

Using Performance Data to Evaluate Student Learning in a Student Managed Investment Fund

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Our research measures learning in a student managed investment fund by considering the impact of increasing experience on investment performance. "Learning" is defined in investment performance terms; learning is measured by change in one-year risk adjusted rates of returns from stock purchases made the first two months of the academic year versus one-year risk adjusted rates of returns from stock purchases made the last two months of the year. The investment performance of purchases over these two time frames are compared to identify improvement in stock selection performance as student managers gain practical experience in decision making over the year.

INTRODUCTION

Student managed investment funds (SMIF) have become fairly commonplace in university business programs. These programs are designed to offer students an opportunity to learn about valuing stocks and managing a portfolio by investing real money. The Aristotle Fund is a student managed investment fund in the Opus College of Business at The University of St. Thomas. This is a year-long graduate student course which has been in existence since the 1999 – 2000 academic year. Students enrolled in the Aristotle Fund course begin managing the portfolio every September 1st and the course ends on May 31st. The money invested by these students currently represents slightly over \$5 million of the University's endowment. The students are required to report to their client, the University of St. Thomas Board of Trustees, on an annual basis at the end of their tenure as student managers. The money invested by the students is reviewed and monitored by the Investment Committee of the Board of Trustees similarly to all other external managers of the endowment.

The OPUS College of Business at the University of St. Thomas adopted as its mission-based, educational goals: 1) business acumen (knowledge of current business practice and theory), 2) leadership, 3) critical thinking, and 4) ethical decision making. From these 4 goals should flow the learning objectives of each individual course. While every course in a business curriculum should naturally cover all of these goals to one extent or another, the actual AOL measurements for each individual goal is specialized so that measurement of progress for all goals does not have to take place in every single course. For instance, the Aristotle course certainly involves all these mission-based goals in practice, but it was officially designated to measure the AOL progress for the goals of business acumen and critical thinking. From these two goals designated to the Aristotle course flows the learning objectives. Learning

objectives are categorized as either “essential” or “important.” Essential objectives are the ones that are given the highest priority in teaching, and important objectives have the second highest priority. The two essential objectives of the Aristotle course are 1) learning to analyze and critically evaluate ideas, arguments, and points of view, and 2) developing specific skills and competencies needed by professionals in the field of investment analysis. The important objective is designated as developing oral and written skills. The AOL nature of this paper is to track progress towards the goal of business acumen through the learning objective of developing skills and competencies. Specifically, if the students have improved their skills and competencies this should be reflected in an increase in investment performance, thus suggesting that this course improves the overall business acumen of the students.

This paper evaluates the hypothetical one-year risk adjusted returns on purchases made in a SMIF over its fourteen year history to try to draw some conclusions regarding student learning. Because it is an academic class we initially evaluated investment performance data based on semester returns. Those results suggested the raw and the risk adjusted returns of the Aristotle portfolio tended to be higher in the spring semester relative to the fall semester. We tried to evaluate these improved results in investment performance to determine if the student managers made better investment decisions as the academic year progressed. However, this proved challenging for a number of reasons. By far the biggest challenge is that the student portfolio is not cashed out at the end of each academic year, instead stock holdings are carried over from one academic year to the next. The new class evaluates the inherited holdings in order to determine whether they will keep these stocks in the portfolio but they did not choose these stocks based on their own research. Conceivably the new class could have better or worse performance based on decisions outside of their control, i.e. based on the performance of stocks they inherited. This paper adjusts for this problem by measuring the returns of the individual buy decisions rather than the returns at the portfolio level. We chose to look at the individual buy decisions to be able to track the performance of the stocks bought by each class at the beginning and the end of the academic year. Since our goal is to measure student learning by tracking buy decisions we chose to focus on a one year holding period, which matches the requirement that the students present a one-year price target for each stock they recommend for purchase. By tracking the one year holding period return compared to the S & P 400 index (the benchmark for the SMIF) we controlled for the possibility that a buy decision that performed better on a one year basis was due to systematic factors rather than individual student decisions.

