Oklahoma State University

Understanding Student Investment Strategies

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One of the major lesson taught to finance students is that there is no better resource than time when it comes to investing. Utilizing time effectively can turn a relatively small investment into a return many times larger than what you began with. Understanding the importance of time when it comes to investments, many college students have decided to try and get a head start by investing while they are still students. This has become significantly easier thanks to the increase in popularity of investing apps, such as Robinhood. With these apps being the first time that many students can get experience investing, I thought it would be interesting to look into the strategies that college students implemented when using these investing apps for my senior honors thesis. With the help of Dr. David Carter, I created a survey and distributed it among the students of Oklahoma State University in order to see if there were any observable trends in their investment strategies amongst college students. After receiving the results of the survey, it appears that students using the investing apps choose to invest small amounts of money into a limited number low-cost stocks with stable growth over long periods of time.

When creating the questions, there were two main questions that needed to be answered. The first question was who was the student taking this survey and the other was what their strategy entailed when it came to investing. The first part of the survey had questions that were focused on trying to gather as much demographic data of the students as possible. The latter part of the survey contained questions that were more focused on trying to find the details of the student's strategy and preferences when using the investing apps. Taking the data from the two parts of the survey would allow for trends to be assigned to certain groups of students and for the strategy for those groups to be compared to one another. In total, the survey had 147 genuine, unique responses from students with varying majors, ages, investing strategies, and employment statuses among other variables.

Starting with the first set of questions, there were three main goals. The first goal of this question set was to get a basic understanding of the people taking the survey. Having this data would allow for more in-depth comparisons between similar respondents, making it easier to spot trends. The second goal was to determine how many students had used these investing apps, or similar services, and how many of those students were continuing to invest at the time the survey was administered. This would create the first two groups which will be further broken down later for comparison. The third and final goal was to understand the respondent's familiarity with investing by having them list the finance courses that they have taken or are currently taking. From this question the two larger groups of investors and non-investors could be separated further into two more groups each, creating four total groups for comparison.

Before any of these comparisons could be made, the basic demographic data of the students taking the survey needed to be collected. Based off of credit hours, the majority of 147 respondents were juniors, 42.9%, followed closely by the seniors and then juniors, 34% and 18.4% respectively. Finally, very few of the respondents were either graduate students or freshman, 2.7% and 2.0% of the total responses respectively. The majority of the respondents were 20 or older and the gender split was roughly even. Other than the freshman students, every academic year had some respondents that worked a part-time or full-time job. There were 71 respondents in total that had part-time jobs and 11 that had full-time jobs. Both the total number of respondents that had a job and the number of students with a full-time position increased alongside the academic year, seniors having the most with a total of 34 respondents holding some type of job with 6 of those being full-time. The final question in this set asked for the students to list their majors and minors. 130 of the 147 respondents, or 88.4%, had either one major or minor related to the school of business. The core of the business majors and minors

were for degrees within the finance, accounting, management, and marketing fields. There were 74 students with majors or minors in finance, 44 in accounting, 48 in management, and 20 in marketing. (The totals contain the number of times a major or minor within that field of study was listed, meaning that if a student listed multiple majors or minors they be counted as a whole number in related degrees total).

After getting a decent idea of the students that had responded to the survey, the next question that needed to be answered was how many of these students actually participated in some type of investing while in college. From the 147 responses collected, only 46, about 31%, of the students used investing apps or a similar service at some point during college. Despite the majority of these 46 respondents being upperclassmen, there was no data to suggest that any specific academic year would be any more or less likely to invest then others. When the students were asked what investing apps or service they used, the most frequent answers were Acorns, Robinhood, Charles Schwab, and TD Ameritrade.

The responses did bring up a potential problem with splitting the groups into investors and non-investors. Although there were 46 students that responded they did use an investing app at one point, 52.2% of these students responded that they had stopped using their investing service by the time the survey was given out. This massive decrease in users caused me to rethink the criteria for the investors and non-investors groups. Eventually I came to the conclusion that, even though these respondents had since stopped using the apps, they did still have investing experience and would still have had to use some type of strategy. Therefore, they would not be so different from the investor group that a third group had to be made. This did mean, however, that the total number of students that responded to the survey that were continuing to invest was only 24 students out of the original 147.

