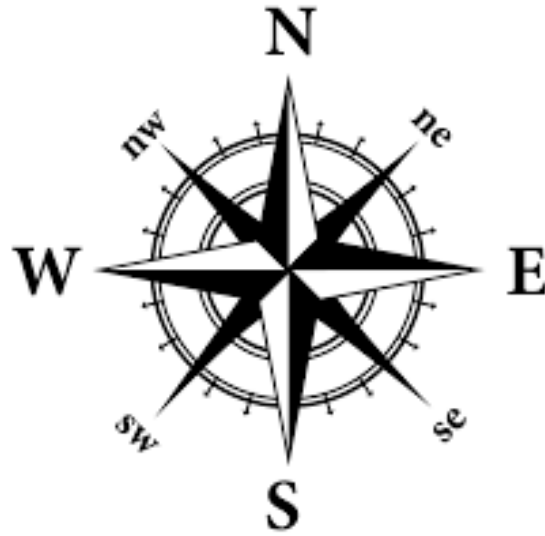


**Wharton Global Youth Program Investment Competition**

**Final Team Review**

**THE COMPASS**



by

**Rockets-141**

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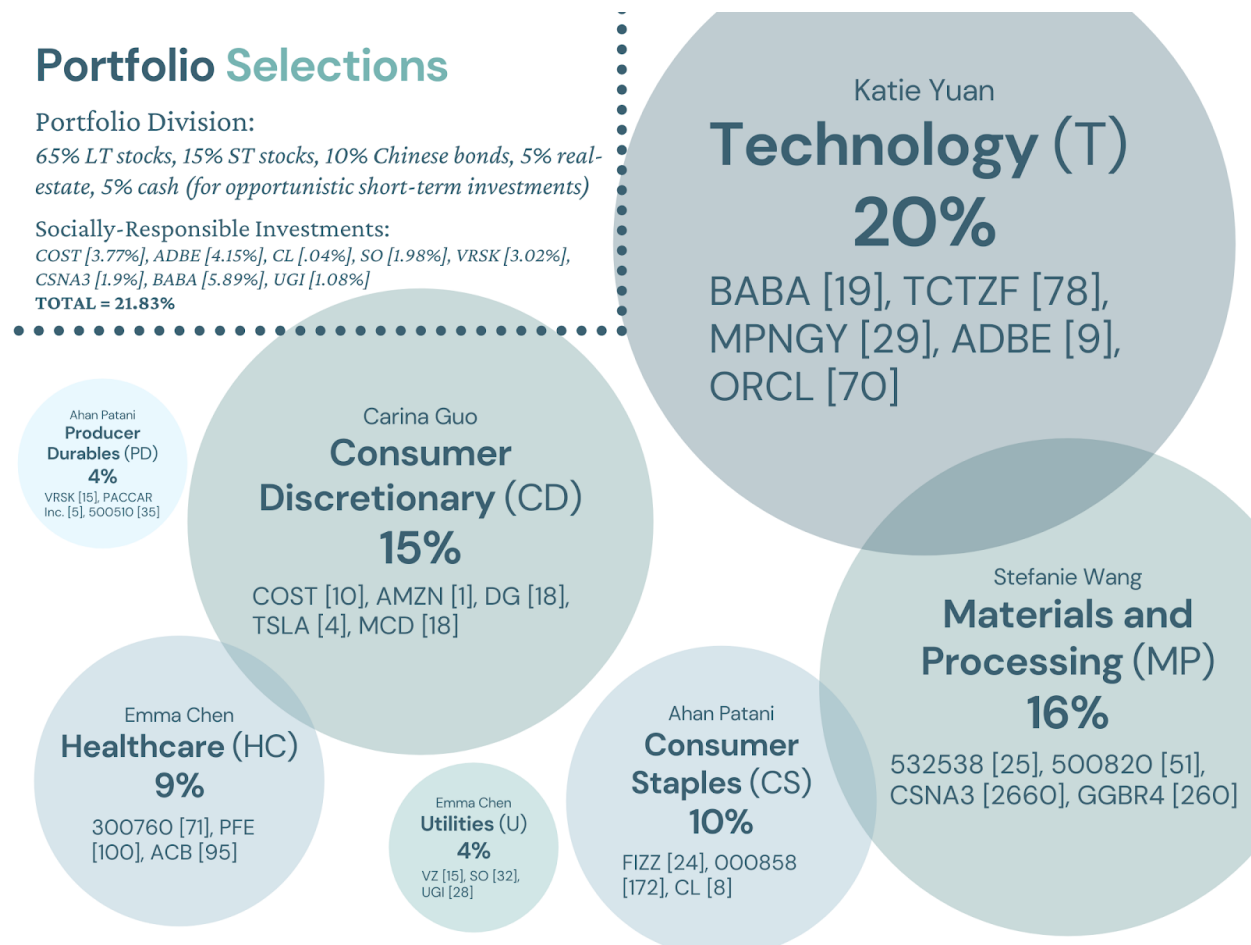
Unofficial Advisor: Rich Ballew