To adequately address the question of whether student learning is taking place during the student’s participation in the SMIF program, we gathered data on all of the stocks purchased during the first (September/October) and last two months (April/May) of the academic year for each of the fourteen years that the fund has existed. We then used the Bloomberg database to calculate the one year returns of these purchased stocks regardless of the actual holding period. We chose a one year return to be consistent with the course requirement that each student manager provide a one year price target that met a specific hurdle rate for purchase. We used the Bloomberg database to find the one-year returns rather than the Aristotle holding period data so that we could have a consistent measure of how the buy recommendations performed over the same holding period, regardless of what the actual holding period turned out to be. Because the fund is actively managed, stocks are bought and sold throughout the year. A stock bought on Sept.1st could conceivably have been sold on September 2nd if the student manager determines something has changed in the investment thesis. By holding the stock decision to a one year time horizon all of the buys are subject to the same buy and hold strategy consistent with the requirement that the student make the recommendation based on a one year time horizon. This approach eliminates the challenge of measuring the actual holding period by the Aristotle fund which at times was too short to measure the quality of the original decision. Our results found that on both a raw and risk-adjusted basis, the one year holding period returns increased from the first two months to the last two months of the academic year.

The following sections outline how we evaluated the buy decision data of the Aristotle Fund to draw conclusions regarding student learning over the academic year. First, we discuss the academic structure of the Aristotle Fund and how this organizational structure may influence our results. Secondly, we present a literature review highlighting various studies of student managed investment funds with a focus on those

studies which address why a fund exists and any related investment performance issues. Next, we address the data collection followed by a discussion of the research methodology including various risk adjusted performance measures. Finally, we end with a discussion of our research results and provide some insights on how this information can be used by other universities currently offering a SMIF, schools that may be considering adding a student managed fund to their curriculum and potential employers who seek students with some practical experience in equity analysis.

ACADEMIC STRUCTURE OF THE ARISTOTLE FUND

The student managed investment fund offered in the Opus College of Business at the University of St. Thomas is a six credit graduate course which begins September 1st and ends May 31st. Between June 1st and August 31st a handful of student managers from the previous class continue to manage the fund and meet weekly with the professor to discuss purchase and sell decisions. Because the fund continues to be actively managed over the summer the new class inherits a portfolio of stocks on September 1st. The Aristotle Fund has a requirement that each year's class write their own Investment Policy Statement (IPS). This IPS not only outlines the fund's investment philosophy but also describes in detail the process that the student managers will adhere to in evaluating potential investments, including how to make buy decisions. Some of the specific criteria outlined in the 2013-1014 IPS are as follows:

1. As an entity within a Catholic university, the Aristotle Fund will refrain from investing in firms whose operations involve the manufacturing and/or marketing of contraceptives, abortion or tobacco products. The student manager recommending a particular stock must ensure the values of the company being recommended for purchase are not inconsistent with the core ethical values of the University.
2. The market capitalization of eligible investments shall be within the range of \$500 million to \$10 billion at the time of purchase.
3. All Student Managers must participate in the voting process. A simple majority vote is required to buy or sell a stock in the portfolio.
4. In order to recommend a purchase the equity security's target price (i.e. intrinsic value) must be at least 20% greater than the market closing price on the day the trade is executed. In addition, the Fund's investment objectives are to achieve a total return that is greater than the Fund's relative benchmark, the S&P MidCap 400 Index.
5. The value of any initial purchase should be equal to a 2% or 4% holding of the total Fund.
6. Student Managers construct the Fund by using a bottom-up investment approach. The Fund is not required to match the S&P MidCap 400 Index weightings for every sector; there is discretion for over-weighting and under-weighting sectors in order to take advantage of individual security opportunities. The weight of each sector in the Fund should be within an absolute range of 15% of the weight of that sector in the S&P MidCap 400 Index.

Each class begins the process of writing their IPS by evaluating the policies and guidelines in place from the previous class, but then each class makes their own adjustments as necessary to reflect their investment philosophy. The only requirements that must stay consistent are the fund must adhere to the social investing restrictions of the University, the fund is a bottom-up fund, and the fund must remain a mid-capitalization blend fund. Hence, the comparison of performance over the 14 year history of the Aristotle Fund does present some complications based on variations in each IPS. We consider the six points above in describing the specific challenges in comparing performance:

1. The benchmark used to compare performance does not adjust for the social restrictions which can create tracking errors. However, since the Fund is a bottom-up fund the individual security selection focuses on the targeted hurdle rate and overall outperformance of the benchmark. The question each student manager addresses in their presentation for a purchase is the absolute hurdle and why the student thinks the stock will perform well against the benchmark.