The investors and non-investors, were then organized into two smaller subgroups. The two subgroups would consist of those that had taken finance courses while they were a student, denoted as finance students hereafter, and those that did not, denoted as non-finance students hereafter. This further separation led to a few interesting developments. While there was a greater total number of finance students, the non-finance students had a higher ratio of investors to non-investors. The non-finance students had 14 out of their 35 of their total respondents say that they had invested while in college and still had 8 of those students still investing when the survey was taken. For comparison, the finance students had 32 out of the 112 total respondents actively invest during college. The finance students did, however, have a similar decline in the number of respondents actively investing when the survey was distributed. Only 16 of the finance students were still actively investing, meaning that neither group was more or less likely to stop using the investing app compared to the other. Breaking down the investors based on finance experience also revealed a difference in the preferred investing medium. The majority of the non-finance students chose to use phone apps like Robinhood and Acorns, while the most commented medium for finance students was TD Ameritrade. The finance students also had significantly more respondents choose the "other" option and comment unique investing mediums. 17 of the 32 finance students, or 53%, commented that they used 9 unique mediums like Edward Jones and Fidelity. The non-finance students only had 3 of their respondents chose the "other" option.

While the first half of the survey focused on understanding the students taking the survey and organizing them into groups, the second half of the survey focused on understanding how the students used these investing mediums and what trends emerged. By combining the responses from these questions with the group data already collected, the baseline strategies for the

different groups could be inferred and compared. The groups were given questions that focused on the student's current use the investment app, how important various factors were to their decision making, and how they would respond to hypothetical situations. Combining these three elements would allow for a better understanding of the similarities and differences in each groups general strategy.

The first part of understanding each groups strategy was to compare the makeup of the average portfolio of each group. For this section specifically, I decided to focus on the responses from the investing students. The survey did collect responses from the non-investing groups, but the students had to answer as if they hypothetically had just starting investing. The responses from the non-investing students varied greatly both within the specific subgroups and when compared to the investing students. The responses did reveal that the general trend for non-investing students was that the non-investing students would only use the apps very rarely with very little money invested at any given time.

The finance and non-finance investing groups shared a large number of similarities. The two groups both managed their investments on a fairly constant basis, daily or weekly, and both only seemed only to add funds when they were needed to make a purchase as opposed to adding a set amount of funds on a set schedule. The first real divide between the two groups appeared when the students were asked about the number for the average total number of stocks held at one time. While the majority of the students in both groups only held around 1-10 stocks, the finance students had a slightly larger percentage of their respondents that held more than 10 stocks. The two groups continued to differentiate themselves when asked how many different companies they were invested in on average. The groups both had a decent mix of students that chose the 2

to 6 and 6 to 10 range, but the finance students mostly preferred the 2 to 5 companies while the non-finance investors preferred the 6-10 range.

After getting an idea of what the current portfolio of the groups looked like, the next step was to try and figure out how it got that state. To do this, there were six major variables that I wanted each of the four groups to rate from most important factor when making decisions, position 1, to least important, position 6. These six variables were company name recognition, past earnings, day to day changes, stable growth, portfolio diversity, and potential dividends. The non-investing groups would be asked to rank these factors as if they were hypothetically making their first investment. Unlike the previous part, however, the non-investing student responses would be instrumental in helping create a base line to compare the groups. After collecting the responses, the groups had many surface level similarities with alongside a few notable minor differences that varied group to group.

Starting with the similarities, there were two factors had all four of the groups rank them in the same position on average. These two factors were stable growth and portfolio diversity and were ranked on average as the most and fifth most important factor respectively. Stable growth had the single largest percentage of respondents agree on the factor rating, with an overall average of 37.86% of the total respondents placing as the most important. This was closely followed by portfolio diversity, which was raked by respondents as the fifth most important factor on average 34.04% of the time. The groups didn't share this same unanimous ranking for the rest of the variables, but there were still trends in the rankings that appeared in multiple groups. Past earnings had the highest average of students ranking it as the second most important factor. The only group that did not have it as the second most important variable was the non-investing non-finance students who placed it as the third most important. This was similar to

potential dividends, which most of the groups ranked as the least important factor going into the student's decisions. The only outlier was the non-finance investors who evenly split their ranking of potential dividends between the 4th, 5th, and 6th position.

