

Skepticism, Education, and Personality

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Abstract

Many financial scandals appear to depend on a lack of skepticism on the part of their victims. For example, many sophisticated investors trusted Bernie Madoff, despite early warning signs of implausible returns. Our study attempts to discover if education and personality explain skeptical behavior in financial decision making. In a simple survey, economics and finance students are asked to make an investment recommendation from among four different hypothetical funds, including one based on Madoff's fund. We find that perceptions of the suspiciousness and ethicality of the Madoff fund affect a participant's recommendation. In turn, these perceptions are affected by education and personality, with more education leading to higher suspicions.

1 Introduction

In the United States, it has been estimated that as much as 11% of the population has been a victim of financial fraud (Anderson, 2013) and that fraud costs the US economy as much as \$50 billion per year (Deevy et al., 2012). While fraud is fundamentally a criminal problem, and therefore the result of individuals choosing to act in a criminal matter, in at least some cases potential victims may be able to mitigate the costs imposed on them by the criminal behavior. For example, although Bernie Madoff made fraudulent claims about his investments, it was clear to many observers at the time that the returns he claimed to be earning were so statistically unlikely that they could not be accurate. Indeed, in the ensuing scandal, many people were blamed as complicit because they did not appear to exhibit enough care in examining Madoff's reported returns (Henriques, 2012).

Skeptical investors were able to avoid involvement in the Madoff scandal by refusing to invest in his funds. After the fact, it appears that some potential investors believed that Madoff was dishonest and chose not to invest with him (Henriques, 2012). If policy goals include not only preventing criminal financial fraud, but encouraging potential investors to protect themselves from it, it is natural to ask why some investors fall for scams like Madoff's while others do not.

In this paper we attempt to investigate some aspects of skepticism in financial decision making. We use an investment decision task, in which students are asked to recommend an investment vehicle from a set of five options, one of which is similar to Madoff's. We find that several factors impact the decision, including ratings of the ethicality and suspiciousness of the funds, the tendency to examine additional information, and the amount of time spent on the survey. The first three factors are explained by educational background and personality. We find that although the impact of personality is complex, more coursework in economics and finance causes students to ask for more information and raises suspicions regarding the Madoff fund, which in turn reduces the likelihood that the Madoff fund will be recommended.

2 Background

Many financial scandals appear to have occurred because of a lack of skepticism on the part of their victims. Bernie Madoff's funds claimed to be earning above-market returns year after year with very little apparent risk, even though modern portfolio theory suggests such results are highly unlikely. Many sophisticated investors nonetheless trusted Madoff (Henriques, 2012). Similar phenomena have occurred in recent history (Enron, WorldCom, etc.), and appear to be a regular occurrence in financial markets.

Despite the apparent ubiquity of these sorts of scandals, little research has been done into understanding how to combat these episodes. Although these incidents involved fabricated financial statements, in most cases there were also publicly available data from which skeptical investors could have uncovered the fraud. Using information available to any investor, Harry Markopolos concluded in 2000 (eight years before the scandal was uncovered) that Madoff was a fraud and attempted to have the SEC investigate Madoff (Henriques, 2012). Madoff and similar financial frauds seem to be taking advantage of insufficient skepticism among many investors when

evaluating investment opportunities.

Only a few researchers in economics or business have written on skepticism in investors. A search on EconLit, the go-to database for academic research in economics, returns articles mainly in accounting having to do with professional auditors and skepticism. Hurtt (2010) introduces the idea of 'trait' and 'state' skepticism, with the former referencing psychological characteristics that remain stable for adults, while the latter refers to a temporary condition that can change with the environment. Hurtt also creates and validates a survey instrument to measure 'trait' skepticism. Farag and Elias (2016) use Hurtt's survey measure to examine how education and personality influenced skepticism in auditors. They found that the personality traits extraversion, agreeableness, conscientiousness and openness were positively correlated with skepticism, and that neuroticism was negatively correlated with skepticism.

In addition to the small literature in accounting, there are a few papers produced by organizations like the Pension Research Council (e.g., Kieffer and Mottola, 2016), that examine individual differences and how they contribute to investors falling victim to fraud. Knutson and Samanez-Larkin (2014) looked at individual differences in skepticism and found that investors with reduced impulse control were more likely to fall victim to financial fraud, while neither cognitive ability nor risk attitude helped to explain susceptibility to fraud.

Zhang et al. (2015) examined how cues could be used to help increase investors' skepticism. In their decision task, survey respondents from Amazon MTurk were asked to recommend a fund for a hypothetical client. The survey participant had to choose between five different fictionalized funds, one of which was based on Madoff's fund. Zhang et al. found that 68% of their respondents recommended the Madoff fund; however, when respondents were asked about which fund was most suspicious, this cue reduced the number choosing the Madoff fund to 51%.

This paper applies a decision task nearly identical to Zhang et al. (2015) to students in economics and finance. This context allows us to build upon and extend the work of Farag and Elias (2016) to look at the effects of both personality and a granular measure of education specifically relevant to financial decision making.

3 Methodology

3.1 Participants

The sample for this study consisted of both graduate and undergraduate students from the College of Charleston. Students were recruited from a variety of finance and economics backgrounds, ranging from no prior coursework to extensive coursework. Table 1 shows the courses from which students were recruited:

Students were offered extra credit in their courses in return for completing the survey (available in the appendix). Anonymity was guaranteed; credit was offered only for participation, not performance.

At the College of Charleston, undergraduate economics and finance classes are taught in sequence, corresponding to moving down the column in Table 1. So, for example, students taking Business Finance have already taken Principles of Micro- and Macroeconomics. Students were recruited early in the semester, ensuring that students enrolled in Principles of Microeconomics had little to no background in economics.

Table 2 provides the summary statistics for survey participants, with descriptions for the variables provided in Table 3.

3.2 Decision Task

The full survey is available in the appendix; the basic structure of the survey was as follows:

1. Main decision task
 - a. Information of 5 investment options
 - b. Choice of investment option
 - c. Measures of suspiciousness and unethicity of investment options
2. Big 5 Inventory
3. Socioeconomic information
4. Educational background information

For the main decision task, survey participants were asked to make an investment recommendation from among four different hypothetical funds. All of the funds are based on real investments; one of the funds (Fortitude Investments) is based on Madoff's fund. The main decision task was taken almost verbatim from the task presented by Zhang et al. (2015) and is presented in Figure 1.

The participants were then given more detailed information on each fund. Of special note is that for each fund, the subjects were given the opportunity to ask for more information. Choosing this option gave participants specific information about the fund's investment strategy and its auditors, with the Madoff fund's auditor description listed as:

Fortitude uses SA & Associates, CPA for their auditing purposes. SA & Associates was established 15 years ago. The chief auditor was formerly a VP at Fortitude Investments.

The data provided are based on real funds, although the fund names and dates are disguised (i.e. the data do not necessarily span between 2009 and 2014).

After the subjects had completed the main decision task, they completed the Big Five Personality Inventory (John et al., 1991, and John et al., 2008). This inventory measures participants along the five traits of extraversion, conscientiousness, agreeableness, neuroticism, and openness.

The median time to complete the survey was 408 seconds, or approximately 7 minutes. The average time to complete the survey was 1812 seconds, reflecting some extreme outliers.

4 Hypotheses

Our hypotheses center around nature and nurture. On the nature side, we are interested in

examining the extent to which immutable aspects of one's personality affect skepticism. Is there a skeptical personality, and if so, will it be described by our task? For example, one might imagine that individuals who score high on the personality trait agreeableness might tend to be skeptical as well. Or some combination of openness, conscientiousness and agreeableness might generate a more skeptical mindset. Other immutable aspects could also play a role – for example, do individuals become more or less skeptical as they age?