2. The criteria regarding adhering to the core ethical values of the University of St. Thomas has been in the IPS every year of the fund but its interpretation has varied. One year the student manager's purchased a stock (Abercrombie & Fitch) that the following year's class decided to sell because they believed it violated the "core ethical values" of the University. This example shows the social investing restrictions for the fund can be interpreted differently. The complication in interpretation should not affect our study because each stock purchased is held to a one-year time horizon based on the student's target price. In addition, because of the bottom-up investment philosophy the student also builds a case for why the purchase will add positive alpha versus the benchmark.
3. Each class has some flexibility in what they define as mid-cap. Over the life of the fund the range has varied anywhere between \$500 million and \$15 billion in market capitalization at the time of purchase. Therefore, tracking error is further impacted by variation in defining the parameters of a mid-cap fund. And, in some years, the student managers gave themselves even more flexibility by allowing up to 15% of the portfolio to be invested outside of their stated market capitalization range. Therefore, in any given year it is likely that some of the stocks purchased in the portfolio do not fit the definition given for midcap. Regardless of this flexibility, each year the students are held to the bottom-up philosophy and to the requirement of identifying individual purchases they believe will outperform the S&P MidCap 400 Index.
4. The Fund is not required to match the S&P MidCap 400 Index weightings for every sector and therefore the portfolio sector weights can be different from the index. In our study we evaluate each individual buy against the index and are not concerned with sector composition. In effect, each stock in the portfolio has to stand on its own against a diversified index. This is consistent with the question each student manager addresses: Over the next twelve months will this recommended stock outperform the index, i.e. add positive alpha?
5. The 20% hurdle rate stated for this year's class has in the fund's history been as low as 12% and as high as 20%. This change in hurdle rate does likely impact our results as the only way a stock can be bought is if the student analyst can convince the class that a stock is undervalued by the amount of the hurdle rate. If the hurdle rate is high, that is a more difficult "pitch" for the analyst to do.
6. While the current year's class requires a simple majority some previous classes had a two thirds majority requirement on any voting decision. Because this study looks at the actual buy decisions it is possible that this study is biased by including more stock picks that passed a simple majority vote. One could argue that it is easier to convince fewer rather than more students to agree with the recommendation. If a two thirds requirement causes only the best ideas to get into the portfolio this study may be unduly influenced by change in voting rules.
7. The 2% or 4% initial purchase has varied between an automatic 4% to a range between 2-6% depending on the individual student manager's recommendation. This can present a bias towards more buys in years that student managers could enter at a 2% position under the premise that the student manager is likely to be able to be more convincing when the initial position is lower, i.e. less impact on the portfolio. Again, this change year to year could impact the number of stocks purchased but it is difficult to determine the impact on our results.

These different trigger points for portfolio buy decisions can potentially create some bias towards purchases; increasing the buys when the hurdle rate, the size of the initial position and the simple majority are lower. In addition, it is not possible to measure the impact on the one-year holding period returns of changes in the interpretation of social investing constraints and the parameters used to define the midcap, along with the tracking errors that come from using an index that does not adhere to the social investment restrictions. Yet, even considering these varied impacts it is relevant to quantify the learning through evaluating fall and spring buy decisions. Practitioners are likely to agree that in actual practice many of these same issues exist. For example, investment performance can be difficult to track as managers often

cite differences between their portfolio and the benchmark, some analysts are much better salespeople (convincing) than others and buy criteria change as varied events impact equity prices.

LITERATURE REVIEW

The central goal of student managed investment funds is to create a realistic learning environment for preparing the next generation of equity analysts and portfolio managers.

Lawrence (1990) conducted one of the first surveys to profile and discuss the characteristics of almost two dozen established programs. By the early 1990s, with so many leading business schools embracing the basic student managed investment fund concept, it became an "easy sell" for finance faculty and alumni to advocate for their own schools to start such programs. Some of the earliest studies used to build support for student managed investment funds included Belt (1975), Hirt (1977), Bear and Boyd (1984), Markese (1984), Kester (1986), Tatar (1987), Block and French (1991), Bhattacharya and McClung (1994) and Kahl (1997). More recently it has been suggested that student managed investment funds are necessary to supplement regular finance and investment curricula. These programs provide the realism and practical experience that is lacking in stock simulations and investment games (Pheffer, 2007). A professor quoted by Pheffer went on to say, "One cannot have a top 10 MBA program today without it."

