG, Securitization

Cole Lawson -
Third Security, VC

Jack Sweeney -
Genworth, Finance
Rotational

For analyst coverage purposes, SEED condenses the eleven sectors of the S&P 500 into six. Real Estate is included in SEED's Financials Sector, Materials and Utilities are included in the Industrials Sector (SEED is moving Utilities to the Energy sector in 2021), Consumer Staples and Consumer Discretionary make up the Consumer Sector, and Information Technology and Communication Services make up the Technology Sector. Exhibit 3 describes our respective relative weightings to each of the eleven sectors in the S&P 500 as of the end of 2020. We ended 2020 with 4.21% and 2.93% in cash and ETFs respectively (7.14%). This is higher compared to last year's total cash and ETFs of 6.01%.

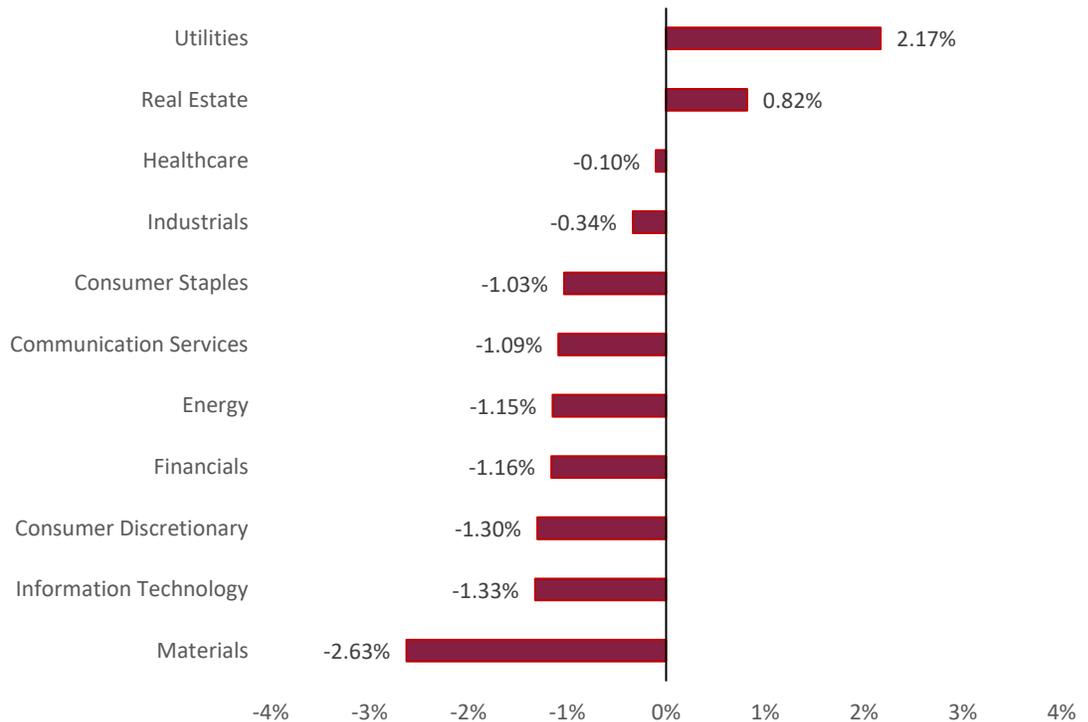
Sector Weighting

Exhibit 3
SEED 2020 Sector Weights

In 2021, we plan to focus more on actively managing our sector weightings relative to SEED's benchmark, subject to the requirements of our Investment Policy Statement (IPS). Despite Healthcare and Technology outperforming both on a raw relative and risk-adjusted basis, SEED's portfolio could not fully benefit from them as we were underweight both sectors. Also, we observed that the returns of the S&P 500 were concentrated around a small number of stocks that drove the majority of the benchmark's returns in 2020. SEED's portfolio had limited exposure to these stocks, and we believe this was one of the reasons we underperformed. To further illustrate this, an article by S&P Global indicated that if the top 30 stocks by market cap were removed, the S&P's 2020 return would have been only -0.03% (<https://cutt.ly/AkX6kg1>). Exhibit 4 shows the concentration of the S&P 500 returns by displaying the total market value weight of the top 10 stocks that accounted for most of the index's strong performance in 2020.

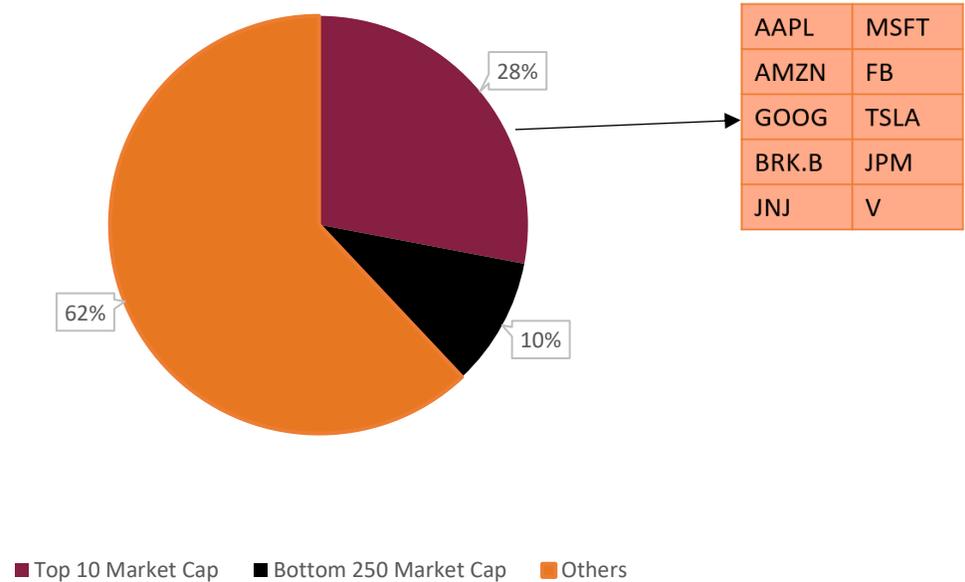


Exhibit 4
S&P 500 Makeup based on Market Capitalization

Organizational Structure

SEED closed out the year with 41 members and 13 analysts in training. In December of 2020, our previous Co-CEOs, Gretchen Halloran and Nathaniel Post, CIO, Faycal El Jai, and CAO, Michael White all concluded their terms on the SEED executive team. We appreciate all the hard work and effort they put into the organization and wish them well as they finish up at Virginia Tech and move on to full-time employment in the coming year.

Three of SEED's members graduated in December 2020. Chase Babus, our former Technology Lead Analyst, is pursuing Equity Research at AllianceBernstein full-time. Thomas Rios, our former Financials Lead Analyst, has joining J.P. Morgan full-time specializing in Credit Trading. Nick Reisenweaver, our former Consumers Lead Analyst, has gone to work full-time at Bank of America on the Rates and Currencies desk. We wish them all the best in their future endeavor.