As to nurture, here we examine the impact of education. Given the nature of the task, more education in economics and finance should help a participant to recognize that the Madoff fund is suspicious. More education generally should also help, if part of what an education teaches is critical thinking (and hence skepticism).

The initial hypotheses to be examined are as follows: 1) investors with more economic and finance education/literacy will be more skeptical, and less likely to select the Madoff fund and 2) certain personality traits will lead to more skepticism and reduce the likelihood of selecting the Madoff fund.

5 Results

5.1 Basic Descriptions

Table 4 shows the proportion of students choosing each of the five funds. Nearly 46% of students chose the Madoff fund, far more than any other individual option. Interestingly, nearly 7% of students chose the S&P 500, despite the fact that the decision task asks for one of the four individual funds and only provides the S&P data for comparison purposes.

Figure 2 shows how the Madoff decision is impacted by educational background. We see that in general, more coursework in economics and finance reduces the likelihood of choosing the Madoff fund. However, there is a slight u-shape, with students with 4 or 5 courses in this area having a higher likelihood of choosing Madoff than students with only 3 courses. This u-shape may be the result of a relatively small number of students in the sample who have taken four or five courses; overall, 48% of students who have not taken a finance class chose the Madoff fund, while only 40% of the student who have taken a finance class choose the Madoff fund.

Table 5. shows how gender and personality are correlated with the decision to choose the Madoff fund. Here we see that participants choosing the Madoff fund were more likely to be male, to score lower on extraversion and neuroticism, and to score higher on agreeableness, conscientiousness and openness.

Figure 3 shows that participants who found the Madoff fund to be highly unethical or highly suspicious are much less likely to recommend that fund. While Zhang et al. (2015) look at how actively considering suspicion and ethics can change participants choices, we will focus more on beliefs regarding suspiciousness and unethicalness as channels through which other variables affect investment decisions.

A key component in a participant's decision is the information they have. We look at the number of times a participant viewed the additional information for the various funds, and find that students with more education are more likely to ask for information, as shown in Figure 4. Not only are students with more background in economics and finance more likely to ask for more information, they are also more likely to recommend the S&P 500 over any of the funds under consideration, as illustrated in Figure 5.

5.2 Econometric Analysis

To more formally look at the relationships described above, we elect to model the decision task in two stages. In the first stage, the participant judges the ethicalness and suspiciousness of the Madoff fund. The second stage is the decision to recommend the Madoff fund or not. This decision depends upon how suspicious the participant believes the Madoff fund to be, and how unethical the participant believes the Madoff fund to be.

In Table 6 we show estimation results for a variety of models estimating the probability of a participant choosing the Madoff fund. Models 1 and 2 are "kitchen sink" models, and include every variable of interest. In these models, variables measuring participant's ratings of the suspiciousness and ethicality of the Madoff fund are statistically significant, as are variables pertaining to the information collected during the task and to the amount of time spent on the task. Age and conscientiousness are the only individual trait-level variables that have statistical significance; notably, the number of economic and finance classes does not have an impact on the choice of fund.

It seems likely that personality and educational background may impact the Madoff decision through multiple avenues, which we will now explore. In Table 7 we present results from an OLS estimation of the variable Information. Here we see educational background matters – students who have taken more coursework in economics and finance (measured by either the Classes or Finance? variable) ask for more information. We also show that female students and extroverts are less likely to ask for information, while more conscientious students are more likely to ask for information.

In Table 8 and Table 9 we show estimated coefficients for models predicting a participant's evaluation of the suspiciousness and ethicality of the Madoff fund. Here we see that more information leads to higher evaluations on the suspicious and unethical scales (although asking for information about the Madoff fund itself has the opposite sign).

6 Discussion

One of the most common and important claims made by higher education is that it teaches critical thinking skills. Skepticism regarding investment is clearly one area where this claim should apply, especially in the context of economics and finance education. In this paper we have tried to evaluate this claim, and to compare it in part to the counter-claim that skepticism is an in-born trait or feature of an individual's immutable personality. We find indirect support for higher education's claims, and less support for the personality-based hypothesis.

Although in models that directly relate education and personality to the Madoff decision we find these factors are generally statistically insignificant, we do find that education and personality help to predict the factors that do predict the Madoff decision. The insignificance of education and personality may be due to collinearity. When we try to examine the relationship between education and personality and the other predictors, we find some evidence for this. In particular, we find that more education in economics and finance teaches students to look for and use additional information, and raises suspicions about the Madoff fund. This is exactly the pattern we expect increased education to exert upon our data.

Compared to the results generated by Zhang et al. (2015), our participants are less likely to choose the Madoff fund overall. Zhang et al. reported that 68% of their respondents chose the Madoff fund, compared to our rate of 46%. Their participants came from Amazon MTurk, and although they did not report the average education level of their respondents, much less the extent of economics and finance education, it was most likely lower than our sample. This suggests education may have a greater impact on skepticism in financial decision making that our data does not capture.

Personality appears to have a more complicated role. Extroverts appear less likely to ask for more information, but view the Madoff fund as less ethical, and the second effect appears more powerful, as overall extroverts are less likely to pick the Madoff fund. In contrast, individuals who score highly for conscientiousness are more likely to ask for more information (perhaps because that appears to be what one “ought” to do), but are also more likely to pick the Madoff fund, again perhaps because that appears to be the best option.

Other immutable, trait-like variables also play a complex role. Similar to extroverts, females are less likely to ask for more information, but also less likely to recommend the Madoff fund. Age also has an interesting role. Our initial hypothesis was that older individuals would bring more wisdom in the form of more skepticism. However, age appears to be correlated with lower levels of suspicion and unethicalness, and so older participants are more likely to pick the Madoff fund. Given the small variation in age in our data set, this result may be driven by a relatively small group of older individuals.

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Table 1 Coursework

Level	Course Title
Undergraduate	Principles of Microeconomics
Undergraduate	Principles of Macroeconomics
Undergraduate	Business Finance
Undergraduate	Intermediate Business Finance
Undergraduate	Applied Portfolio Management
Graduate	The Global Economy

Table 2 Descriptive Statistics

Variable	Mean	Std Dev	Min	Max	#
Madoff?	0.46	0.499	0	1	479
Female?	0.54	0.499	0	1	428
Classes	2.19	1.34	0	5	411
Finance?	0.37	0.48	0	1	411
African-American?	0.05	0.211	0	1	429
Age	21.00	2.682	10	42	429
Extra	3.47	0.740	1.38	5.00	428
Agree	3.78	0.592	2.00	5.00	428
Consci	3.63	0.579	1.89	5	428
Neuro	2.82	0.665	1	4.75	428
Open	3.53	0.546	1.9	4.8	428
Suspicious	3.92	1.752	1	7	439
Unethical	3.52	1.625	1	7	441
Info	2.27	1.427	0	4	438
Info_Madoff?	0.67	0.470	0	1	450
Duration	6.14	1.01	3.69	12.04	479

Table 3 Variable Definitions

Variable	Definition
Madoff?	Dummy variable; = 1 if participant chose Madoff Fund
Female?	Dummy variable; = 1 if Female
Classes	Number of economics and finance classes taken by participant
Finance?	Dummy variable; = 1 if participant has taken a finance class
African-American?	Dummy variable; = 1 if participant is African-American
Age	Age
Extra	Score on Big 5 Inventory for the trait Extraversion
Agree	Score on Big 5 Inventory for the trait Agreeableness
Consci	Score on Big 5 Inventory for the trait Conscientiousness
Neuro	Score on Big 5 Inventory for the trait Neuroticism
Open	Score on Big 5 Inventory for the trait Openness
Suspicious	Participant response to question regarding how suspicious Madoff Fund is, ranging from 1 (least suspicious) to 7 (most suspicious)
Unethical	Participant response to question regarding how unethical Madoff Fund is, ranging from 1 (least unethical) to 7 (most unethical)
Info	Number of funds for which the participant asked for more information
Info_Madoff?	Dummy variable; = 1 if participant asked for more information about the Madoff fund
Duration	Time spent (natural log of seconds) by participant completing the survey

Table 4 Fund Choice

Fund	% Choosing Fund
Tobacco Trade	6.26
Power Trade	24.84
Madoff	45.51
Alpha	16.7
S&P 500	6.68

Table 5 Average Scores by Decision to choose the Madoff Fund.