One of the most comprehensive surveys ever conducted on student managed investment fund indicated that as of 2007 there were 314 universities worldwide that offered students the chance to learn about portfolio management by investing real money (Lawrence, 2008). Lawrence also found that there were more than \$407 million in assets under management with such programs in 2007. Unlike professionally managed funds, which are solely focused on generating the highest risk-adjusted rates of return possible, student managed investment fund returns are secondary in nature to the educational mission. Faculty teaching in these programs generally recognize that some of the best learning experiences come from failures, not successes per se. And, as any experienced investor knows, there is always an element of luck and incomplete data behind any decision. Thus, a very carefully analyzed opportunity with great potential can fail for an almost unlimited number of reasons that could not have been accurately forecasted in advance. So investment performance is subject to many factors, not the least of which is successful stock picking and portfolio allocation. In addition, student managers, unlike practitioners in real life, lack a strong incentive system of monetary rewards for beating benchmarks nor do they face penalties for poor performance, i.e. being fired. Even considering the impact these challenges have on measuring investment performance it still seems worthwhile to try and measure the impact of an experiential learning program such as the Aristotle Fund on student learning.

While there has been some research regarding the practical benefits to students from student managed investment fund, there has been little discussion regarding measuring learning, especially as it relates to performance measurement. The focus of most student managed investment funds is primarily educational which suggests that fund performance is secondary. Although there has been very little systematic data collected on student managed investment fund performance, there is some limited anecdotal evidence that suggests students can do as well and sometimes better than investment professionals or the market as a whole. For example, the Tennessee Valley Authority reported that over a three year period, the 19 universities participating in its program in 2002 outperformed the S&P 500 benchmark by 5.3% (Mansfield, 2002).

But does the benefit of the education experience over an academic year translate to an improvement in buy decisions over that same time frame? Caldwell and Dovin (2012) suggest that student managed investment funds are ripe for "herding" because of the social aspect of the classroom. These authors suggest that a group of students being thrust into new roles as student investment managers can easily create an environment of herding, i.e. following the crowd, which tends to hurt investment performance. This would suggest that student managed investment funds will not show improvement in portfolio performance over time unless herding can be minimized. They found that time constraints lead to more herding behavior while increasing educational levels decreases herding behavior. Since the Aristotle program can only be enrolled in by MBA students who are more than half way through the degree

program (due to the number of prerequisite courses), this aspect of herding is theoretically minimized. Another structural problem that increases herding occurs when students are assigned focus areas, for example, industry sectors. When this happens the other students consider those assigned that focus to be experts and defer to them as experts when making group decisions (Larson, J., Bauman, C., 2004 and Quiamzade, A., L'Huillier, J., 2009).

Many SMIFs do, by their very nature, have a competitive aspect that likely reduces herding. In the case of the Aristotle Fund, the IPS requires each individual buy decision to be held to a one-year hurdle rate and tracks each stock by the target price in the weekly performance summary. All of the student managers are acutely aware of what stocks are working out and which have deteriorating fundamentals. As the students work together and start recording investment results, the students begin to determine what worked and what didn't, and why. This increasing awareness, i.e. education, potentially minimizes the problems associated with herding. In addition, the time constraints of the fund are intense at the beginning of the academic year as each holding is new, the students are still writing an IPS and they are also working on new investment ideas. As they become better at modeling financial forecasts and become more familiar with their assigned stocks and industry, they find the time constraints less taxing. This has been proven to also lessen the negative impacts of herding.

Another related topic when evaluating investment performance is the accuracy of the benchmark, specifically the impact of tracking error. Tracking error is defined as the difference between returns on the portfolio and its benchmark index. There are both positive and negative deviations from the benchmark and the variance of these deviations of returns measures the tracking error. Because the S&P Mid-Cap index does not follow the social investing constraints of the Aristotle Fund there is going to be tracking error. The Aristotle Fund is held to a social investing constraint that is more broadly defined than the constraints one would normally expect to see reflecting Catholic doctrine. Because it a university endowment the trustees have elected to choose other social issues such as tobacco as part of their social investing screen.

In 2010, about 12% of all professionally managed assets in the United States were under the socially responsible umbrella (Boudt, K., Cornelissen, J. and Crous, C., 2013). There is growing literature on the impact of social investing, or sustainability objectives, on investment performance. The consensus indicates that after controlling for investment style, the differences in performance tend to disappear (Amenc, Le Sourd, 2008; Derwall, Koedijk, 2009; Statman, Gkushkov, 2009). This conclusion, along with the investment philosophy of the Aristotle Fund as a bottom-up fund with a hurdle rate set regardless of the benchmark, allows us to track the performance of the purchases without concern for any tracking error problems impacting our results.