Looking Ahead

In 2021 SEED has started working more diligently to strengthen and expand our Diversity and Inclusion efforts. The executive team is excited to include all members of SEED in the process as we encourage an organization-wide effort. Broad-based discussions of this topic are important. We acknowledge that Diversity and Inclusion is an ongoing process, and we will recognize that in our developing Diversity and Inclusion Policy. We have begun working with our new Co-Chairs of Recruitment, Mason Moriarty (Junior, Finance) and Lukas Khodayar (Sophomore, Finance) to standardize a more diverse and inclusive recruitment process in SEED. We look forward to working with cultural and community centers at Virginia Tech to help create a more diverse and

inclusive environment within the organization. SEED will continue to flourish by becoming increasingly diverse and inclusive.

SEED's newly appointed Co-CEO's, Derek Stoughton (Junior, Finance & BIT) and Emma Roby (Junior, Finance), are excited and looking forward to the upcoming year. Also joining the executive team is our new CIO, Shloak Patil (Senior, Computer Engineering) and CAO, Aryan Kumar (Senior, Computer Science), who are both looking forward to adding value to SEED in their respective positions. In 2019 a quantitative momentum strategy was pitched, developed, and backtested with promising results. However, we faced unforeseen implementation challenges due to the COVID-19 Pandemic and issues with the development platform. We expect this strategy, now led by CAO Aryan Kumar, to be executed in March of 2021. Additionally, we are continuing development of a quantitative value strategy, which has also faced delays due to the Pandemic and concerns on the appropriate time to initiate the strategy in the current market. Both quantitative strategies will be explained further in the below section on the strategic initiatives. Within the respective sectors of SEED, we welcome five new lead analysts: Will Vu, Technology Sector; Grayson Pierpont, Healthcare Sector; Christian Parana, Energy Sector; Demitri Gamble, Consumers Sector; and Quinn O'Neill, Financials Sector.

SEED's continued success would not be possible without our dedicated alumni, whose continuous support provides members with invaluable opportunities. We would like to especially thank the SEED Advisory Board for their willingness to serve and support the organization and its members. Looking forward to 2021, we plan to work more closely with the Advisory Board through a potential mentorship program with analysts-in-training (AITs) to provide them with invaluable learning opportunities and perspectives. We furthermore plan to incorporate Advisory Board members into our weekly meetings to interact and connect SEED with these distinguished members more frequently and directly. The members of the SEED Advisory Board are listed below:

SEED Advisory Board

Trey Snow, The London Company, Director of Research, Chair of Advisory Board

Kevin Bennett, Research Analyst, First Vice President – Investments, Davenport & Company

Tracy Castle-Newman, COO, Global Institutional Equity Distribution, Managing Director, Morgan Stanley

Nick Cullen, recently retired, Managing Director, Goldman Sachs

Duffy Fischer, Equity Analyst, Director, US Chemicals, Barclays Capital

Chad Meade, Partner and Portfolio Manager, ArrowMark Partners

Patrick Moody, Associate, S3 Ventures

James Rosenstock, Executive Vice President, International, WWE

Christina Todd, Vice President & Financial Advisor, Cary Street Partners

Daniel Ward, CIO, Virginia Tech Foundation

Strategic Initiatives

SEED is currently continuing the development and implementation of factor-based quantitative investing strategies in our portfolio. These strategies were being developed using the Python programming language on the Quantopian platform prior to the outbreak of the Pandemic. SEED was previously ready to invest using the momentum strategy but decided to wait because of the impact of the Pandemic on the markets and on SEED's operations in a remote/online environment. In addition, after Robinhood acquired Quantopian and shut the service down in late November 2020, we have moved to Equities Lab as our primary analytical platform. During the Pandemic we have taken the time to both recreate and improve our previous model in Equities Lab. Through this shift we have also been drawn to the benefits of Equities Lab, which include being intuitive, easy to learn, and broadly accessible for members of SEED. The results produced by Equities Lab will be further analyzed and corroborated using the Bloomberg backtesting platform. In the future we plan to return to Python to explore model building more extensively and build SEED human capital further.

Factor-based investing selects securities that exhibit traits commonly associated with outperformance. The two strategies that SEED is exploring are quantitative value and quantitative momentum. A long-only quantitative momentum strategy forms a portfolio of equities that have appreciated highly over an intermediate time period, which the research literature shows is the most recent 11 out of the last 12 months. The rationale for the strategy is that investors frequently underreact to good news. Relying on the work of Gray and Vogel (*Quantitative Momentum*, 2016), this strategy is implemented using five steps: (1) identify universe of investible stocks, (2) core momentum screen, (3) momentum quality screen, (4) seasonality screen, and (5) invest with conviction.

The long-only quantitative value strategy seeks to generate attractive risk-adjusted returns by identifying undervalued equities based on extensive fundamental analysis. Research finds that a systematic and consistently applied approach to investing outperforms many human "experts". This approach is also implemented using five steps: (1) identify investible universe, (2) remove outliers, (3) screen for value, (4) screen for quality, (5) invest with conviction. SEED plans to implement this portfolio strategy in March of 2021.

Year in Review

Recruitment

SEED continues to recruit new Analysts in both the spring and fall semesters. We have three rounds of interviews in the application process. The first consists of a written questionnaire, as well as a resume and transcript submission through our website. During the second round, we give the applicants just over one week to prepare a 30-minute stock pitch on a company of our choosing. The small group that is selected for the final round must participate in a 30-minute behavioral interview where we evaluate their knowledge of markets and current events. Due to COVID-19, some minor adjustments this past year had to be made. In the spring of 2020, we chose to exclude the third-round behavioral interviews because of the transition to online learning. Despite the challenges faced by the Pandemic, SEED was still able to recruit 10 new excellent members into the organization. In the fall of 2020, we returned to our normal 3 stage recruitment model. We received 110 applications, a record-breaking semester for SEED, and accepted 13 students into our AIT program. The 13 students, averaging a 3.76 GPA, are comprised of 9 Finance students, 2 Engineering students, 1 Business Information Technology (BIT) student, and 1 Computational Modeling and Data Analytics (CMDA) student. Derek and Emma are looking forward to training and incorporating the new AITs into the organization in the coming semester.

