BUSI 4502 A: Ethical Investing Research Paper

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Introduction & Motivation

The concept of ethical investing has emerged from a relatively unknown, scarcely used practice, to one that is now used by many investors, and investment groups, all over the world. Ethical investing, at its basic core, is a fairly simple principle. From the ethical index, ethical funds, the definition of ethical investing is a follows: Ethical Funds believes that the best possible returns can be achieved by investing in companies that combine strong financial performance with positive social, environmental and governance (ESG) performance. Investors, in this case, are thinking on a triple bottom line, rather than the traditional single bottom line approach; they care about the environment, society, as well as financial returns on an equal basis instead of focusing solely on profit. Of course, as this moves away from the investment manager's traditional goal of wealth maximization, one must wonder why investors would be willing to invest in such a fund? Why on earth would any rational investor willingly sacrifice returns? Well, the tenet of ethical investing is that said investors care about the impact they are making on the world. Far from being an underground movement, ethical investing has picked up some serious steam over the last few years; with globalization ever present and dominating, technology making the world ever interconnected, and the increasing environmental and societal tragedies making headlines around the world, people (including investors) are becoming more aware and more concerned of their world. As such, investors who follow ethical investing are willing to sacrifice returns in order to ease their conscience and allow them to have a positive impact on the world.

Whilst it may seem a given that such investors face lower returns, it would seem the jury is still out on that. Several past studies have in fact considered ethical investing, and have measured its returns: And several of these studies, have in fact found no significance between either the volatility, or amazingly, even the returns that ethical investors face compared to their traditional counterparts. Given that ethical indexes do not focus on wealth maximization, this finding would seem to run counterintuitive to general finance logic; how can it be possible for an ethical portfolio to compete on par with a traditional value or growth portfolio? As such, it is our intent, through research, to examine this in detail. Specifically, we will seek to answer the question as to whether or not ethical investing leads to lower returns, and examine the reasons behind the answer.

CSR versus Ethics:

Whilst on the surface, Corporate Social Responsibility (CSR) and ethics may seem interchangeable; there are distinct differences between them. Specifically, firms which practice CSR may not necessarily be ethical firms. CSR is the process by which businesses negotiate their role in society; it is a tangible characteristic of a business, where firms can often claim that they spent X amount of dollars on CSR. Examples of CSR can range from a wide array of socially beneficial activities, such as the fixing of a local park, community center, etc.. Ethics, on the other hand, is a far more intangible thing. It is something which is ingrained in the corporate culture of the firm; at its core, ethics is “What SHOULD be done”. This should is obviously up for interpretation as perceptions on what should or should not be done often vary from person to person. Ethics is based on moral guidelines of right and wrong; what one’s gut feeling is. Obviously, it is very hard to have a strict company guideline on ethics, or even determine what is ethical. An example of such a situation is child labor: In many countries, children work in

order to help the family survive. Whilst it may seem atrocious over here in North America, it is simply a way of life in those countries who practice it. However, it is up to the firm to decide whether child labor is an acceptable practice, and deal with the consequences of its decision.

Furthermore, a firm can indeed practice CSR, in fact spend millions on it, and yet be unethical. Two examples spring to mind; Enron, and Parmalat. Enron was a huge energy company, which posted often unprecedented profits and sales to its investors. Furthermore, Enron often engaged in community activities all across the United States. However, Enron went bankrupt in the early 2000s as it was found that they set up offshore accounts and used these account to rig their books; they lessened their liabilities, and increased their profits. Not exactly an ethical practice. Parmalat was an Italian dairy company; it had become quite large and spanned many different areas across the world. The owners of Parmalat made it a practice to engage in CSR; in fact, spending millions of dollars on refurbishing old, and historically important buildings in Italy. However, just like Enron, Parmalat was no saint. It was found that the owner of Parmalat, took funds from the corporation, and used it to fund his own private soccer team.

After reading this, hopefully the reader understands the difference between CSR and ethics, and how good CSR does not necessarily lead to good corporate ethics.

Literature Review

Performance of Ethical Mutual Funds in Spain: Sacrifice or Premium?