After reviewing all of the literature on SMIFs we believe the most important contribution of this paper is that it appears to be the first attempt to quantitatively measure learning by evaluating individual stock purchase decisions.

DATA COLLECTION

All of the stocks purchased over a fourteen year period, along with the price of these stocks on the date they were bought, was compiled from data collected by the brokerage firms that serviced the fund over its life. From this data all buy decisions made in September/October and April/May were identified. The Bloomberg database was then used to determine the 1 year return including dividends from the date of the original purchase for the selected months. In addition, data from Bloomberg was also used to provide the corresponding returns and prices for the ten year Treasury bonds and the mid-cap SPY index used as the fund's benchmark. The use of monthly returns allowed for the measurement of standard deviations on a 12 month rolling basis to match the return measuring period as well as the beta of each of the individual stocks (measured relative to the SPY benchmark) that had been bought. Table 1 Descriptive Statistics lists the average returns and risk measures for all of the buys made over the fourteen year history of the fund.

TABLE 1
DESCRIPTIVE STATISTICS--MEASURED OVER ENTIRE DATA PERIOD

Time Span	Start 3/2000 to End 6/2013
Total Number of Stock Buys	631
Avg One-Year Returns of All Stock Buys	10.98%
Avg Beta of All Stock Buys	1.0308
Avg Standard Deviation of All Stock Buys	5.5398%
Avg Return on Ten-Year T-Bond	3.80%
Avg Return on Market Index Proxy	14.16%
Avg Sharpe Ratio of All Stock Buys	0.0361
Avg Treynor Ratio of All Stock Buys	0.1009
Avg Jensen's Alpha of All Stock Buys	-1.45%
Avg Alpha Relative to Index All Stock Buys	-3.17%

RESEARCH METHODOLOGY

After collecting the data, comparisons were made between the Raw (unadjusted) Returns, the spread between the Raw Returns and the benchmark, the Sharpe Ratios, the Treynor Ratios and the Jensen Alphas for the stocks purchased during September/October versus the stocks purchased during April/May. The data was evaluated to determine, on a risk adjusted basis, the performance of the buy decisions in the last two months of the academic year relative to the first two months of the academic year. We then compare whether on a risk adjusted basis the one-year returns on the buys improved in the last two months of spring semester relative to fall semester, thus suggesting that student learning occurred over the academic year.

Risk adjusted returns are measured by the following methods:
The Sharpe Ratio (Sharpe 1966).

$$S = \frac{r_p - r_f}{\sigma_p} \tag{1}$$

The Sharpe Ratio (S) is the difference (excess return) between the 1 year return of the specific stock called Stock P in this example (r_p) above the risk-free rate (r_f), proxied by the ten year treasury bond over that same 1 year holding period, divided by the standard deviation of the stock's returns. The standard deviation is used as a measure of total risk of Stock P. If the Sharpe Ratio is higher for stocks purchased in the last two months of the year, this suggests that students have improved their stock picking ability over the course of the program.

The Treynor Ratio.

$$T = \frac{r_p - r_f}{\beta_p} \tag{2}$$

The Treynor Ratio (T) is the excess return of Stock P over the ten year Treasury bond rate divided by the beta (B) of the stock. The beta is a traditional measure of systematic risk. If the Treynor Ratio increases for stocks purchased in the last two month over the first two months, then this would suggest that students are getting better at stock picking.

The Jensen's Alpha:

$$\alpha = r_p - [r_f + \beta_p(r_m - r_f)] \quad (3)$$

The Alpha is the difference between the return on Stock P (r_p) net of the risk adjusted return that the Capital Asset Pricing Model suggests it should earn given the current state of the risk-free rate (r_f), proxied by the ten year treasury bond, the current return on the benchmark (r_m), and the beta (B) or systematic risk of that asset. If the Alpha increases (more positive or less negative) for stocks purchased in the last two months of the program compared to the first two months, then student are making better investment management decisions controlling for the systematic risk of the stock, the level of interest rates and the overall performance of the stock market.

The Alpha Relative to Index:

The Alpha Relative to Index is simply a measure created by us to represent the spread between the return on the stock chosen and the market proxy that existed at the time of purchase. It is not as sophisticated a measure as the Jensen Alpha but it does represent a traditional fund marketing point of trying to "beat the market."

RESULTS

Table 2, Research Results, shows the calculated buy performance for the individual stock picks for the first two months versus the last two months of the academic year and the corresponding P-Values. The results support our hypothesis that student learning can be measured by buy decision performance data. All measures of return and risk improved on average from the first two months to the last two months of the academic year over the fourteen year history of the fund.