Training

Once applicants have received their offer to join SEED, they are expected to complete a rigorous, one semester training program. This program is mandatory as it teaches the AITs the necessary skills they will need to succeed in the organization. We have continued to build upon the newly introduced sector rotation program. We have seen numerous benefits from this program: the AITs get the opportunity to work with their fellow classmates and the projects they assist the Lead Analysts with are helpful in putting together informative research and pitch decks. We have also continued the new quantitative project that was added to the process beyond group pitches and Capstones. This quantitative project allows AITs to work through the discounted cash flow (DCF) model that are part of pitches in SEED. The hands-on practice brought by working with this model has led to more prepared and substantial Capstone pitches. The group pitch, DCF project, and Capstone are the three biggest indicators of an analyst's future performance in SEED. Consequently, they are the most important assignments in deciding who will continue in the organization.

This semester we plan to increase the amount of time and effort spent reviewing DCF models and other valuation techniques. We have found that AITs struggle most with these areas of training and the Executive Team is committed to focusing more on these concepts as we continue to improve upon the training modules. We hope this extra effort and time will allow the AITs to develop deeper understandings of quantitative valuation techniques as they attempt to become inducted into SEED as full-time members.

Trips & Competitions

Due to the COVID-19 Pandemic, the annual SEED trip up to New York City in Spring 2020 was canceled. In years past, this trip has provided great opportunities for members of SEED to network with alumni on Wall Street. Events such as Hokies on Wall Street have enabled members of SEED to gain exposure to notable alumni and listen to speakers with valuable industry insights. While we do not expect to have the annual trip this upcoming spring due to continued COVID-19 concerns, we hope to resume this visit up to New York City when it is deemed safe.

This past year, the group participated in the UGA Terry Stock Competition and placed second in their stock pitch room. We are looking forward to Emma Roby, Gretchen Halloran, Raya Mufti, and Natalie Khoury competing in William & Mary's Women's Stock Pitch & Leadership Summit on March 19th of 2021. We look forward to participating in more stock pitch competitions throughout 2021.

Investment Strategy and Process

SEED is a long-only equity fund manager, and our job is to outperform the S&P 500, our benchmark, on a relative and a risk-adjusted basis. We aim to do so by investing in undervalued stocks and exploiting the difference between intrinsic value and market value. Our investment process combines qualitative research with quantitative valuation analysis. Identification of potential investments is done using a top-down approach. Starting with the macroeconomic environment, we identify attractive industries and sectors by thorough research. We then use equity screening tools to find individual companies worthy of additional analysis. After an individual company is selected as a potential investment, we proceed with qualitative and quantitative analyses that include both relative and absolute valuation methods.

Quantitative valuation is integral to our investment process as it helps us arrive at an intrinsic valuation range. The qualitative analysis helps us understand the companies' narrative and any disparity between the intrinsic and the market price. The narrative also challenges our understanding of the valuation and helps us detect potential risks that might prevent the intrinsic value and market values from converging. The qualitative analysis involves detailed fundamental research that includes understanding the economy, the company's business model, and the company's industry on a granular level. Our quantitative analysis focuses on projecting the company's cash flows over its life cycle to arrive at its intrinsic value and using relative valuation to find its position in the market. The primary model we use for valuing companies is the Discounted Cash Flow model (DCF), but recently we have also been using the Net Asset Value (NAV) and the Residual Income model (RIM) to value securities where the DCF model is insufficient. In applying our models, we run a sensitivity analysis showing Bear, Base, and Bull case scenarios and how intrinsic value is affected under each circumstance.

The relative valuation analysis helps us correctly place the selected company among its competing peers. This allows us to view the selected company within its competitive sphere and identify further characteristics that signify its potential for being undervalued. Once analysis indicates that a company's stock is undervalued, it is presented to the full SEED group. After the pitch, each member of our executive team and the six lead analysts vote on whether we should invest in the presented company.

Adapting to 2020 COVID-19 - Lessons Learned

In March of 2020, with the advice and consent of Mr. Daniel Ward, CIO of the Virginia Tech Foundation, SEED indexed about 50% of its assets under management to the S&P 500 using the SPY. The rationale for indexing was primarily to provide SEED with the opportunity to adapt to managing the portfolio in the remote, online environment required to support safe operation during the Pandemic. At that time, SEED was concerned that a BNY Mellon transaction processing problem might potentially provide insufficient sale inflows to finance our buy outflows. So, the Executive Team and our faculty advisor, Professor Billingsley, decided to spread the trades over the trading days of March 23rd and 24th. On the 23rd, SEED sold \$1,993,365 of its individual security holdings and bought \$1,003,439 of SPY (and XLE for IPS compliance) with the net inflow sufficient to more than fully fund the buys even if there was a BNY Mellon processing issue. Then, on March 24th, being assured of the net sale proceeds, we made the remainder of our SPY buy, which amounted to about \$949,768. Consistent with our desire to be conservative during that extremely volatile market period, we held a cash position of \$214,128 on March 24th after the completion of the indexing trades. While the ongoing processing issues with BNY Mellon motivated SEED to be particularly careful and spread the trades over two days, BNY Mellon did not directly keep SEED's funds out of the market over the indicated two trading days.

In SEED's discussion of potentially executing the indexing trades over two trading days, it was understood that moves in the market could be favorable or not. The return on SPY fell by 2.93% on our net sale date of March 23rd and appreciated by 9.4% on our net buy date March 24th. So, spreading the trades over two days left SEED net selling on a down day and net buying on a big up day. The high volatility on these two trading days consequently contributed to SEED's underperformance in 2020. As noted above, evidence indicates that the favorable returns in the S&P 500's constituents were concentrated in a few holdings in 2020, which also contributed to SEED's underperformance.

The first major set of trades to move SEED back to full active management were on November 18th, which moved about \$1.5 million from SPY proportionately back into SEED's then active positions. Based on our experience in March, SEED decided to take the BNY Mellon processing risk and execute the buys and sells on the same day. The only problem was the rejection of two trades by BNY Mellon, which was addressed quickly. The second major set of trades to move SEED back to full active management were on December 17th, which moved about \$1.1 million from SPY back proportionately into SEED's active positions.

Several lessons were learned this past year as SEED adapted to the Pandemic and unique market conditions that ensued. Our biggest takeaway was how dangerous it is to split buys and sells over two trading days. Despite being aware of the potential downside the market could provide we took a risk that ended up working against us on both our selling and buying days. We will be reluctant to engage in this separated market trading again. Another big lesson learned was that many of the effects realized during the Pandemic were simply accelerated trends that had already begun to take place in the market such as the transition from brick-and-mortar stores to online commerce. We also learned how much of an effect government intervention in the market can reduce the cost of capital for businesses which saved many sectors. All of our sectors had to reevaluate what industries were going to produce returns going forward since so many shifts were taking place in the markets. From

stay-at-home orders to the race for a vaccination, cautious and thorough research was a crucial step in switching our Investment Strategy for all 6 of SEED's sectors.