	Variable						
	Female	Age	Extra	Agree	Consci	Neuro	Open
Mean-Madoff yes	0.51	20.96	3.41	3.81	3.69	2.8	3.56
Mean-Madoff No	0.57	21.07	3.53	3.75	3.58	2.84	3.51

Table 6 Logit model results – Dependent variable = Madoff?

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Suspicious	-0.47*** (0.091)	-0.46*** (0.092)	-0.37*** (0.080)	-0.33*** (0.077)	-0.24*** (0.070)
Unethical	-0.23** (0.098)	-0.23** (0.098)	-0.27*** (0.086)	-0.27*** (0.084)	-0.35*** (0.077)
Info_Madoff?	1.98*** (0.442)	1.99*** (0.443)	2.02*** (0.413)	2.16*** (0.403)	
Info	-0.41*** (0.145)	-0.41*** (0.145)	-0.42*** (0.132)	-0.41*** (0.128)	
Female?	-0.042 (0.293)	-0.42 (0.292)			
# of Classes	-0.05 (0.110)				
Finance?		-0.22 (0.288)			
African-American?	0.27 (0.549)	0.266 (0.551)			
Age	-0.13** (0.066)	-0.13** (0.065)			
Extra	-0.30 (0.185)	-0.29 (0.185)			
Agree	-0.16 (0.235)	-0.17 (0.236)			
Consci	0.49** (0.247)	0.50** (0.247)			
Neuro	0.14 (0.214)	0.13 (0.214)			
Open	0.01 (0.244)	0.02 (0.244)			
Duration	0.55*** (0.16)	0.54*** (0.162)	0.51*** (0.142)		
Obs	373	373	401	401	439
Log-likelihood	-193.86***	-193.67***	-219.25***	-226.90***	-268.80***
Pseudo R ²	0.2415	0.2422	0.2039	0.1762	0.1126

Standard errors are in parentheses. * denotes statistical significance at the 10% level, ** is 5% level, *** is 1% level.

Table 7 OLS estimation; dependent variable = Info

Variable	Model 6	Model 7
Female?	-0.40** (0.166)	-0.42** (0.165)
Classes	0.16*** (0.060)	
Finance?		0.40** (0.158)
African-American?	-0.25 (0.324)	-0.25 (0.324)
Age	-0.02 (0.033)	-0.01 (0.032)
Extra	-0.19* (0.104)	-0.19* (0.104)
Agree	0.17 (0.137)	0.19 (0.137)
Consci	0.25* (0.139)	0.24* (0.139)
Neuro	0.09 (0.124)	0.09 (0.124)
Open	-0.03 (0.139)	-0.05 (0.138)
Duration	0.13* (0.077)	0.13* (0.077)
Obs	376	376
F	3.16***	3.12***
R ²	0.0796	0.0787

Standard errors are in parentheses. * denotes statistical significance at the 10% level, ** is 5% level, *** is 1% level.

Table 8 Ordered Logit estimation results; dependent variable = Suspicious

Variable	Model 8	Model 9
Info_Madoff?	-0.55* (0.290)	-0.56* (0.290)
Info	0.37*** (0.099)	0.37*** (0.99)
Female?	-0.04 (0.213)	-0.05 (0.212)
Classes	0.16* (0.083)	
Finance?		0.47** (0.214)
African-American?	-0.22 (0.412)	-0.22 (0.414)
Age	-0.16*** (0.056)	-0.15*** (0.055)
Extra	0.18 (0.138)	0.18 (0.138)
Agree	-0.05 (0.175)	-0.02 (0.176)
Consci	0.11 (0.187)	0.10 (0.186)
Neuro	0.17 (0.160)	0.17 (0.159)
Open	0.03 (0.0179)	0.01 (0.179)
Duration	0.18* (0.100)	0.19* (0.102)
Obs	373	373
Log-likelihood	-686.08***	-685.49
Pseudo R ²	0.0231	0.0240

Standard errors are in parentheses. * denotes statistical significance at the 10% level, ** is 5% level, *** is 1% level.

Table 9 Ordered Logit estimation results; dependent variable = Unethical

Variable	Model 8	Model 9
Info_Madoff?	-0.78*** (0.295)	-0.78*** (0.295)
Info	0.38*** (0.099)	0.38*** (0.099)
Female?	0.14 (0.211)	0.13 (0.210)
Classes	0.11 (0.081)	
Finance?		0.28 (0.205)
African-American?	0.92** (0.400)	0.91** (0.399)
Age	-0.19*** (0.050)	-0.18*** (0.049)
Extra	0.44*** (0.141)	0.44*** (0.140)
Agree	-0.14 (0.177)	-0.12 (0.177)
Consci	-0.15 (0.186)	-0.16 (0.186)
Neuro	0.06 (0.185)	0.05 (0.159)
Open	-0.52*** (0.185)	-0.54*** (0.185)
Duration	0.00 (0.101)	0.00 (0.101)
Obs	374	374
Log-likelihood	-659.95***	-659.97***
Pseudo R ²	0.0369	0.0369

Standard errors are in parentheses. * denotes statistical significance at the 10% level, ** is 5% level, *** is 1% level.

Figure 1 Main Decision Task

As an investment adviser, your job entails managing funds and making investment recommendations for your clients. You currently manage a portfolio of \$10 million. Imagine that a new client has come to you for advice on an investment decision. Your client is a professional that has a solid income and has recently received a \$75,000 bonus, which your client intends to invest in a fund for the next four years, when the returns will be cashed. Your client does not have any investments currently.

Note from your client: "I have recently received \$75,000, and would ideally like to invest in one of the following four funds: Power Trade Investments, Fortitude Investments, Alpha Investments, or Tobacco Trade Investments. Which fund would you recommend that I invest in for the next four years?"

Based on more detailed historical performance data provided in the following section, you will be asked to select one of the available four funds to recommend to your client (as shown in the graph below). Although your client is not interested in investing in the S&P 500, we have provided the S&P 500 index for comparison.

Note: The data provided are based on real funds, although the fund names and dates are disguised (i.e. the data do not necessarily span between 2009 and 2014). Returns, volatility, risk-adjusted returns, and additional information that can be requested for each fund may be found in the following section.