Maryland, USA

December 11th, 2020

## Section 1: Portfolio

Figure 1.1: Portfolio Selections



| Account Snapshot               |                      | <a href="#">View Summary</a> |
|--------------------------------|----------------------|------------------------------|
| Currency                       | USD                  |                              |
| Portfolio Value                | \$104,544.58         |                              |
| Buying Power                   | \$23,924.34          |                              |
| Portfolio % Return             | 4.54% <span>⬆</span> |                              |
| Available Cash                 | \$23,924.34          |                              |
| Interest Earned on Cash        | \$0.00               |                              |
| Market Value of Long Positions | \$0.00               |                              |
| Trades Made/Remaining          | 28/272               |                              |

Figure 1.2: Account Snapshot

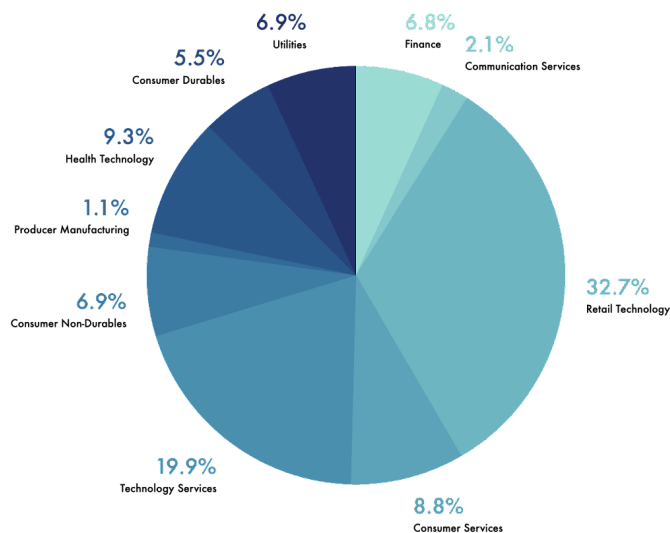


Figure 1.3: Industry Distribution

~ We propose a COMPASS investment strategy to help guide us during unprecedented times. ~

## Section 2: Investment Recommendations



COMPASS: Our team's guiding philosophy is COMPASS<sup>1</sup>, with each cardinal direction representing a crucial evaluation point. **North** represents **News**, **East** symbolizes **Earnings**, **South** indicates **Stability**, and **West** represents a **World** consideration centered around ethical practices. Every company receives a score from one (poor) to five (excellent) for each. Selected companies have a total score of at least 15/20.

Two of the four criteria are qualitative. **News** relates to current events, company changes, and international expansions. We examine the developments that impact company activities and observe the industry's domestic and global consumer trends. The **World** score is the average of scores we determine for Environmental, Social, and Governance factors. The other criteria are quantitative. The **Stability** score is derived from a set range of beta values (Figure 2.2). For growth stocks, we reward betas over 1, and for safer blue chip stocks, we reward betas less than 1. Finally, we calculate the score for **Earnings** by comparing the companies' ROE, ROA, ROI, and net profit margin (annual TTM) to industry benchmarks (Figure 2.1). The final Earnings score is an average of the score for each of these four metrics from one (poorer than industry) to five (surpasses industry). To ensure accuracy, we investigate causes of sudden earnings upsurges or dips, taking a holistic view of trends over the past five years.

We noted that while quantitative figures are objective, a company's qualitative aspects are often more indicative of long-term prospects (i.e. beta looks to past performance). Thus, there are some instances in which we purchased stocks based on the News or World criteria even if the total score fell below 15 (or refrained from investing even if the score was above 15).