2021 Investment Outlook

The past year has resulted in unprecedented activity in the financial markets, with high levels of volatility and structural changes caused by the COVID-19 Pandemic. The disruptions resulted in the one of the largest drops in the S&P 500's value. The economic fallout also resulted in high levels of government intervention. Fiscal and monetary policy, along with The Fed cutting interest rates down to 0%, were important factors in stabilizing the economy. Certain sectors were still able to benefit from these unexpected trends such as Ecommerce platforms and DTC online retail. This year we also observed a drastic increase in equity valuations that were not reliant on fundamental valuation for growth.

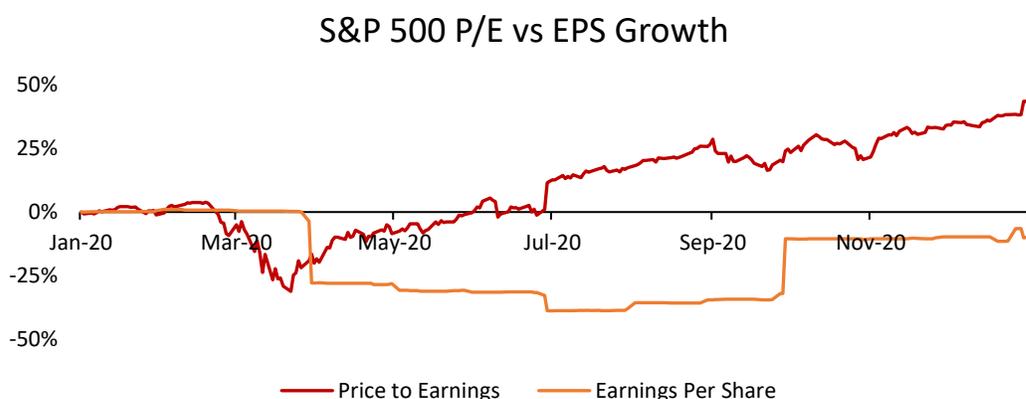


Exhibit 5

As we move into 2021, there are certain themes that we believe will be important in shaping the equity markets for the coming year. We believe that the economy has already started, and will continue, steering towards a steady recovery. As COVID-19 case numbers start to fall globally and U.S. vaccination rates begin to increase, we believe there will be no unexpected crash in the markets like we saw in the first quarter of 2020. The Fed has signaled they will continue to support the market by keeping interest rates low and by maintaining their current level of quantitative easing until the economy recovers. The government has also approved a third stimulus program that will help bolster consumer sentiment. We do believe, however, that federal fiscal intervention, combined with the Fed's new inflation policy, might result in higher-than-expected inflation sometime in the near future.

In recent years, the equity markets have moved away from value towards growth stocks. We believe that this trend will continue given the conducive market environment surrounding increasing investing interest and power of the individual consumer, but we also expect to see pockets of performance in undervalued sectors that have not yet recovered from the effects of the Pandemic that will reflect fundamental value investing. As we start to emerge from the Pandemic, we also expect to see cyclical sectors beginning to outperform. With Joe Biden recently being elected the 46th president of the U.S. and the democratic party gaining a majority in Congress, we expect significant policy and economic shifts to take place that certain sectors will be able to benefit from. Renewables, healthcare, and companies specializing in HVAC are all groups we could see potential upside in. Biden is rolling out an extensive clean energy initiative, working to increase access to Healthcare

for all Americans, and HVAC will be necessary in promoting clean air in infrastructure as Biden's team works to combat COVID-19. We will be monitoring these sectors that can capitalize on these trends as SEED moves forward into 2021.

As we plan SEED's 2021 investment strategy, we want to adopt a cautious approach. We want to strike a balance between growth and value stocks. One thing we also want to focus on is actively managing our portfolio's sector weighting, which will allocate more capital to sectors we believe have the potential to outperform given the macro factors. We also want to start optimizing our portfolio position sizing to achieve attractive risk-adjusted returns more efficiently. We acknowledge that the equity market might not perform well, but we still see plenty of upside potential in various areas of the market and are working continuously to find and exploit these opportunities.

Sector Highlights

It is important to explore the trends that influenced each sector over the past 12 months and how SEED performed in response. As previously noted, the most important factor influencing sector performance in 2020 was the COVID-19 Pandemic. We saw significant differences in sector performance due to the social and consumer shifts that resulted from the Pandemic. The economy witnessed reduced spending power and weakened consumer sentiment because of the Pandemic, which was most dramatically reflected in the extremely risk-off stance of the markets during March of 2020. Employment rates fell alongside a societal shift towards a stay-at-home working and living environment. Areas such as online retail, ecommerce, and cloud-based software and services boomed while brick-and-mortar retail, non-renewable energy, services, and travel saw declining sales as consumer behavior shifted.

As we entered 2020, SEED focused on understanding these shifts and responding accordingly by selling securities for which we did not see additional upside and buying those that were better positioned to take advantage of these shifts both now and into the future. This unprecedented year allowed us to reevaluate our holdings and make appropriate changes to sector allocations and compositions. Our Technology sector sold off most of its hardware holdings and focused more heavily on companies specializing in software and DTC retail strategies, such as Square and Take-Two. This portfolio revision recognizes the prevalence of a largely cashless society and increased dependence on online retail. The Energy sector adjusted by selling off most of its portfolio and increasing exposure to super nationals that were better able to weather the COVID storm. Energy also invested in Renewable Energy Group to take advantage of the industry's unprecedented growth. The Consumers sector remained in Staples companies and e-commerce, which were better able to perform during the Pandemic due to the necessary nature of their products compared to Discretionary companies – especially those within services that were crushed by shut-downs and social distancing requirements. 2020 presented many challenges alongside many learning opportunities; we believe that this year has allowed for us to broaden our understanding of shifts in market trends and recognize how to adapt appropriately.

In the sector reports below, a company bought in 2020 is denoted by a “*” and a company sold is denoted by “**” next to its name. For positions exited in 2020, the listed returns are the January 1, 2020, through sell date return, which are shown with an end of year weight of 0%. For positions entered in 2020, the listed returns represent the purchase date through December 31, 2020, return.

ENERGY SECTOR

LEAD ANALYST: CHRISTIAN PARANA

ANALYSTS: TYLER BETRO, NOAH GOEBEL, HAYDEN KICKBUSH, CHRISTOPHER ROYAL, JACK SWEENEY

Sector Overview:

Over the past year, the Energy sector has been beaten down severely due to the Pandemic limiting oil demand and stay-at-home orders. Specifically, industrial/transportation demand has taken the largest hit while residential oil demand has remained relatively the same as more people are staying home and have not changed their residential energy usage. However, the sector has recently seen positive movement as the vaccine continues to be distributed. Many expect this will restore oil demand. Our current holdings have showed resilience as they have all effectively cut capital expenditures and operating expenses in order maintain strong balance sheets. Moving forward, we believe that vaccine distribution will bring higher oil prices and the sector will rebound in 2021.