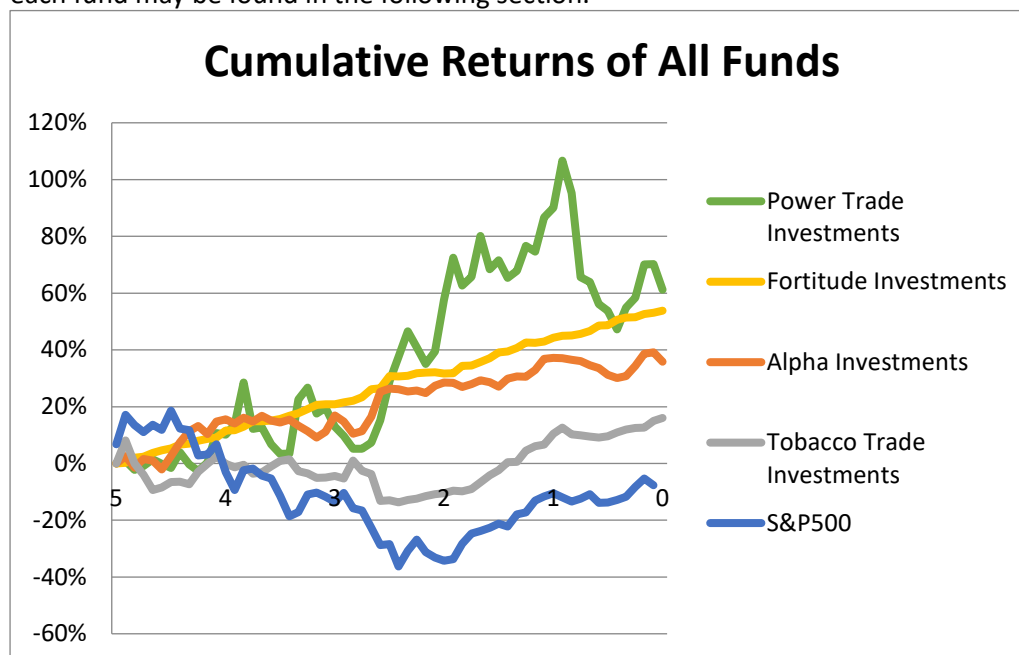


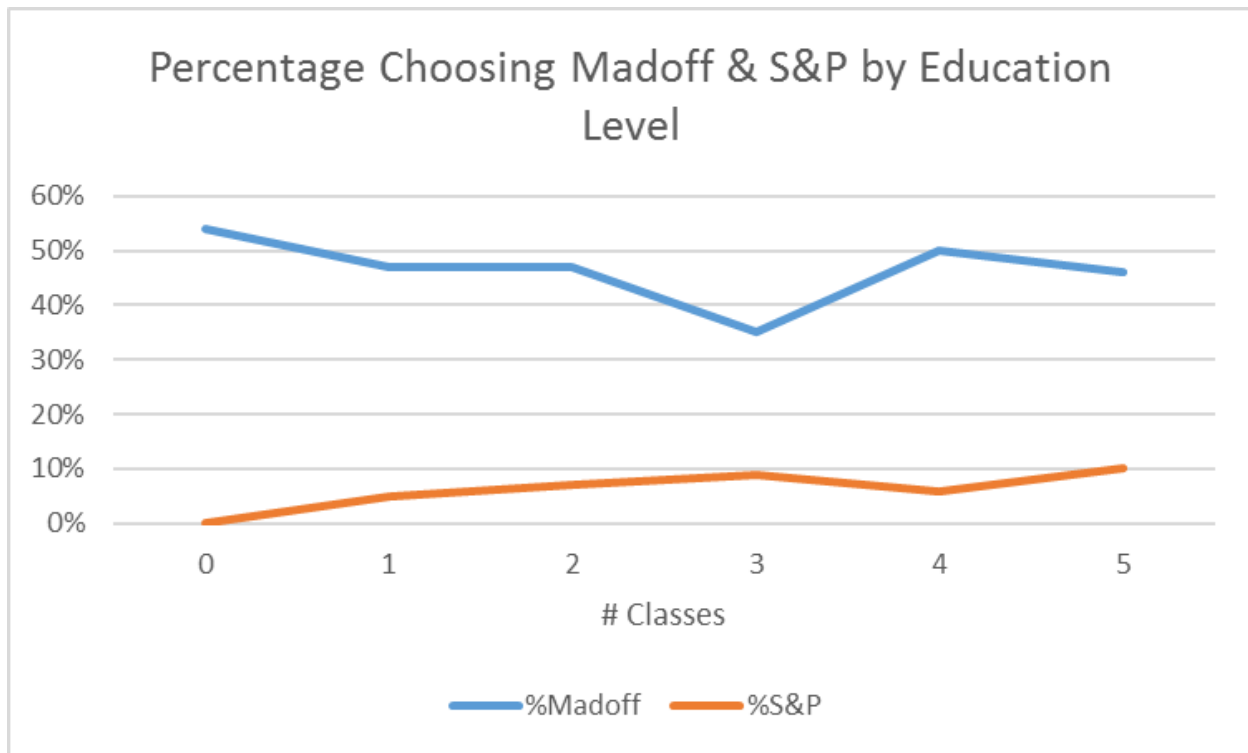
Figure 2 Percentage Choosing Madoff by Education Level