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<sup>1</sup> [Image Source](#)

Figure 2.1: Industry Benchmarks for Earnings

| Sector | ROA  | ROI  | ROE  | Net PM |
|--------|------|------|------|--------|
| CD     | 1.3  | 2.59 | 5.18 | 1.89   |
| T      | 9.65 | 16.9 | 22.3 | 16.6   |
| MP     | 2.61 | 4.59 | 6.79 | 3.82   |
| PD     | 4.03 | 9.07 | 14.5 | 5.53   |
| CS     | 2.7  | 5.74 | 8.85 | 3.49   |
| U      | 1.74 | 2.85 | 6.12 | 7.2    |
| HC     | 3.57 | 6.93 | 10.1 | 6.9    |

\*All values are TTM, %.

Figure 2.2: COMPASS Analysis Scale

| SCALE | NEWS  | EARNINGS   | STABILITY: GROWTH (BETA) | STABILITY: BLUE CHIP (BETA) | WORLD  |
|-------|---|--|--------------------------|-----------------------------|--|
| 1     | Recent news is damaging to company reputation and potential future partnerships/growth                                      | Company earnings are below the industry benchmark and/or indicate a trend towards suboptimal growth over the past five years   | <0.5                     | >1.5                        | Company practices are considered unethical; average ESG criteria score of 1                                      |
| 3     | No recent news or updates   | Mediocre performance in comparison to the rest of the industry and/or no distinguishable trend of growth or decline  | 1± 0.15                  | 1± 0.15                     | Company mission lacks ethical practices; average ESG criteria score of 3   |
| 5     | Positive news in: legislation and policies; partnerships, acquisitions and mergers; new products and geographical expansion | Financial statements show strong EPS, ROE, ROA, and profit margins; earnings are above industry benchmarks; financials do not indicate inconsistent one-time surges but rather growth over the last five years; strong future growth | >1.5                     | >1.5                        | Company commits to strong ESG practices and is highly commended for its conduct; average ESG criteria score of 3 |

Figure 2.3: COMPASS Example Analysis

| Company   | News  | Earnings   | Stability       | World   |
|---|---|--|-----------------|---|
| Colgate [CS]<br>Total: 17.67                      | 5: September/October articles <sup>2</sup> about toothpaste preventing coronavirus, has a high global market share of 40% for oral care.  | Avg: 5<br>5-ROA: 17.73%<br>5-ROI: 34.47%<br>5-ROE: 398.08%<br>5-Net PM: 16.65% | 4: Beta of 0.58 | Avg: 3.67<br>5-E: Significant efforts to reduce pollution.<br>4-S: Promotes oral health education, partnering with schools and ministries.<br>2-G: Poor governance integrity and workplace conditions.  |
| Southern Company [U] <sup>3</sup><br>Total: 18.25 | 5: Recent management change <sup>4</sup> ; first shipment for Vogtle nuclear expansion project; ranked 1st by JD Power for Business Consumer Satisfaction for past three years. | Avg: 4.25<br>4-ROA: 2.0%<br>4-ROI: 3.14%<br>4-ROE: 7.44%<br>5-Net PM: 15.46%   | 4: Beta of 0.68 | Avg: 5<br>5-E: Plans to make 50% of its fleet vehicles electric (2030), net zero GHG emissions (2050).<br>5-S: Awards over \$1.6 million to support GA's Historically Black Colleges and Universities.<br>5-G: High standards for employees, officers, and directors. |

<sup>2</sup> N. (2020, November 19). [Colgate Laboratory Tests Show \[Products\] Neutralize COVID-19](#). BusinessWire.

<sup>3</sup> N. (2020, November). [EEI ESG Sustainability Reporting Template](#). Southern Company.

<sup>4</sup> N. (n.d.). [News Releases](#). Southern Company.