Statistical Highlights

Sector Value: \$96,150.17

% of Portfolio Allocated: 1.69%

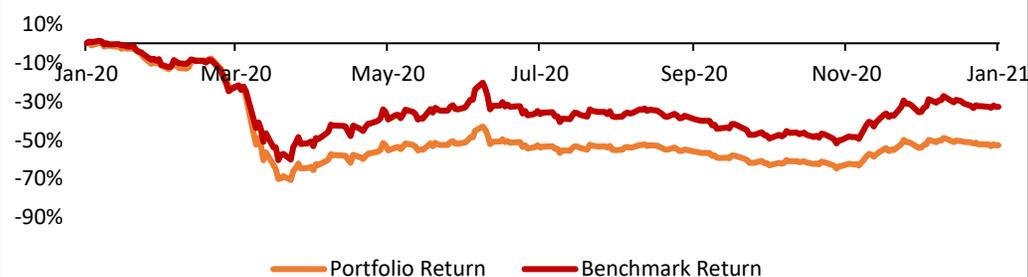
Holding Period Return: **-52.73%**

Sector Benchmark: -32.64%

Active Management Return: **-19.99%**

Risk Adjusted Return (alpha): **-78.52%**

Energy Sector Performance



Holdings	2020 Return	Weight
Exxon Mobil*	-2.48%	18.43%
Chevron*	-3.57%	17.43%
Kinder Morgan*	-2.86%	8.30%
Renewable Energy Group*	-3.34%	25.83%
XLE	67.88%	30.01%
Suncor Energy**	-15.55%	0%
Magellan Midstream**	-56.91%	0%
Halliburton Company**	-79.08%	0%
GeoPark**	-71.10%	0%
GasLog**	-65.22%	0%
Viper Energy Partners**	-62.27%	0%
Marathon Petroleum**	-70.43%	0%

Portfolio Update

XOM, CVX, and KMI all moved largely in line with the XLE during the first 7 months of the Pandemic. However, CVX and XOM deviated in late 2020 due to rebounds in consumer confidence. KMI, retained much of their previous years' revenue despite oil prices dropping so severely. This is mostly due to the contractual nature of its business as well as their primary exposure to Natural Gas. REGI is our newest holding, which we added in early December. REGI has performed spectacularly as the global demand for renewable energies continues to rise. REGI is the largest Bio-Diesel producer in North America, which has allowed it to capitalize on this movement. We remain confident in our current holdings and Investment Thesis that these supermajors are undervalued because of the Pandemic and have the financial discipline to survive this period of uncertainty and rebound when prices stabilize. We believe that XOM and CVX give us a reliable investment in oil companies, while KMI diversifies our portfolio into Natural Gas. And lastly, our investment in REGI provides promising exposure to the Renewable Energy industry. We believe these companies will take advantage of a rebound in the energy sector in 2021.

COVID-19 Lessons Learned:

During the pandemic, the energy sector experienced extremely reduced demand. This was largely due to the impact of stay-at-home orders, which essentially suspended travel. The reduction in airplane and car travel, resulted in oil prices being below profitability level for much of 2020. This caused the majority of oil companies to experience earnings losses. The lesson learned from this is the need for increased awareness that the volatility of the sector can be severe. Consequently, diversification is extremely important when handling a portfolio in this sector. The oil industry, although often very profitable, can also see extreme losses due to its direct exposure to oil prices. Therefore, diversifying our portfolio into Natural Gas and Renewable Energy was an important action. Moving forward, we plan to continue our focus on a portfolio that diversifies our exposure to global changes while also retaining companies with financial discipline. Our plan to do this is to ensure that our holdings are not overexposed to any certain geographic region or commodity. While there were many other lessons to be learned, learning first-hand the impact a global event can have on the energy sector was the most significant.

FINANCIAL SECTOR

LEAD ANALYST: QUINN O'NEILL

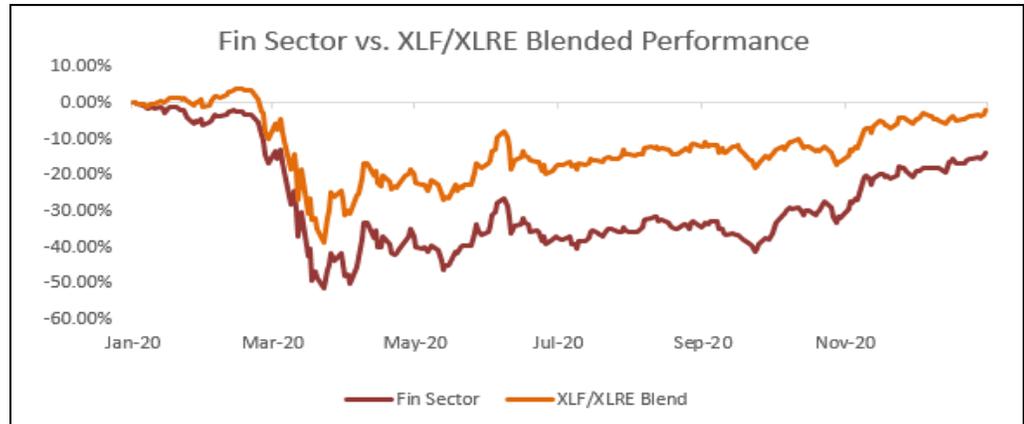
ANALYSTS: COLE LAWSON, TYLER RENNER, MASON MORIARTY

Sector Overview

Our sector has faced several adverse effects this year, including reduced consumer spending activity and near-zero interest rates. These developments have pushed the sector away from loan-reliant companies as net interest margins are susceptible to prolonged narrowing. There has been a shift towards fee-based revenue streams and higher-growth industries.

Statistical Highlights

Sector Value: \$728,491.01
 % of Portfolio Allocated: 12.84%
 Holding Period Return: **-13.69%**
 Benchmark Return: -1.85%
 Active Management Return: **-11.84%**
 Risk Adjusted Return (alpha): **-34.33%**



Holdings	2020 Return	Weight
First Republic (FRC)	25.97%	26.20%
Morgan Stanley (MS)*	36.04%	19.44%
Blackstone (BX)*	25.89%	16.44%
Welltower (WELL)*	-24.89%	16.33%
Everest Re (RE)	-13.06%	12.02%
Prologis (PLD)	-0.91%	9.58%
XLRE**	3.39%	0.00%
Wells Fargo (WFC)**	-10.26%	0.00%
Assured Guaranty (AGO)**	-41.44%	0.00%
PNC Financial (PNC)**	-49.10%	0.00%
Four Corners (FCPT)**	-50.57%	0.00%
Discover Financial (DFS)**	-68.40%	0.00%

Portfolio Update

The sector underperformed the benchmark by 11.44% for the 2020 period. The underperformance is attributable to the sale of PNC and DFS in March, the sale AGO in November, and the unfavorable timing of our purchase of Welltower, a senior housing and healthcare REIT. Looking at current holdings, First Republic stands to benefit from the divergence of the median and mean value of investment funds and other managed assets as most of their clients are high net-worth individuals increasing their account sizes relative to everyone else; Morgan Stanley should continue to profit from securities, capital markets, and its recently acquired retail brokerage; and Blackstone is expected to continue to sustainably increase their fee related earnings. Recently, we have opened a logistics REIT position in Prologis, giving exposure to the ecommerce industry. Moving forward, we expect the Federal Reserve to target increasing inflation above 2%, which should spark near-term consumer spending resulting from the acceleration of the diminishing purchasing power of a dollar. Heightened inflation could also lead to a weaker dollar, a favorable move in exchange rates for companies with international revenue streams. Debt issuance should remain at an elevated level as borrowing costs stay low.