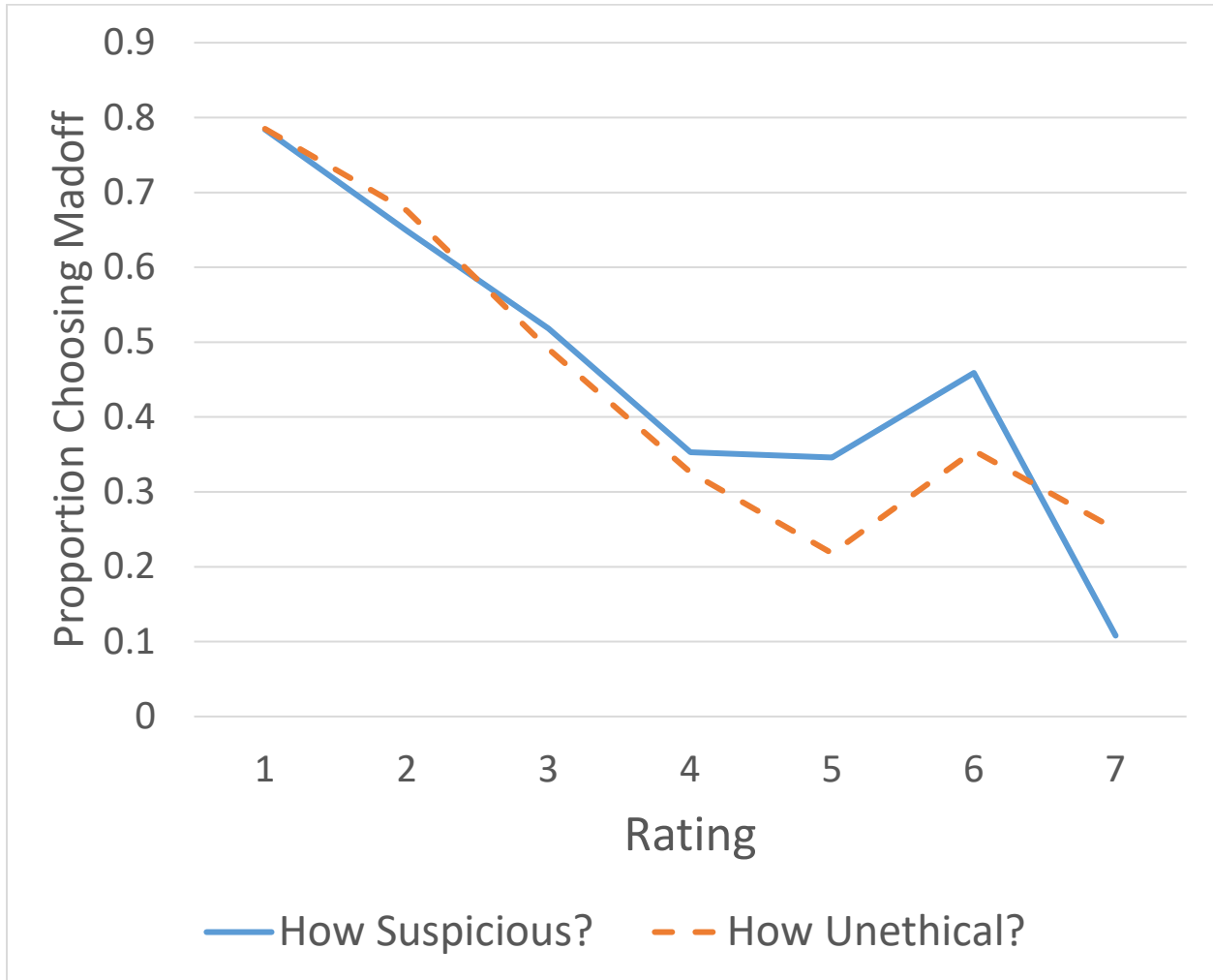
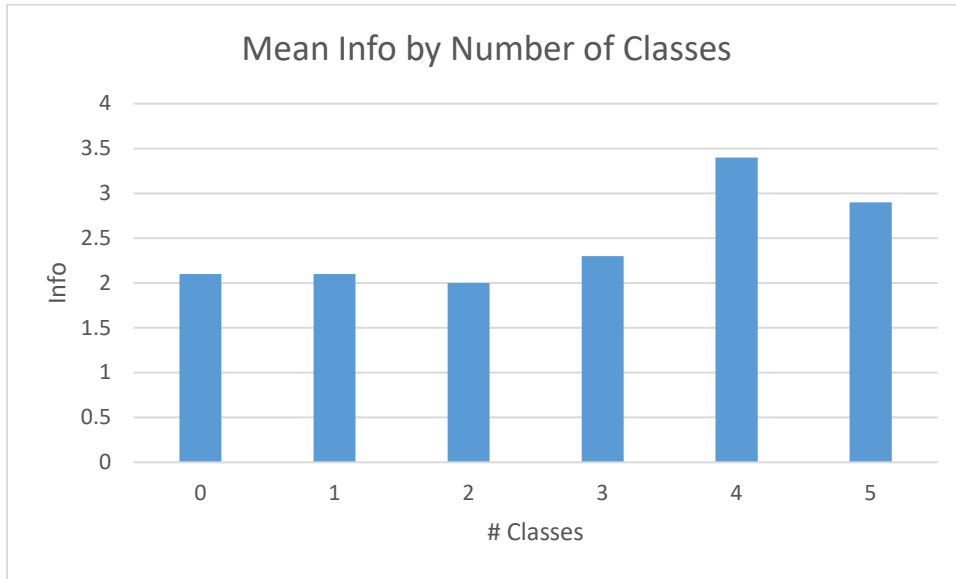
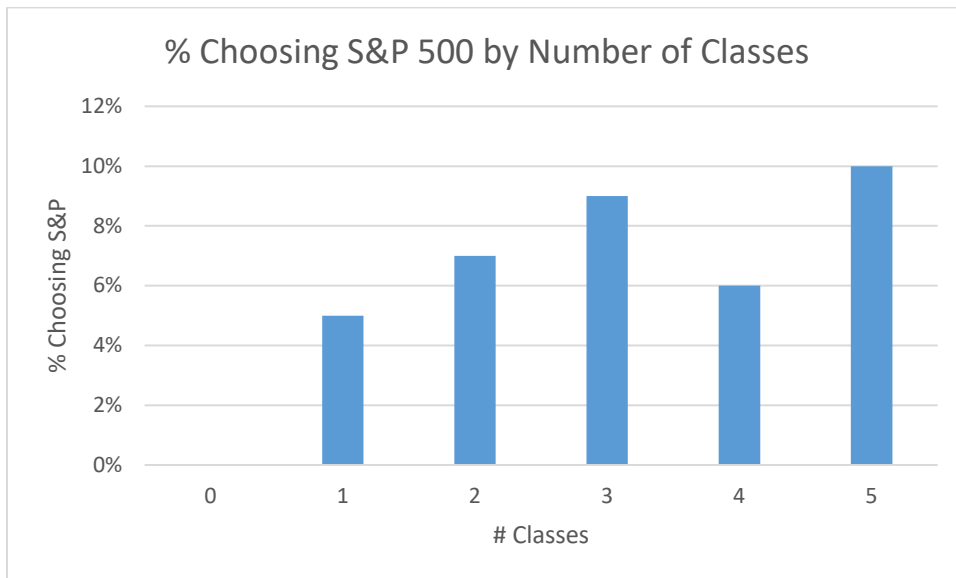
Figure 3 Ethicalness and Suspicious Ratings and the Likelihood to choose the Madoff Fund

Figure 4 Educational Background and number of requests for information**Figure 5 Percentage Choosing the S&P 500 by Number of Classes**

8 Appendix: Survey Instrument

You are invited to participate in this research survey because you are a student in an economics or finance class. The purpose of this research is to look at how individuals make investment decisions. The survey should take about 10-15 minutes to complete.

Participation is entirely voluntary, and you may withdraw at any time. Completion of the survey constitutes your consent to participate in the research.

All data obtained will be anonymous. If you have any questions before completing this survey, please contact the researcher, Calvin Blackwell at 843.953.7836 or blackwellc@cofc.edu

This research study has been reviewed by the Human Research Protection Program at the College of Charleston. For information about the review process, please contact the Office of Research and Grants Administration, compliance@cofc.edu or 843-953-7421.

If you wish to participate, please proceed to the questionnaire by clicking "Next." If not, click "Exit." If you would like to leave the survey at any time, simply close your browser window.

Page Break

Investment Task As an investment adviser, your job entails managing funds and making investment recommendations for your clients. You currently manage a portfolio of \$10 million. Imagine that a new client has come to you for advice on an investment decision. Your client is a professional that has a solid income and has recently received a \$75,000 bonus, which your client intends to invest in a fund for the next four years, when the returns will be cashed. Your client does not have any investments currently. Note from your client: “I have recently received \$75,000, and would ideally like to invest in one of the following four funds: Power Trade Investments, Fortitude Investments, Alpha Investments, or Tobacco Trade Investments. Which fund would you recommend that I invest in for the next four years?”

Based on more detailed historical performance data provided in the following section, you will be asked to select one of the available four funds to recommend to your client (as shown in the graph below). Although your client is not interested in investing in the S&P 500, we have provided the S&P 500 index for comparison.

Note: The data provided are based on real funds, although the fund names and dates are disguised (i.e. the data do not necessarily span between 2009 and 2014). Returns, volatility, risk-adjusted returns, and additional information that can be requested for each fund may be found in the following section.