In this article the authors discuss the increasing weight of ethical investing. Specifically, they explain that, far from the "normal" characteristics of risk and returns, investors are becoming more and more concerned with social, moral, and ecological motives that are changing the finance industry. They explain that the current models of utility maximization, such as the Markowitz model (which is based solely on wealth) must be changed by relaxing the initial hypothesis that the restrictions applied for an optimal investment choice are exclusively individual; in other words, societal return must also be considered. The authors focus their study on Spain; where the ethical indexes are young and growing, and which is also the country with the least amount of capital invested in socially responsible indexes. Through this study, the authors seek to conduct a comparative analysis of ethical investment funds in Spain, with the aim of determining whether ethical investment represents a sacrifice or a premium. Because many different mutual funds, which is the source of the author's data, use differing benchmarks to analyze returns, the authors use a multifactor regression model with style benchmarks to evaluate the results of the investment funds. For their data, the authors use a sample period of 30 June 1998 to 30 June 2001, 2,604 normal funds (of which 13 are ethical funds). Initially, the authors find that the average for the group of ethical funds exceeds that obtained for the total group of funds. However, because of the low level of ethical funds, the authors perform various bootstrapping manipulations to ensure that the results are not due to outliers. After performing this technique, the authors assert that the significance of the outperformance changed. As such, they state that whilst there is relatively significance evidence in aggregate that ethical funds outperform the other mutual funds, it is clear that the low number of such funds affects the robustness of this result. The authors conclude their study by explaining that, when all is considered ethical funds are always superior or at least as good as normal funds. Furthermore, because of the positive or neutral

societal performance of these funds, the investor's utility theoretically increases, which leads to the utility function of these funds to be, on aggregate, higher.

Is There a Cost to Being Socially Responsible in Investing?

In this article the author addresses the growing belief that suggests that socially responsible investing may produce higher risk adjusted portfolio returns than merely using all available stocks in the equity universe. An investor might expect lower returns to companies that damage the natural environment, sell liquor and other alcoholic products, produce, design, or use nuclear power, engage in gambling, and be large defence contractors, when one considers the possible expenses of finds and litigation. With this in mind, the author seeks to find out, through this article, whether socially screened investing is a "dumb" idea, in the sense that it costs more. The author used data from Vantage Global Advisors, who used an unscreened 1300 stock universe in managing assets. These unscreened stocks produced an average monthly return of 1.068%. The social screens used in this analysis (provided b Kinder, Lydenberg, and Domini---KLD) are as follows: Military, nuclear power, product (e.g alcohol) and the environment. A corresponding investment in this "ethical" universe would have generated an average monthly return of 1.057%. In other words, there is no statistically significant difference in the respective return series.

A Comparison of Socially Responsible and Conventional Investors:

In this article, the authors seek to compare socially motivated versus conventional investors, rather than the indexes themselves. The authors seek to use this study, to provide a comparative study between the two investor groups, and answer whether or not socially and conventional investors differ in a variety of characteristics; for this study, the author examines only Australia. Using past research on the topic, the authors develop several different hypotheses that SHOULD differ between investors:

- Socially responsible investors will differ on demographic measures to conventional investors
    - Socially responsible investors will be younger than conventional investors
    - Socially responsible investors will be more educated than conventional investors
    - Socially responsible investors will have higher levels of income than conventional investors
    - Socially responsible investors will be more people oriented than conventional investors
- Return o investment will be more important for conventional investors than for Socially responsible investors
- Socially responsible investors will rate ethical issues as more important to their investment decisions than will conventional investors
- There will be more Socially responsible investors than conventional ones with a dominant perfectionism style of decision making (seeking high quality products)
- There will be a greater proportion of socially responsible investors than conventional investors in all investment stages with the exception of inclusion, where the reverse is expected
- Socially responsible investors will perceive higher levels of moral intensity than conventional investors

In order to test their hypotheses, the authors conducted surveys to a variety of participants. Socially responsible investors were defined as investors who were current customers of a designated ethical index provider, or who

reported in the survey that their investment portfolio included designated ethical shares or funds. Otherwise, the investors were considered conventional ones. The authors asked them a variety of questions, and tested the responses using a CHI squared test for categorical data, and T-tests for quantitatively scaled data. After analyzing this data, the authors were able to reject or accept certain hypotheses:

- No significant relationship between investor type and age
- No significant relationship between investor type and education level
- No significant relationship between investor type and income
- No significant difference between conventional and socially responsible investors with regard to how important they rate financial return
- Significant difference between socially responsible and conventional investors, with socially responsible investors rating all ethical issues as being more important than conventional investors
- Investor type and investment style were significantly related
- Significant difference between conventional and socially responsible investors reporting a greater perception of moral intensity for both scenarios than the ratings of conventional investors

Whilst there were some limitations from this study, in the sense that is it only a questionnaire (could be bias or wrong answers), the study does highlight that socially responsible investors ARE INDEED different, than conventional ones.