COVID-19 Lessons Learned:

The market volatility derived from the pandemic instilled an excessively cautious investment approach in our sector. While other sectors enjoyed a vigorous recovery in stock prices, financials faltered, resulting in our risk-reducing move to sell PNC, DFS, and AGO and our decision to maintain certain positions and wait for economic growth, including WELL and RE – two companies that will benefit from the eventual opening of the economy. However, as the economic outlook continued to be uninspiring, we sought investments that would succeed in this macroeconomic climate. Although later than we preferred, we have succeeded in providing the sector exposure to thriving industries through MS, BX, and PLD. During the Pandemic, we acted reactively rather than proactively. Learning from that lesson, we plan to take advantage of our 2021 outlook and pursue companies with a favorable loan mix and international revenue.

HEALTHCARE SECTOR

LEAD ANALYST: GRAYSON PIERPOINT

ANALYSTS: NATE FENDER, CONNOR JOHNSON, NATALIE KHOURY, TANNER DOVERSPIKE, CONNOR JORDAN-HYDE, BOBBY STOUT

Sector Overview

The XLV healthcare benchmark underperformed the S&P 500 over the course of 2020 by 4.89%. However, healthcare stocks did not have a bad year, as the XLV notched an 11.37% gain. But the XLV underperformed the overall market because it did not possess the significant growth drivers from the Pandemic enjoyed by the S&P 500 market leaders. And it is difficult for the XLV to beat the market during good years due to the XLV's relative inelasticity and more defensive cash flows.

Statistical Highlights

Sector Value: 770,163

% of Portfolio Allocated: 13.57%

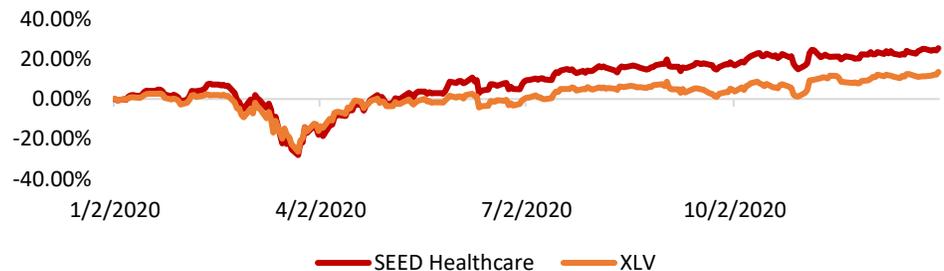
Holding Period Return: 25.47%

Benchmark Return: 13.45%

Active Management Return: 12.02%

Risk Adjusted Return (alpha): 10.91%

SEED Healthcare vs. XLV Performance YTD



Holdings	2020 Return	Weight
AbbVie	21.02%	14.72%
Cooper Pharmaceuticals	13.08%	15.88%
Lab Corp	20.32%	19.58%
Merck & Co.*	4.98%	18.68%
United Health	19.29%	10.64%
Veeva Systems*	76.76%	20.50%
Jazz Pharmaceuticals**	(35.95%)	0%

Portfolio Update:

The SEED Healthcare Sector outperformed the XLV by 12.02% and the S&P 500 by 7.08% over the course of 2020. We entered our best-performing position, Veeva Systems (VEEV), in late February. VEEV is a healthcare IT company that specializes in CRM software for healthcare companies. They currently have contracts with top life sciences companies and have continued to bring new clients and services into their ecosystem.

We exited Jazz Pharmaceuticals (JAZZ) on March 23rd because it was more exposed to Covid-19 related risks with sufficient upside. We also rebalanced our portfolio to trim some of our positions in United Health (UNH) and Cooper Pharmaceuticals (COO). We then added to our position in Veeva Systems due to our outlook for the healthcare IT industry. We entered Merck in early May. It offers a diverse, strong drug portfolio with leaders such as Keytruda. The firm continues to gain approvals to treat new cancers. It also offers more defensive products like Gardasil, a leading HPV vaccine, and a strong animal health segment. We continue to hold LabCorp (LH), United Health (UNH), AbbVie (ABBV) and Cooper Pharmaceuticals (COO) for their strong business models, exposure to the healthcare plan and PBM industries, and developing pipelines, respectively.

COVID-19 Lessons Learned:

Lab Corp saw a boost in clinical testing due to their manufacturing of Covid-19 tests while Merck attempted to develop a vaccine based on technology platforms from other in-house vaccines, but ultimately failed. Merck's attempt showcases how hard it is to predict frontrunners in the healthcare space. Veeva saw significant growth drivers from Covid-19 as healthcare companies had to increase their reliance on CRM software. Cooper Companies and Merck's vaccine segment did not perform as well in 2020 because people were less likely to visit the doctor for check-ups or vaccines, which hurt their sales. Our pharma positions, Merck and AbbVie, had stable revenues because their best-selling medicines are lifesaving and/or a necessity for patients.

INDUSTRIALS

LEAD ANALYST: PARKER EYERMAN

ANALYSTS: JAKE CULLEN, JACOB COHEN, DANIEL PETRENKO

Sector Overview

Industrials experienced stalling revenue growth due to supply chain disruptions and decreased demand in 2020. Despite the slowdown, the U.S. Manufacturing PMI has recently increased to 60.7, buoyed by stronger client demand and higher new order inflows moving forward. Decisions concerning Defense and Environmental Policies under President Biden will serve as determining factors for Industrials and Materials performance in 2021.