Portfolio Distribution: Our investment strategy looks to maintain long-term growth through diversified investments and risk analysis. Considering Mr. Hagenbuch's young age and steady income streams, we enlist a moderately aggressive investment approach that incorporates aspects of well-known strategies (i.e. Warren's 90/10 portfolio and the Ivy League Endowments). Ten percent of the portfolio goes to cash-equivalent Chinese bonds, one of the safest assets on the market. Another 5% goes to real estate (in relation to Mr. Hagenbuch's company Loft) as a stabilizer for economic downturn or high inflation. Five percent is set aside to use opportunistically (when other funds are in "hold" stocks) to take advantage of volatility and place low-price orders (i.e. three months before presidential elections, one month before major legislative votes). Fifteen percent goes to short-term stocks. To optimize market timing and decrease opportunity costs from holding cash, we recommend investing one-third for the sooner of each of the following: a 10% price correction or 2 months, a 20% price correction or 3 months, and a 30% price correction or 4 months. This will be repeated with new returns. For example, we advise our client to trim 10% of the portfolio to invest in the previous strategy at a 10% rise in the broad market in a bull market. However, we advise against this strategy in bear markets with higher opportunity costs of selling at low prices. The remaining 65% goes to long-term stocks determined by COMPASS.

Loss Mitigation Procedures: We advise selling short-term stocks once the price falls below 7-8% of the initial buying point. Long-term stocks are held unless the stock price falls 10% below the purchased price for over three months. Exceptions are made when our client/market and legislation changes indicate the stock will rebound.

### Client Considerations:

*Requirements:* The 10% investment in Palmeiras will be sourced from our short-term stocks. If we don't have the required \$10,000 (due to losses), we will cover the cost with Chinese bonds. Alongside our divisions, we will allocate 20% of investments to socially-responsible companies such as Colgate-Palmolive, Costco, Southern Co, Adobe, Verisk, Sid Nacional, Alibaba, and UGI. However, we drop stocks with egregious ethical violations despite compass ratings (i.e. PG&E, with a history of criminal charges and sparking deadly wildfires).

*Additional Considerations:* As Mr. Hagenbuch “love[s] to invest... on startups and disruptive business,” we recommend investments in industry-changing, innovative companies (Alibaba, Meituan Dianping, and Tencent). Noting his attention to geographic diversity, we incorporated global investments (N of COMPASS) in North America, Asia, and Latin America. Moreover, we invested in Asian Paints Ltd that provides thousands of students with painting vocational training in consideration of Mr. Hagenbuch's appreciation for the arts.

### **Section 3: Investment Decision-Making**

Process: We began by learning basics with a multitude of online resources (i.e. Wharton lessons), translating Mr. Hagenbuch's social media posts, and reaching out to experts. The [CFA Investment Policy Guidelines](#) helped us see how real investors' portfolios are structured. Then, our team studied the potential of all sectors by conducting a PEST and Porter's Five Forces analysis (see Tools, paying special attention to pandemic-induced market fluctuations). Each member was assigned to a promising sector and performed research and a SWOT and financial statement analysis. Companies are color-coded based on favorability and presented during team meetings. The COMPASS analysis is then applied and each company given a rating for each

cardinal direction (see COMPASS section). After thorough discussion, chosen stocks were promptly purchased.

Tools: In the analysis of companies, we used a wide range of tools to assist COMPASS analysis.

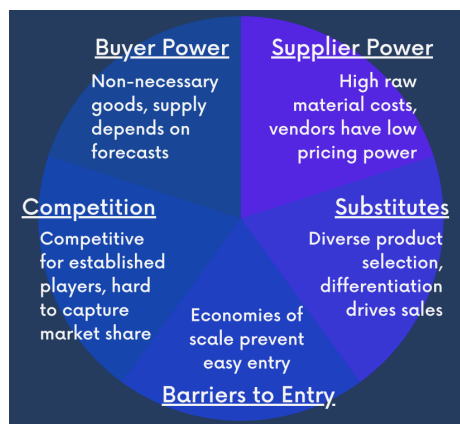
We conducted *research* on various news sites such as [Bloomberg News Service](#), [Forbes](#),

[Crunchbase](#), [Motley Fool](#), [Wall Street Journal](#), [Statista](#), [MacroTrends](#), and [Economic Times](#). We

used *Porter's Five Forces* to analyze competition and determine optimal industries (Figure 2.4).

We performed *SWOT analyses* of companies to determine future potential (Figure 2.5). *Company financial statements* helped provide insight to overall performance.

**Figure 2.4: Porter's Five Forces [CD]**



**Figure 2.5: SWOT Analysis [condensed]**

| Company        | Strengths  | Weaknesses                            | Opportunities   | Threats                          |
|----------------|--|---------------------------------------|---|----------------------------------|
| Dollar General | High stability (0.18 beta), low-price model.         | Brick-and-mortar stores (less demand) | New line of stores: pOpshelf.                               | Mediocre attempts to innovate.   |
| Oracle         | Completion of Byte Dance deal → potential ST growth. | No final news has been released.      | Oracle is in the talk of obtaining a 12.5% stake in TikTok. | Uncertainty over finalized deal. |

#### Section 4: Advised Sectors

Our team recommends WGAM to invest in seven sectors (PEST analyses shown).