International evidence on ethical mutual fund performance and investment style:

This article takes a look at 103 ethical mutual funds between Germany, UK, and US during 1990 - 2001. While accounting for style analysis the authors analyzed these funds using a CAPM based single index model, and multi-factor model. They found that ethical funds tend to have lower exposure to the market portfolio implying that they have a lower beta. They also found that the German and UK funds tend to be small cap based, while their American counterparts are large cap stocks. The observed mutual funds were found to be all growth oriented, or less value oriented when compared to comparable samples of conventional funds. The reason for this is because ethical funds usually have less exposure to traditionally “unethical” industries such as chemical, energy, etc… Ethical funds were also found to be more expensive as there tends to be more transaction costs from trading amongst firms as news of their operations becomes public, among other factors. During 1990 – 1993 ethical funds were found to have significantly lower adjusted returns suggesting they may have gone through a sort of catch-up phase to their conventional counter parts. Furthermore, conventional fund indices were found to be better benchmarks for ethical funds as ethical funds never outperformed their ethical indices.

Ethical Investing: Ethical Investors & Managers:

The authors of this article do not conduct any proprietary research; however they do allude to several studies conducted by other authors and provide theoretical explanations in regards to ethical investing. An ethical investor is one who uses non-financial normative criteria when constructing a portfolio with the aim to increase the amount of good in society by influencing through buying & selling shares. They aim at returns is based on the market risk of their investments, and they are willing to accept lower returns to provide economic good. As ethical companies are presumed to have extra costs stemming from possibly higher wages, using more expensive alternatives rather than profit maximizing, many ethical investors believe they will get lower than

market returns. Instead, their "alpha" comes from the satisfaction they get through the economic good provided to society by the companies they invest in. A study by Boatrights in 1999 found evidence to suggest that abnormal returns from ethical companies that only be obtained upon a firm's adoption of ethical policies as prices stabilize afterwards the adoption. If the policy adoption does not increase earnings, then it is assumed that being more ethical decreases risk in the form of scandals, more consumer loyalty, etc… There are costs to ethical investing however. These costs come in the form of diversification as they may be concentrated in one sector, higher research costs, higher trading levels should the firm's ethicality be unstable, or the number of stocks on the market may be too small.

Hypothesis

Since we are testing whether ethical stocks can outperform more traditional, wealth maximization ones, our hypotheses are as follows:

H0: There is no difference between the performances of ethical firms compared to an unethical firm

H1: There is a difference between the performances of ethical firms compared to an unethical firm

Data

In order to conduct our study, we took data from the 300 largest publicly traded companies based in the United States. Our sample was pulled from a three year time horizon, January 1st 2011 to December 31st 2013. Albeit rather small, this time horizon was chosen in order to congeal with the ethical index that we chose to follow; the 2012 Good Company Index. This Index was created in 2012 by Bassi, Franheim, and McMurrer and used data on the same 300 companies from 2011. The index assigned scores to the various companies on four different variables; good employer, good seller, good steward, and an overall company goodness score (a composite of the previous three variables). In order to measure performance as a Good Employer, the authors considered ratings on employee feedback site Glassdoor.com and also used Fortune's list of the Best Companies to Work For. Their Good Seller sore came from WRatings, a database of customer ratings on some 4,000 public companies. For the Good Steward rating, the authors examined several different sources which ranged from environmental performance, sustainability, CEO compensation, whether they were tax dodgers, political accountability, overall ethics, as well as conducting their own study on regulatory sanctions/actions that were undertaken against the companies, provided by the United States. The scores ranged from -2 (poor) to 2 (excellent), and each company was assigned a score on each of the four variables.

Methodology

Buy & Hold Analysis

To determine whether there was a difference between the performance of ethical and unethical firms, we have sorted the firm in our sample by their composite score. We then created two cap-weighted portfolios from the sample; the "Ethical" portfolio consists of the top 50 firms and the "Unethical portfolio consists of the bottom 50 firms. We then compare these two portfolios' risk and return profiles, relative to the S&P 500 as well as a

composite index of all 300 firms in our sample. We also conducted a hypothesis test to determine whether there is a difference between the sample of return for these two portfolios.