These similarities help to reveal the basis of the wider student body investments strategy. Because the rankings for the four factors mentioned above were repeated by each of the groups, regardless of exposure to finance courses or experience in investing, we can reliably apply this strategy as a baseline strategy for the students as a whole. From the high ranking of variables like stable growth and past earnings, we can infer that students want to invest in companies that show greater consistency in terms of returns and are less likely to invest in riskier companies. In contrast, the ranking of portfolio diversity and potential dividends as the least important factors means that the students are not looking to invest many companies or to get some type of immediate payoff for their investments. We can then infer that the baseline strategy for the students is centered around the idea of investing in a few, safe companies that will help them grow the investment over a long time.

While the baseline strategy works on a general scale for each of the groups, the slight differences in the position rankings show that these groups deviate in some way from the general strategy. Unlike the previous factors, however, the day to day changes and name recognition factors often lacked a clear majority consensus in terms of ranking. This lack of consistent majority meant that the students opinions on how important these factors were fluctuated both within groups as well as from group to group. The lack of a majority forced me to look less at the number of students ranking a factor in one specific position. Instead, the focus shifted to finding deviations from the groups usual pattern and comparing that to the size of the positions ranking range.

Looking first at the differences in how the remaining two factors were ranked, both name recognition and day to day changes had different spreads based on the group. For day to day changes, there were two general patterns that emerged in the rankings. For both investing subgroups, the students had very few respondents rank day to day changes in the first or second position and had an equal spread of rankings in the remaining positions. The investing finance students had a larger percentage of their respondents that ranked this factor towards the first two positions, meaning that they valued day to day changes higher on average. The non-investing subgroups, in comparison, had a more equal spread throughout all the positions, but both had slightly more respondents rank it as the second or third position. Given the higher amount of rankings in the first few positions, it can be inferred that the non-investing groups valued the day to day changes more than the investing groups. Name recognition, in comparison, had the more erratic spread between each of the groups. No group reached a clear majority, but the Non-investing non-finance students did split its ranking as the 4th and 6th most important factor. While the investing finance students had a wide spread of rankings that didn't follow a pattern, the non-investing finance and investing non-finance groups followed a similar pattern. They both had a large number or students ranking it as the most important followed by a massive drop off that constantly increased as the rankings approached the least important position.

These differences allow us to get a better picture of each groups specific strategy and how it compares to the other groups. For the Investing finance students, we can infer that their strategy would fall closely in line with the baseline strategy with less emphasis on the day to day changes as a factor. The ranking of company name recognition would also suggest that this group would value investing in a company that they were familiar with, but only if the company had proved itself to be a stable investment. The investing non-finance student's strategy would closely

follow this pattern as well but would have the least emphasis on finding a company they were familiar with. This means that out of all the groups, the investing non-finance students would be most likely to invest in companies based solely off the data. This lack of emphasis on finding a company the student was familiar with was also present in the non-investing non-finance students, who had name recognition ranked relatively unimportant while having day to day changes be evenly spread out in their rankings. The non-investing finance students would, however, had the opposite approach, with a more consistent raking of the day to day changes. The consistent rankings in the 3rd and 4th placement for day to day changes meant that non-investing finance student's strategy would be similar to the baseline strategy with an emphasis on finding companies with lower volatility. The relative high rankings on both ends of the spectrum for name recognition, however, meant that the group was split on how important the familiarity was. Given that the number of rankings sharply dropped and then grew, it can be in inferred that the factor was less important than day to day changes but still had significant importance to the group's strategy.

Finally, students were asked a hypothetical question on when they would decide to sell stocks that they had already invested in. The original idea was that the responses from this question would allow for an understanding of the different groups commitment to the stocks they were invested in. Unlike previous questions, however, almost all of the groups had relatively the same percentage of respondents choose each answer choice comparative to the other groups. Looking at the breakdown of the respondents based solely off how they answered this question, the demographics of each answer closely mirrored the general makeup of the survey. This meant that the strategy wasn't affected by any of the measureable perimeters set up by the survey, like finance experience or job status, but was a product of an outside factor that effected each group

of students equally. Because of this, a general strategy was able to be discerned while groups specific strategies could not be.