##### Consumer Discretionary:

| Political  | Economic  | Social   | Technology                                    |
|--|---|--|---|
| Biden's tax plan would hurt companies. International trade relation changes: helps EU trade and hurts China trade. | Follows disposable income fluctuations. Low-price stores will see more demand. Low interest rates help fund ventures. | Influencer-marketed, eco-friendly products appeal to millennials. Increased desire for easy shopping | E-commerce companies are projected to expand. |

We target companies that are either “recession-proof” (low prices and thus consistent demand), or have strong e-commerce platforms (growing proportions of retail sales during COVID-19—we project long-term shifts due to increased consumer trust and more efficient shopping experiences).

### Technology:

| Political  | Economic  | Social  | Technology  |
|--|---|---|---|
| China’s recent monopolistic regulations hurt specified companies; some (Tencent) not adversely affected. | Cloud computing is projected to grow at a CAGR of 17.5% <sup>5</sup> . Global e-commerce sales projected to double by 2022, especially in China. <sup>6</sup> | E-commerce expansions: popularity for shopping festivals, emerging middle class, digital payment systems, and social media integration. | High demand for cloud services: 85% of small companies invest in versatile SaaS apps to minimize company costs and focus on customer success. |

China, the “King of E-Commerce, has caught our eye due to its geographic location, emerging middle class<sup>7</sup>, and “new retail” model (Online to Offline business model) integrating physical and online stores. High growth is expected for software (projected CAGR of 9.1% by 2025). COVID lockdowns fuel the video games industry, with China’s gaming industry in the lead.

### Materials & Processing:

| Political  | Economic   | Social   | Technology  |
|--|--|--|---|
| Make in India initiative benefits the transportation; Brazil may withdraw from the Paris CCA (benefits the steel industry). <sup>8</sup> | India’s cement production is rapidly expanding. <sup>9</sup> Brazil’s steel has a positive outlook after CarWash Scandal <sup>10</sup> . | Shifts towards traditional whitewash paint. 99% of India’s cement industry prioritizes eco-friendly tech (consumer attention). | India’s cement industry is pursuing modernization to achieve improved energy and quality standards. |

<sup>5</sup> N. (2020, August 21). [Cloud Computing Industry to \[Grow\]](#). Research and Markets, Globe News

<sup>6</sup> N. (n.d.). [5 Trends for the Future of E-Commerce](#). Shopify.

<sup>7</sup> Kinney, Matthew. (n.d.). [Chinese Middle Class, Millennials Driving Meteoric Growth in eCommerce](#). NOLASIA.

<sup>8</sup> Darby, Megan. (2018, August 14). [Brazil: Bolsonaro Threatens to Quit Paris Climate Deal](#). Climate Home News.

<sup>9</sup> N. (2020, January 22). [Cement Sector Analysis Report](#). Equity Master.

<sup>10</sup> Watts, Jonathan. (2017, June 1). [Operation Car Wash is the Biggest Corruption Scandal in History?](#) The Guardian.



Many stocks have beta values less than 1 and current ratios greater than 1, ideal for long-term investments. We took keen interest in Latin America as the region is best known for steel and materials companies.

#### Producer Durables:

| Political   | Economic   | Social  | Technology   |
|---|--|---|--|
| Politicians advocate for industrialism; may indicate future projects. | Volatile; reliant on performance of the economy. | Demand for better infrastructure globally (especially Asia) <sup>11</sup> . | Increased demands for AI (will displace jobs). <sup>12, 13</sup> |

Many stocks have high betas of most of the stocks in the sector, indicating higher volatility but also higher potential for return. Industrial companies have and are projected to grow in the coming years as politicians attempt to return industrial growth to their respective nations.