Statistical Highlights

Sector Value: \$755,391

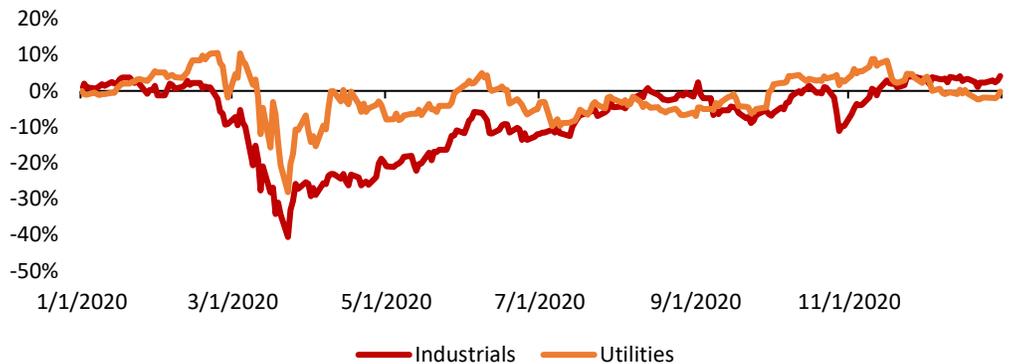
% of Portfolio Allocated: 13.31%

Holding Period Return: 2.48%

Sector Benchmark Return: 4.73%

Active Management Return: -2.25%

Risk Adjusted Return (alpha): -11.97%



Holdings	2020 Return	Weight
Honeywell	22.97%	16.47%
Lockheed Martin*	-1.63%	20.07%
Roper Technologies	22.39%	25.51%
Duke Energy	4.75%	18.74%
Dominion Energy	-5.27%	19.21%
Resideo Technologies**	-7.48%	0%
Union Pacific Corp**	-38.45%	0%
Nucor Corporation**	-48.01%	0%
Emerson Electric Co.**	-48.32%	0%

Portfolio Update

In 2020 our Industrial holdings returned 4.12%, underperforming the XLI by 2.76%. This is largely attributed to the selloff of half of our Industrial holdings back in March. However, Honeywell (HON) and Roper (ROP) performed well throughout the year due to their diversified revenue streams, which allowed us to close the gap from underperforming by 5% to 2.76%. Throughout the same time frame our Utility holdings have returned -0.19%, outperforming the XLU by 1.75%. Overall, our blended return was 2.48%, which underperformed the XLU and XLI's blended return by -2.25% during the same period. Roper (ROP) was our best performer for most of the year due to their exposure to industrial technology which has witnessed excessive growth since the markets began to recover. Honeywell (HON) ended the year on a high note due to a strong Quarter 3 Earnings Report that highlighted better free cash flow than during the summer. Duke (Duk) and Dominion (D) have both been steady performers as defensive plays during this pandemic. Therefore, they have the lesser current weightings in our portfolio. We recently bought Lockheed Martin (LMT). But uncertainty regarding the senate flipping blue has played a factor in our overall underperformance as a sector.

COVID-19 Lessons Learned:

COVID-19 made us adjust how we look at the market. The first challenge was the shift to a virtual world, which lessened our access to the resources we need to keep up with the market. Also, losing the ability for SEED to meet in person and talk through ideas took time to adapt to. The biggest lesson we learned was how to value Industrial companies during the Pandemic. Due to the lockdowns, there was major supply chain disruption. We had to keep track of federal as well as state guidelines to understand when Manufacturing Industries would be operating profitably again. Keeping up with macroeconomic news as well as CEO's updated guidance's became even more important to truly understand when Industrial and Material companies that supplied materials for other industries products would begin rebounding.

CONSUMERS SECTOR

LEAD ANALYSTS: DEMITRI GAMBLE, JOEY MAZZONE

ANALYSTS: WES STONE, HARRISON WIGER, ALEX ROWE, RAYA MUFTI

Sector Overview:

Over the last year, the consumers sector has experienced significant turmoil and inconsistency at times. Due to the volatile nature of consumer confidence over the last year, the sector as a whole, and a lot of companies within consumers, had inconsistent performance results that are contrary to previous years. However, our holdings have shown resilience to unforgiving economic conditions and have all rebounded remarkably since the fallout in March of 2020. Moving forward, we believe that increases in consumer confidence will return the economy to normalcy and bolster our holdings, particularly those that are discretionary in nature. We will aim to pursue more opportunities in the discretionary sector over staples due to incoming additional stimulus and optimistic forecasts from analysts. The consumers sector retains a positive outlook on performance in 2021.

Statistical Highlights

Sector Value: \$983,106.77

% of Portfolio Allocated: 17.32%

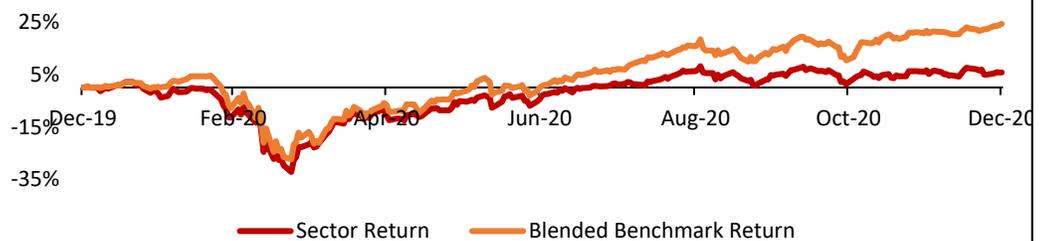
Holding Period Return: +5.67%

Sector Benchmark Return: 24.19%

Active Management Return: -18.52%

Risk Adjusted Return (alpha): -10.93%

Consumers Performance



Holdings	2020 Return	Weight
AutoZone*	13.23%	16.52%
Constellation Brands	17.39%	17.78%
Conagra Brands	8.69%	14.63%
Alibaba	9.73%	13.19%
Dollar General	35.88%	16.26%
Yum! Brands*	8.58%	11.47%
TJX Companies*	1.16%	10.16%
Altria**	-15.66%	0%
Capri Holdings**	-75.83%	0%
Garrett Motion**	-13.41%	0%
HanesBrands**	-38.89%	0%
Starbucks**	-35.38%	0%
Hilton Grand Vacations**	-8.43%	0%

Portfolio Update

DG performed well during the Pandemic considering its discount retail business model and emphasis on lower income areas. Looking ahead, DG's continued growth in the future will be driven by location expansion as well as in-store product diversification. AutoZone was another holding that performed as expected last year. The 2021 outlook remains positive as consumer sentiment seems to be permanently shifting in the direction of DIY services. Our outlook on BABA remains optimistic as they continue to improve logistics and dominate as a subscription-based service, approaching Amazon Prime levels of dominance within Chinese markets. TJMaxx had an inconsistent year but made a shift toward e-commerce to compensate for this. Analysts project large rebounds in retail earnings in 2021, which bodes well for TJX. Yum! Brands was hit particularly hard by the pandemic. However, YUM has positive outlook for 2021 as domestic same store sales growth has been improving. For our staple's holdings, Constellation Brands weathered the storm of COVID-19 relatively well, especially considering how discretionary their product offerings are. STZ is reliant on increased consumer confidence and return to social settings to increase sales, which analysts are optimistic for. Conagra looks positive and company management firmly believes that consumers will continue buying frozen foods even as the economy improves.