The majority of students said that they would sell when they believed that there would be a decline in the immediate future. Given that roughly half of all respondents answered this way, we can infer that this is the general strategy followed by students. Another major similarity among all of the groups is that there were almost no students who answered that they would sell immediately after the stock price fell. Therefore, we can infer that students understand that there is greater value in holding onto a stock after it's value decreases rather than to sell it for the lower price. In contrast, there was a decent amount of students from each group that answered they would sell if there was a major decline in the stock price. The students that chose this answers did initially appear to have a larger percentage of students owning higher amounts of shares, anywhere from 11 to 50 shares of stock at one time, but this percentage difference was mostly due to the fact that less students choose to sell after a significant loss. Combining all of this response data allows us to get an understanding that students, regardless of their previous finance or investing experience, will hold on to their stocks unless they think that some event might occur where the price of their stocks will immediately decline.

There was only one real group that differentiated itself from the other groups. The investing finance students were the only group that had a significant number of respondents answer the "other" option and comment their own strategy. The most prevalent of these responses being that they would refuse to sell until either the price had gone back up or they simply wouldn't sell at all. Around 16% of the students in this group responded this way with the other students following the general strategy mentioned above. These responses, along with the number of responses of "other" in previous questions, do reveal an interesting distinction in how the

investing finance students approached the survey. While there was a large number of the groups that would follow the general strategy, the students in this group were more likely than any other to come up with unique answers or strategies.

With the final question answered, the investment strategy of each individual student, even if they had not invested before, could be distinguished. Then, through the organization of the respondents into groups based off certain demographic data, I could get an idea of how certain factors could impact a student into deviating from that general strategy. Due to the drastic difference in curriculum of different majors, I thought the best way to organize students was by their exposure to finance courses. Alongside this, having experience investing would realistically change the way a student would view their investment, so the previous two major groups were broken into investing and non-investing subgroups, creating four total.

The general strategy could be created by understanding what factors were shared by each of the groups. Each of these groups wanted investments that grew at a stable rate and each cared very little for how diverse their portfolio was. The majority of students only added money when it was need it to make a purchase and each group tended to have a low number of stocks from a limited number of companies. The last important similarity between all groups is how each said that they would only sell their stocks if they thought there would be a decrease in stock price in the immediate future. Combining all of these similarities helps to show that the general investment strategy of students is one that is focused on investing in safe, stable stocks from a small number of companies. As for why this strategy seems to be prevalent among so many students with different experiences is most likely due to one major factor. Each group contained a large number of students that were either unemployed or worked part-time jobs. This meant that each of the groups had a large number of respondents that would likely have a limited

number of funds, contributing to the safe nature of the strategy. It can be inferred then that this desire for stability that was shared by all groups was based largely off of these students not wanting to risk what limited funds they did have. The majority of students in each group were also upperclassmen, juniors and seniors, who were most likely using these apps to get their first experiences in actually investing. Because this was many students first time investing, it makes sense that the majority would not want to put in large sums of money or make risky investments. For these reasons, the general strategy leaned toward safe investments that were most likely dry runs for many students who were trying to get experience before graduation.

Each of the groups, however, did have minor differences in their responses that helped to understand how certain factors might impact a student's strategy. For example, the finance groups placed more importance placed on being familiar with the company that was being invested in, while also relatively unconcerned with potential dividends that might get paid out. This means that respondents that had taken a finance course were more likely to make investments with a company because they were familiar with it as opposed to trying find an immediate payoff for investing in an unknown company. The investing finance group further differentiated itself in the number of times it went against the general strategy. Each group had students that didn't follow the general strategy, but the investing finance students deviated from the average more frequently and had the largest number of unique answers to the survey questions. There are two main reasons for why this is. The first reason is that the non-investing students answered many questions hypothetically and thus did not explore many options beyond what was presented. The second is that the finance students would be exposed to more investing strategies and the importance of specific concepts that could be applied when using the app. The

combination of these two factors mean that likelihood of an investing finance student deviating from the average answer is greater when compared to the other groups.

Getting experience with investing can greatly improve successes in the future. While there are still many students that do not take advantage of this opportunity to get early experience, the rising popularity of investing apps means the number of college students investing will undoubtedly increase. From the responses to my survey, I have learned that many of these students will choose to adopt a strategy that is focused on placing limited funds in less expensive, stable investments for long periods of time. I have also learned that many of these students will unfortunately stop using these apps for any number of reasons. The experience they gain, however, will still help them greatly when investing in the future. While the strategy these students use may differ from one another, there is one fact that remains constant when it comes to investing. Those who invest earlier and are able to utilize the time they have will be far better off than those who do neither.