#### Consumer Staples:

| Political   | Economic   | Social   | Technology  |
|---|--|--|---|
| Overall, regulations are increasing. Taxes may harm companies under the Biden administration. | This is a non-cyclical sector as consumer demand remains consistent. | Due to stay-at-home orders, the demand for alcohol has risen. Millennials gravitate towards innovative and influencer-marketed products. | Companies that have innovative products or efficiency-maximizing technologies will be able to succeed in the highly competitive industry. |

Consumer staples' demand remains relatively stable regardless of economic circumstances (supported by low betas) as the industry's goods are considered necessities. This indicates resistance to recessions including the COVID-induced one. Certain staples, including beverages,<sup>14</sup> have seen increased demand from stay-at-home orders.

<sup>11</sup> Nag, Devanjana. (2020, November 26). [L&T to Construct India's Longest River Bridge](#). Financial Express.

<sup>12</sup> Hillyer, Madeleine. (2020, November 18). [How Has Technology Changed – And Changed Us – in the Past 20 Years?](#) World Economic Forum.

<sup>13</sup> Flinders, Karl. (2020, November 26). [Robots Taking Jobs, but Creating Careers](#). Computer Weekly.

<sup>14</sup> Pollard, Michael S. [Changes in Adult Alcohol Use and Consequences During the COVID-19 Pandemic in the US](#). JAMA Network.

Utilities:

| Political   | Economic  | Social   | Technology  |
|---|---|--|---|
| Biden's win may lead to stricter regulations and helps shift to clean energy – commitment to decarbonization. | Future stimulus plans may expedite carbon reduction i.e. green infrastructure investment. | Eco-friendly trends towards clean energy i.e. studies linking air pollution to higher COVID death rates. | Increased demand for cyber secure digital solutions (i.e. cloud, virtual home energy management). |

The utilities sector currently leads the clean energy transition as more people pay attention to the effects of emissions. Demand for renewable sources (solar and wind) is reaching record heights.

Healthcare:

| Political  | Economic   | Social  | Technology  |
|--|--|---|---|
| Special government support (i.e. equipment manufacturing) throughout the pandemic. Marijuana is federally legalized. | Current economic fallout leads to unemployment, uninsurance. Sector will recover with the economy. | Telehealth services are becoming the norm. <sup>15</sup> Companies must find ways to carry that momentum into the future. | High demand for vaccines. Long-term innovation in pharma and biotech industries will be rewarded. |

In consideration of the ongoing pandemic, we placed particular emphasis on recent news and legislation regarding successful vaccines or high-demand products (i.e. ventilators). Additionally, we focused on recent votes in the House to legalize marijuana when evaluating affected stocks.

**Section 5: Team Processes**

Team Dynamics: We are incredibly grateful for this competition for allowing many of us to meet for the first time. Throughout the competition, we discovered each member's unique skills and experiences. Carina's experience as a competitive debater brings a perspective on how public policy affects the economy. Katie and Emma's previous DECA experience provides insight into corporate management and business analysis. Stefanie's attention to recent news and Ahan's

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<sup>15</sup> Egan, Yulan. (2020, May 8). [How Covid-19 will Impact the Financial Outlook for the Healthcare Industry](#). Advisory Board.

experience in political analysis in *Lenses News* help inform the group of legislation and other company or market changes.

Communication and Open Discussion: Our team values disagreements and discussions that lead to team growth and bonding. Cohesion can lead to groupthink and doesn't necessitate good decisions, so we encouraged dissent (even when objecting to existing consensus). Those in opposition would explain their opinions to convince the group to reach an alternative conclusion, and decisions would be left to a group vote.

### **Section 6: Takeaways**

Decision-Making: Two key lessons were learned. First was using the *tabula rasa* mindset to eliminate prior assumptions about a company. We became more critical of companies that were assumed to be strong, and more open towards those that have not always done well. Second was looking at companies from different perspectives. At first, we solely relied on ratios and past trends of stocks, but we soon learned the significance of incorporating qualitative features into our COMPASS directions. In hindsight, our team would have explored StockTrak more, placing trades earlier and testing features (i.e. limit orders to optimize market timing).

Future Impact: We went into this competition armed only with a passion for finance and little to no prior experience of investing. Now more aware of social, political, and economic implications for the changing market, we wish to share our experiences and increase the accessibility of personal finance and entrepreneurship education for students, such as through Katie's non-profit InnovateX. Moving forward, many of us have expressed interest in investing on our own—perhaps still under the guidance of the COMPASS. No matter the outcome of this competition, the invaluable critical-thinking skills we gained will stay with us forever.