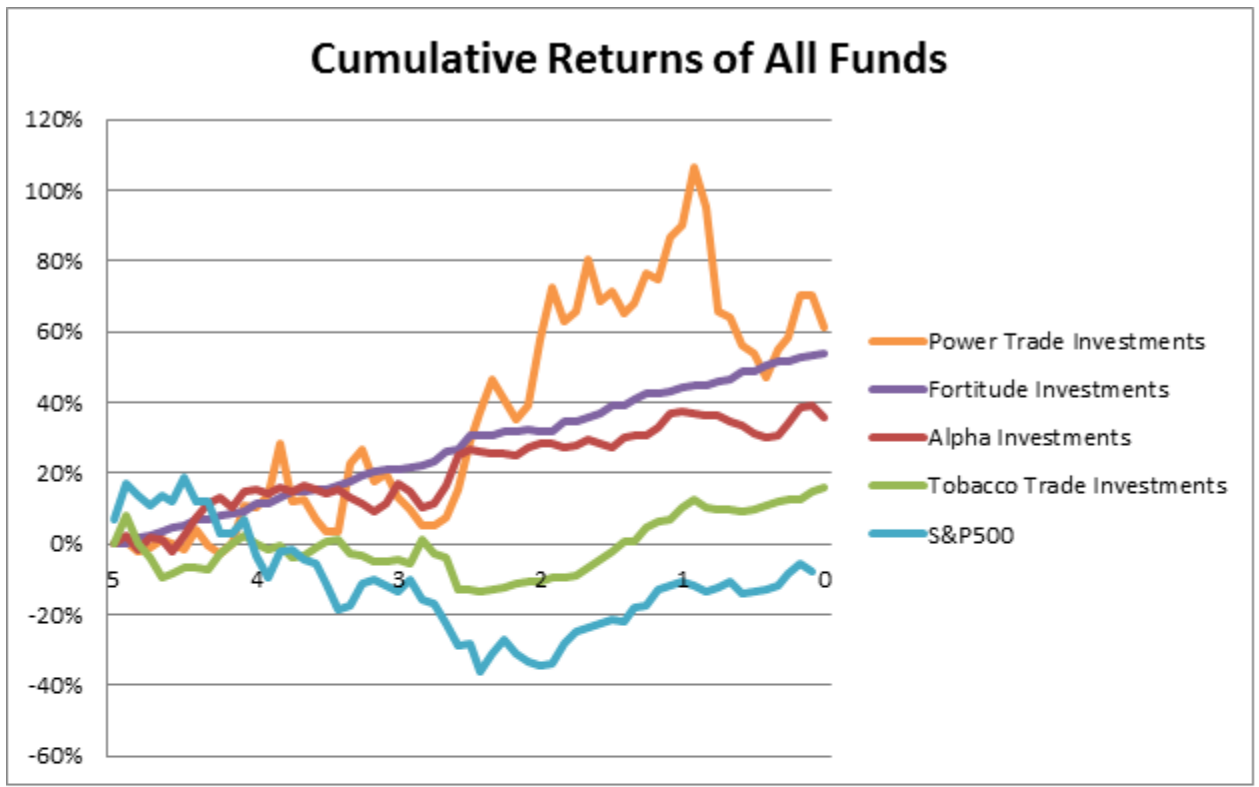
Definition of Terms

Annual Return: The percentage change in price of the fund over the course of the year. Example: If you invest \$10 in a company and that investment is worth \$15 a year from now, your annual return would be 50% (i.e., $(15-10)/10$).

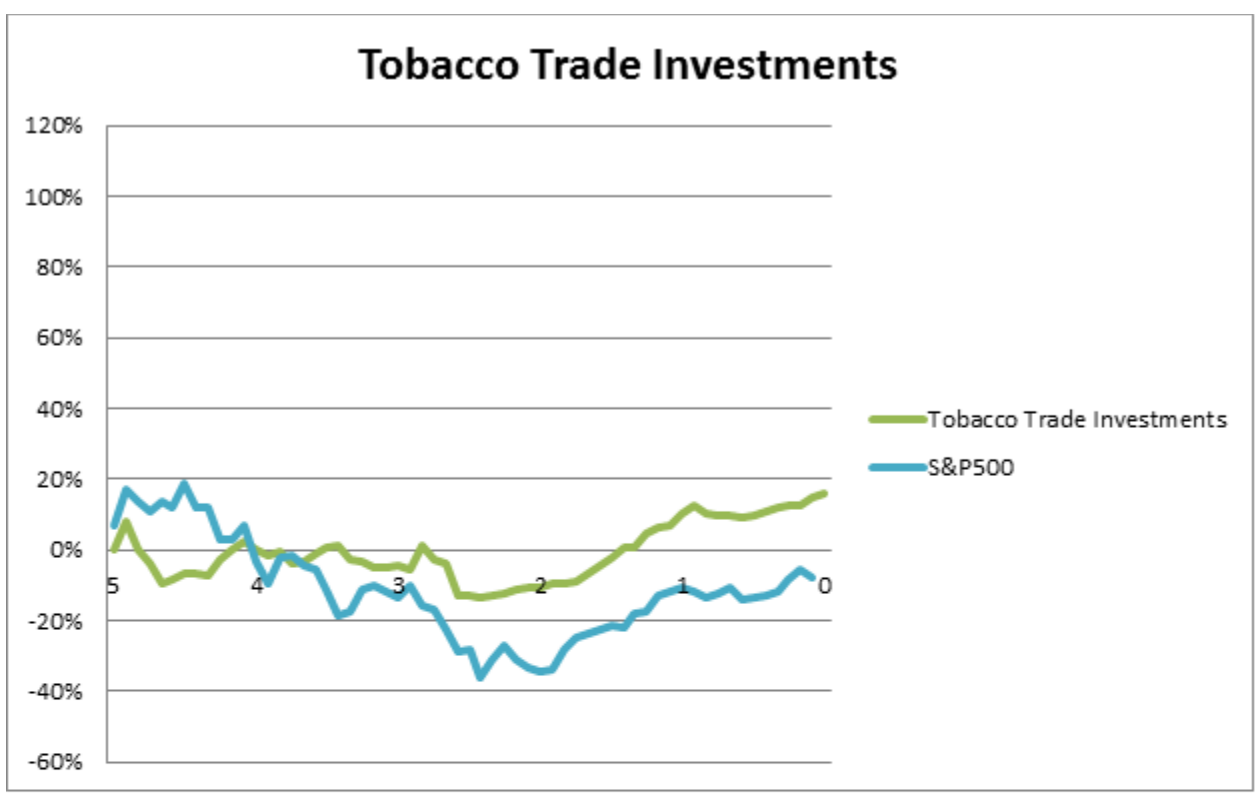
Volatility: A measure of how much and how quickly the price of an investment changes within a given period of time, and it is often used as a measure of risk.

Risk-Adjusted Return: This is a measure that explains how much you would get beyond investing in the S&P 500 for the amount of risk that is associated with the fund. The greater a portfolio's risk-adjusted return, the better the fund in terms of the amount of returns you receive, factoring the amount of risk that you are taking to get those returns.

Risk-Adjusted Return = $(\text{Returns beyond S\&P 500}) / \text{Volatility}$



Tobacco Trade Investments



Tobacco Trade Investments						
Five-year	Trade	Investments		Risk-adjusted	Return:	0.42
	cumulative	returns:	16.02%	Average monthly	returns:	0.40%

Volatility:	2.99%		
S&P500 five-year cumulative returns:	-7.69%	S&P500 average monthly returns:	-0.25%
S&P500	volatility:		4.68%

Would you like more information about Tobacco Trade Investments?