On an unadjusted basis the student stock-picking performance improved by +6.50% over the year. The average return for September/October picks was -1.97% and improved to +4.53% at the end. The P-Value of .11 suggests that this improvement had an 89% probability of not being due to random chance. Over the year the students not only chose stocks with higher unadjusted returns on average but their taste for risk seemed to have increased as well. They chose stocks with more total risk (i.e. standard deviation) in the second half of the year, but they also chose stocks with more systematic risk (i.e. beta). Average standard deviation increased from 3.751% to 4.493% and beta increased from .929 to 1.02.

Despite the increase in risk, the adjusted returns actually improved throughout the academic year and so did the measured statistical significance of that improvement. The Sharpe Ratio improved from -.0634 to +.024 registering a P-Value of .068 suggesting that the probability was 93.2% that this improvement was not due to random chance.

For the Treynor Ratio the improvement had a P-Value of .019 (98.1% probability) when it went from -.1039 to +.0513. And for the Jensen Alpha, the students had average Alphas that were negative at both the start and the end of the year, but the size of that negative gap improved greatly from -14.46% at the start of fall semester compared to only -2.321% at the end of spring. This resulted in a P-Value of .008 (99.2% likelihood the improvement was not random). Finally, the simple Alpha Relative to Index, just like the Jensen Alpha, was also negative in both time periods but the gap closed by a significant amount

going from being 15.69% below the index in the fall to being only 5.66% below in the spring. This improvement of performance of over 10% had a P-Value of .012 (98.8% probability of non-randomness).

TABLE 2
RESEARCH RESULTS (STOCKS PICKS IN FIRST AND LAST TWO MONTHS ONLY)

	Sept/Oct	April/May	Diff.	P-Value
Avg Standard Deviation	3.751%	4.493%	0.7422%	-----
Avg Beta	0.929	1.02	0.0913	-----
Avg One-Year Returns	-1.970%	4.530%	6.50%	0.11
Avg Sharpe Ratio	-0.0634	0.024	0.0874	0.068
Avg Treynor Ratio	-0.1039	0.0513	0.1552	0.019
Avg Jensen Alpha	-14.46%	-2.321%	12.15%	0.008
Avg Alpha Relative to Index	-15.69%	-5.66%	10.03%	0.012

POTENTIAL FOR FUTURE RESEARCH

This study evaluates the buy decisions of the Aristotle Fund at the University of St. Thomas at St. Paul Minnesota over its 14 year history. One of the benefits of this project is that data has been collected for the entire life of the fund, so additional hypotheses can be tested in the future such as:

1. Do fall and spring semester returns indicate improving investment performance when the return is controlled to net out the passively managed index and the inherited stocks?
2. Do the improved results from the end of the year compared to the start of the academic year hold when measured at the level of individual stock sell decisions rather than just the buy decisions?
3. Do the results hold when compared to a buy and hold strategy of 2 years, 3 years, and 5 years?
4. Does the voting indicate future success in investment performance, i.e. does the percentage of positive votes impact the returns? Do stocks that are purchased with a unanimous vote do better or worse than more contested decisions?
5. How did the stocks that were presented but not purchased do over the one-year holding period, i.e. does the class do better avoiding underperforming stocks over the year?

CONCLUSION

The results support the hypothesis that the student's ability to evaluate and purchase better performing stocks increases over the course of the academic year. This should not be a surprising result considering how the course is structured. The students come into the course with a very basic understanding of valuation from two previous courses. Over the summer and early weeks of the semester the students begin to develop recommendations using at least one discounted cash flow method and one relative valuation method. The students are forced to actively manage the portfolio from day one but continue to develop and work with the financial models and tools such as Bloomberg throughout the year. In addition, early in the first semester each student is assigned an industry mentor who they meet with to discuss investment ideas and who help the student develop their modeling skills over time.

Our results indicate that employers should consider hiring students who have had an opportunity to participate in a SMIF. Although the students try very hard not to lose money in any given year, the primary focus on education allows them to cut their teeth in an environment that is more "forgiving" of

investment underperformance. The experience gained is a benefit to future employers. These results can be used to help build a case for implementing a student managed fund at a university or provide support for continuing to offer the program. Potential employers should encourage universities to offer these programs and look to hire equity analysts who have had this type of experiential learning opportunity.

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