COVID-19 Lessons Learned:

During the pandemic, individual consumers and the overall market struggled in tandem. However, brick and mortar retailers that were already struggling due to the rise of e-commerce were hit even harder because of drastically decreased in-person customer traffic. With restrictions in place and the use of technology becoming more and more integrated into our lives, many retail companies struggled to retain customers if they lacked a strong online presence. This being said, the opposite was true for companies such as Alibaba and Amazon. Their online marketplaces exploded with growth and allowed for them to expand their share of the e-commerce market. Food and drink companies initially took a large loss due to suppressed demand, however, the use of third-party delivery apps allowed them to regain some of their losses. We have seen many consumers companies restructure their business model to reflect the shift over to online ordering/shopping. Looking ahead, 2021 appears to be a strong year for recovery and growth, particularly for consumer discretionary companies as consumer confidence and in-person retail return to (hopefully) normal levels.

TECHNOLOGY SECTOR

LEAD ANALYST: WILLIAM VU

ANALYSTS: ANDREW ISTFAN, GARRETT SCRANTON, LUKAS KHODAYAR

Sector Overview

The Technology Sector has been heavily influenced by the on-going pandemic. During this time, many technology companies beat earnings and raised guidance because they provided products and solutions that facilitated remote work. A growing concern for the technology sector is the potential for greater regulation of big-tech over privacy concerns and alleged monopolistic practices, now that the Democratic party controls both the presidency and congress.

Statistical Highlights

Sector Value: \$2,091,422.58

% of Portfolio Allocated: 36.85%

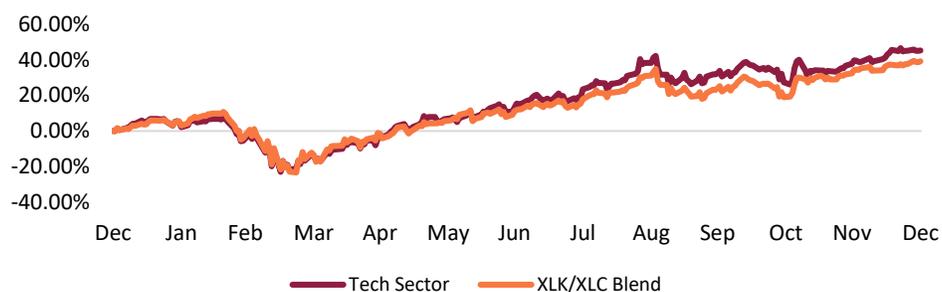
Holding Period Return: **+45.1%**

Sector Benchmark Return: 39.1%

Active Management Return: **+6.0%**

Risk Adjusted Return (alpha): **+23.7%**

Tech Sector vs. XLK/XLC Blended Performance



Holdings	2020 Return	Weight
Adobe	51.64%	15.04%
Apple	82.31%	14.40%
Facebook	33.09%	11.51%
Microsoft*	9.91%	14.39%
Oracle	24.22%	4.53%
ServiceNow*	78.36%	15.10%
Square*	-5.68%	10.50%
Take-Two	69.72%	14.53%
Boingo Wireless**	-39.51%	0%
Cognizant Tech**	-34.01%	0%
Qualcomm**	-31.20%	0%
Salesforce**	-16.10%	0%
Skyworks**	-40.00%	0%

Portfolio Update

The info-tech (XLK) and communications (XLC) sectors gained 43.8% and 27.1% respectively in 2020. During this same time, SEED's tech portfolio gained 45.1%. Many holdings outperformed in 2020 because they provided services and solutions that could be accessed in a remote work setting. However, a few of our holdings were adversely impacted by the pandemic. In February, we pitched Boingo Wireless, but sold it in March for a loss since much of the company's revenues depended on attendance at large-scale venues. Additionally, we sold Cognizant Technologies, Qualcomm, Salesforce, and Skyworks when SEED indexed half of the portfolio. We chose these companies because they issued lower outlooks relative to the other holdings. In April, we pitched ServiceNow to take advantage of the increasing need for I.T. operations management services. This demand was accelerated by COVID because ServiceNow's platform reduced some of the inefficiencies brought on by remote work. Additionally, we pitched Microsoft in October because its cloud infrastructure segment is well-positioned to capitalize on the ongoing business digitalization trend. We funded this investment by partially selling Oracle because it has not been able to significantly benefit from the cloud spending momentum. In December we pitched Square because faster transaction processing and lower customer acquisition costs will expand Square's user base tremendously. Moving forward, we will continue to monitor potential reform on big-tech and adjust our portfolio based on these developments. Lastly, as tech valuations stretch further, we will aim to exit our positions accordingly.

COVID-19 Lessons Learned:

One of the major lessons we learned was the power of a resilient business model and a well-capitalized balance sheet. Technology companies that possessed both traits outperformed notably this year. These companies are also expected to provide additional shareholder value through M&A and other investments by deploying the excess cash they have accumulated during the pandemic. Another lesson we learned was the amount of influence that the Federal Reserve (FED) can exert over financial markets. The FED, through adopting a zero interest-rate policy and engaging in a large-scale asset purchase program, provided a backstop to financial markets by reducing the cost of capital for businesses. This helped struggling sectors get through the pandemic, and enabled investors to adopt a risk-on mindset despite the stock market's disconnect from the current economy. As a result, asset prices for growth names inflated because they provided the highest yields.

Contact Information



Derek Stoughton
Co-Chief Executive Officer
Phone: 703-853-3808
Email: ddstoten@vt.edu



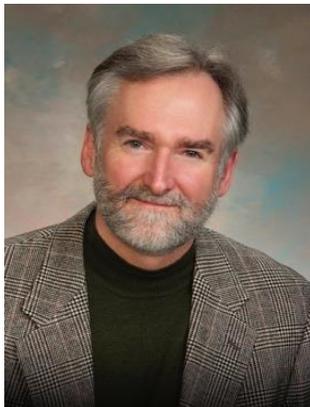
Emma Roby
Co-Chief Executive Officer
Phone: 804-921-4170
Email: emmaroby1@vt.edu



Shloak Patil
Chief Investment Officer
Phone: 540-235-4075
Email: shloak98@vt.edu



Aryan Kumar
Chief Analytics Officer
Phone: 540-239-8733
Email: aryan@vt.edu



Professor Randy Billingsley
Faculty Advisor
Phone: 540-231-7374
Email: r.billingsley@vt.edu

University Information

Virginia Tech Pamplin College of Business

<https://seed.pamplin.vt.edu/>

Facebook.com/VirginiaTechSEED