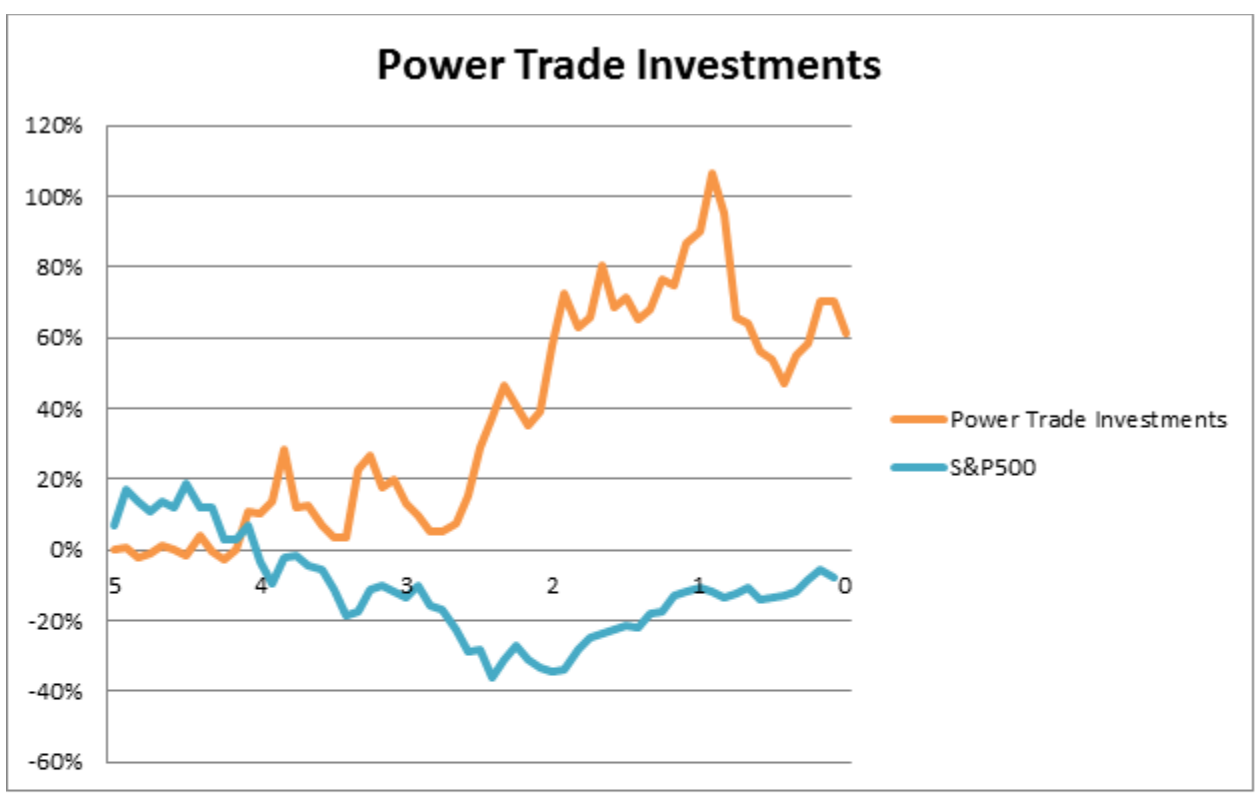
Yes

No

Office location: Our offices are located at Ten Corporate Street Rye, NY 10580 **Mission statement:** To earn a superior risk-adjusted return for our investors over the long-term by providing value-added products. By earning returns for our investors, we will be earning returns for all our stakeholders. **Investment strategy:** “We have initiated positions in companies which operate in fairly good sectors but have been sold down over the past year and are now trading at attractive valuations. The main sector is in the tobacco industry. As long as their cash-flow is positive, balance sheet is strong and dividends are paid, we are happy to be investors in such companies.” **How do investors get into fund:** Our investors typically contact hedge fund brokers. **Information on how Tobacco Investments is audited:** Tobacco Trade Fund uses the services of DP Associates LLP. DP Associates is a well-respected auditing firm that has been auditing clients for the last 51 years—it has 48 clients across the U.S.

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Power Trade Investments



Power Trade Investments	Risk-adjusted	Return:	0.46
Five-year cumulative returns:	Average monthly	returns:	0.93%
61.20%			

Volatility:	6.22%
S&P500 five-year cumulative returns: -7.69%	S&P500 average monthly returns: -0.25%
S&P500 volatility:	4.68%

Would you like more information about Power Trade Investments?

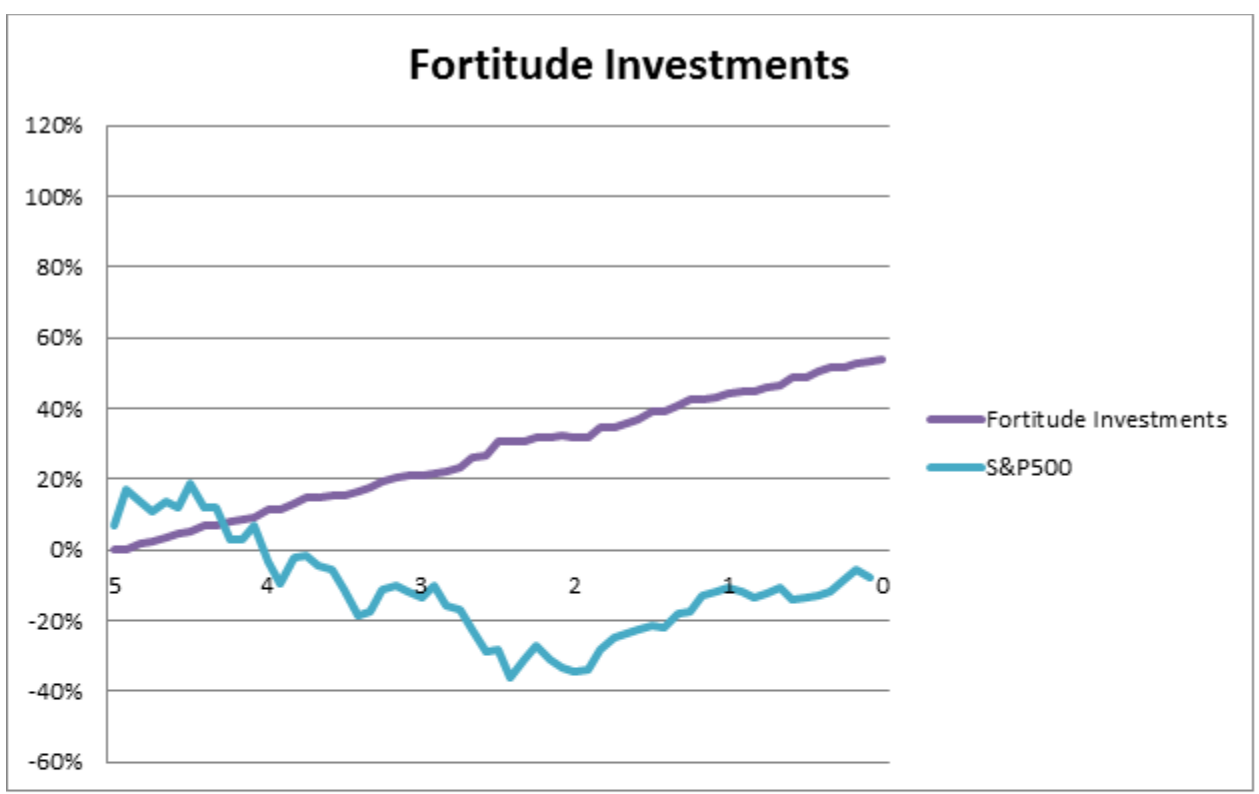
Yes

No

Office location: 1 New York Plaza, 54th Floor New York, NY 10004 **Mission statement:** Our mission is to compete in every market in the world, combining insight and technology to profit and make the markets more efficient; to recruit the most capable people and train them to the highest standard; and to foster openness, communication and idea sharing. **Investment strategy:** “Our trend-following portfolio consists of more than 200 funds in different market sectors. Markets are selected to represent a geographically balanced portfolio across different asset classes, with liquidity being the main focus. If the target exposure changes, open positions are reshuffled in order to keep trade risk constant.” **How do investors get into fund:** Investors typically find us through hedge fund databases, and have their brokers contact our managers. **Information on how Power Trade Investments is audited:** Power Trade has used P&F Audit Company for auditing purposes. P&F Audit Company is a global auditing firm that has been serving 124 clients for the last 72 years and has 20 offices globally.

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Fortitude Investments



Fortitude Investments	Risk-adjusted	Return:	0.75
Five-year cumulative returns: 53.81%	Average monthly	returns:	0.75%

Volatility:	0.71%
S&P500 five-year cumulative returns: -7.69%	S&P500 average monthly returns: -0.25%
S&P500 volatility:	4.68%

Would you like more information about Fortitude Investments?

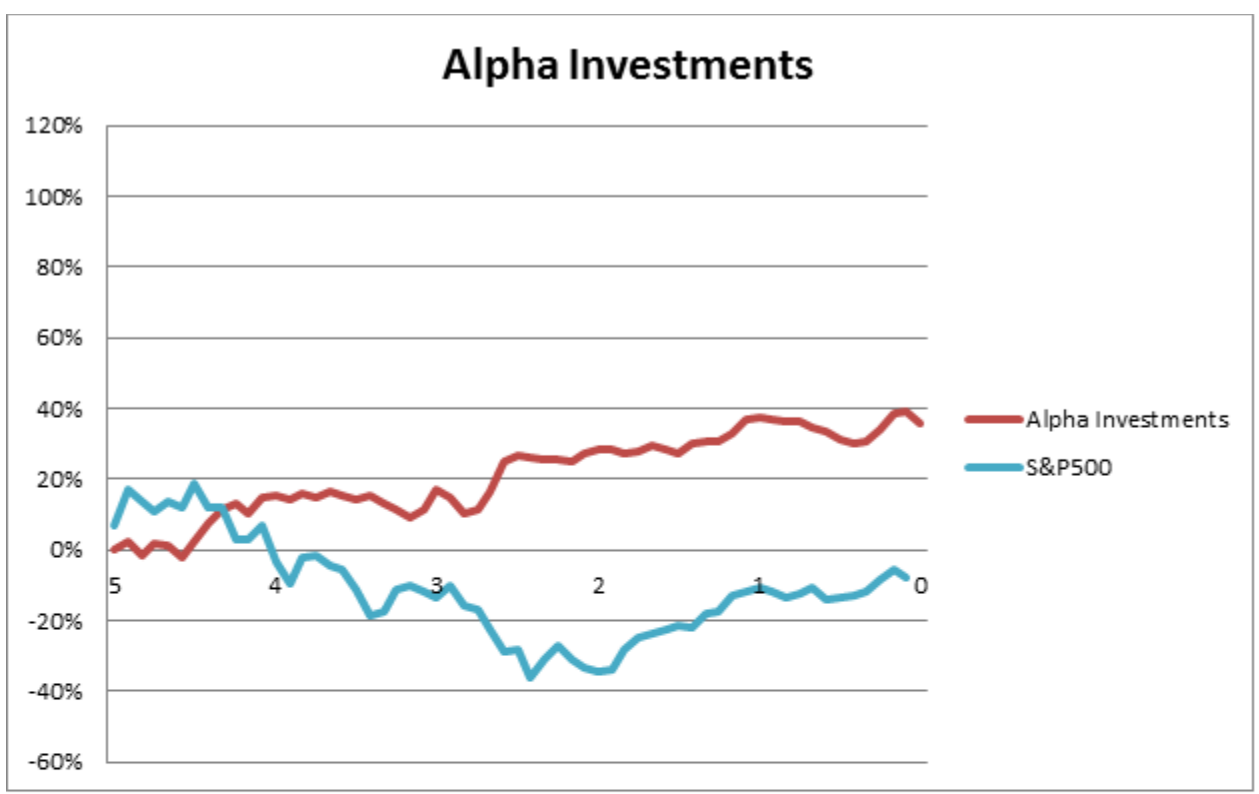
Yes

No

Office location: 523 Park Avenue New York, New York 10022 **Mission statement:** Our success is driven by three fundamental ideas: 1) Seek and hire the most brilliant and talented people we can find; 2) Reward those people based on merit; 3) Remain on the leading edge of innovation in investing **Investment strategy:** “Because our investment strategy is private, we cannot disclose any information at this time.” **How do investors get into fund:** We are selective in our investors and make sure that these investments are in line with their individual strategies. As a result, typical investors we do not know cannot invest with us. However, as an adviser, we will open these investments to your clients, especially those who are interested in investing their money with us long-term. **Information on how Fortitude Investments is audited:** Fortitude uses SA & Associates, CPA for their auditing purposes. SA & Associates was established 15 years ago. The chief auditor was formerly a VP at Fortitude Investments.

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Alpha Investments



Alpha Investments						
Five-year	cumulative	returns:	36.81%	Risk-adjusted	Return:	0.54
				Average	returns:	0.61%
				monthly		

Volatility:	2.37%
S&P500 five-year cumulative returns: -7.69%	S&P500 average monthly returns: -0.25%
S&P500 volatility:	4.68%

Would you like more information on Alpha Investments?

Yes

No

Office location: 400 W Chicago Ave. Suite 734 Chicago, IL 60654 **Mission statement:** We seek to deliver superior investment performance for our clients and to develop a broad array of superior investment products. **Investment Strategy:** “We use strategies that hedge out most market risk by taking offsetting positions, often in different securities of the same issuer. For example, we find the optimal combination bonds and equity to create stable, low risk investments.” **How do investors get into fund:** Our investors contact us via their hedge fund consultants or brokers. **Information on how Alpha Investments is audited:** Alpha utilizes the auditing services of RK Partners CPA Co. RK Partners is a fast-growing auditing firm that began serving international clients 7 years ago and has since developed a client base of 12 firms in Europe and 30 firms in the U.S.

End of Block: Description Block

Start of Block: Block 5

Start of Block: Main Question

Which fund would you recommend to your client?

- Tobacco Trade Fund
- Power Trade Investments
- Fortitude Investments
- Alpha Investments
- S&P 500 Index Fund

End of Block: Main Question

Start of Block: Main Survey

Page Break

Please rate how unethical you think each of these funds are [1=not at all; 7=extremely]:

	How unethical?						
	1	2	3	4	5	6	7
Tobacco Trade Fund	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power Trade Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fortitude Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alpha Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate how suspicious you think each of these funds is [1=not at all; 7=extremely]:

	How suspicious?						
	1	2	3	4	5	6	7
Tobacco Trade Fund	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power Trade Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fortitude Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alpha Investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which fund is most suspicious to you?

- Tobacco Trade Fund
- Power Trade Investments
- Fortitude Investments
- Alpha Investments

End of Block: Main Survey

Start of Block: Change recommendation?

Would you like to change your recommendation?

- Yes
 - No
-

Which fund would you like to recommend?

- Tobacco Trade Fund
- Power Trade Investments
- Fortitude Investments
- Alpha Investments
- S&P 500 Index Fund

End of Block: Change recommendation?

Start of Block: Personality Questions

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please choose the response next to each statement indicating the extent to which **you agree or disagree with that statement.**

I am someone who...

	How much do you agree with the statement?				
	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

Is talkative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to find fault with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does a thorough job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is depressed, blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is original, comes up with new ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is reserved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is helpful and unselfish with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be somewhat careless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is relaxed, handles stress well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is curious about many different things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is full of energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starts quarrels with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a reliable worker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be tense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is ingenious, a deep thinker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generates a lot of enthusiasm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Has a forgiving nature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be disorganized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worries a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has an active imagination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be quiet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is generally trusting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tends to be lazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is emotionally stable, not easily upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
has an assertive personality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be cold and aloof	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perseveres until the task is finished	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be moody	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Values artistic, aesthetic experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is sometimes shy, inhibited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is considerate and kind to almost everyone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Does things efficiently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remains calm in tense situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prefers work that is routine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is outgoing, sociable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is sometimes rude to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes plans and follows through with them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gets nervous easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Likes to reflect, play with ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has few artistic interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Likes to cooperate with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is easily distracted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is sophisticated in art, music or literature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Personality Questions

Start of Block: Block 3

Your gender:

- Male
 - Female
 - Other
-

Your race:

- African-American
 - Asian
 - Caucasian
 - Hispanic
 - Multi-racial
 - Native American
 - Other
-

Your class at CofC:

- Freshman
 - Sophomore
 - Junior
 - Senior
 - Graduate Student
-

Your age:

Please indicate which economics and finance classes you have completed:

- Principles of Microeconomics (CofC course: ECON 200)
 - Principles of Macroeconomics (CofC course: ECON 201)
 - Business Finance (CofC course: FINC 303)
 - Intermediate Business Finance (CofC course: FINC 315)
 - Investment Analysis (CofC course: FINC 400)
 - Seminar in Finance (CofC course: FINC 410)
 - I have not completed any economics or finance courses.
-

Please indicate in which school your major department is located:

- School of Business (Majors: Business Administration, Finance, Marketing, etc.)
- School of Science and Math (Majors: Biology, Physics, etc.)
- School of Education (Majors: Early Childhood Education, Public Health, etc.)
- School of Humanities and Social Sciences (Majors: Political Science, History, Communication, etc.)
- School of the Arts (Majors: Arts Management, Music, etc.)
- School of Languages, Cultures and World Affairs (Majors: French and Francophone Studies, International Studies, etc.)
- I have not decided on a major.