Industry-relative Buy & Hold Analysis

Our Buy & Hold Analysis had one limitation: it did not account for the perceived ethicality of the industry in which our sample firms operate in. This creates a bias that places the majority of energy companies at the bottom along with other industry biases. To account for this, we have separated our sample into 9 groups, representing 9 sectors:

- Basic Material
- Communication
- Consumer, Cyclical
- Consumer, Non-cyclical
- Energy
- Financial
- Industrial
- Technology
- Utilities

For each sector, we sort the sample by the composite score and create two cap-weighted portfolios: the "Ethical" consists of the top 30% of the firms, the "Unethical consists of the bottom 30% of the firms. A similar analysis process is adopted as we did with the original buy & hold analysis.

Regression Analysis

We were also interested to see what factors regarding the firm's ethicality most influences firms' performance. To approach this, we have conducted a regression analysis between the sample of abnormal return (alpha) from our sample against the composite score as well as against each of the three scores given. To eliminate industry bias, all scores are adjusted by subtracting the industry average score.

Result

Buy & Hold Analysis

The performance result of our Buy & Hold Analysis is given in Appendix A.

It appears that the Ethical portfolio has outperformed the Unethical portfolio, with a lower risk level, ultimately resulted in a higher risk-adjusted return. Both systematic risk and total risk are observably lower for the ethical portfolio. The benchmark S&P 500 has outperformed both however.

To account for selection bias against the S&P, we conducted the same analysis against the composite 300 portfolio, the result of which is highlighted in Appendix B.

Systematic risk and abnormal return as computed relative to the composite 300 portfolio yielded similar result, providing evidence in favor of ethical firms.

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We next compared the return sample of the two to determine whether there is any significant difference, the result of which is given below:

	Ethical	*Unethical*
Mean	0.000507028	0.000446
Variance	8.72477E-05	0.000151
Observations	753	753
Hypothesized Mean Difference	0	
df	1404	
t Stat	0.109318776	
P(T<=t) one-tail	0.456482638	
t Critical one-tail	1.645939653	
P(T<=t) two-tail	0.912965276	
t Critical two-tail	1.961655069	

The high P-value suggests there is no significant difference between the two, hence we cannot reject our null hypothesis in favor of our alternative hypothesis. The performance and risk profile however suggests there may be some difference in the two, which may be a result of a time-period bias.

Industry-relative Buy & Hold

To account for industry bias in the ethicality of the firms, we employed an industry-relative analysis, the result of which is given in Appendix C.

We were not able to find any significant difference between ethical and unethical portfolios. The highest P-value in our analysis reached as high as 0.958099 in the case of Utility, while the lowest was still very high at 0.595434 in the case of Cyclical Consumer sector. We can be more confident that there is no difference than we can be that there is any slight difference in the population of return.

Regression Analysis

To determine what factors influence the firms' performance, we have conducted a regression analysis. We first regressed the firms' alpha against the composite score, the result of which is given below:

Regression Statistics	
Multiple R	0.021548044
R Square	0.000464318
Adjusted R Square	-0.003092748
Standard Error	0.000535214
Observations	283

Regression 1

0.718150479

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.7392E-08	3.7392E-08	0.130534025	0.718150479
Residual	281	8.04936E-05	2.86454E-07		
Total	282	8.0531E-05			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 90.0%*	*Upper 90.0%*
Intercept	6.06123E-05	3.18152E-05	1.905136849	0.057782998	-2.01407E-06	0.000123239	8.10786E-06	0.000113117
Overall Company Goodness	-6.86273E-06	1.89948E-05	-0.361294927	0.718150479	-4.42529E-05	3.05275E-05	-3.82098E-05	2.44843E-05

-6.86273203039702E-06

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Some interesting observations can be made. First, the overall regression is not at all significance given the high F-stat at 0.718150479. This suggests the overall composite score (which represents the firm's overall perceived ethicality) is not a major significant factor in determining the firm's performance. The low R^2 of 0.000464318 suggests the model also cannot explain much of the variation in abnormal return. The most interesting observation is however that the coefficient is negative, suggesting the more a company is perceived to be ethical overall, the worse it would perform. However, due to the insignificance of the regression, any observation may be purely by chance.

We then considered each score individually. The result of our regression is given below:

Regression 2

0.069712421

Regression Statistics	
Multiple R	0.158040064
R Square	0.024976662
Adjusted R Square	0.01449254
Standard Error	0.000530502
Observations	283

ANOVA

	df	SS	MS	F	Significance F
Regression	3	2.0114E-06	6.70465E-07	2.382332242	0.069712421
Residual	279	7.85196E-05	2.81432E-07		
Total	282	8.0531E-05			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 90.0%	Upper 90.0%
Intercept	6.06123E-05	3.15351E-05	1.92205922	0.055616595	-1.46461E-06	0.000122689	8.56889E-06	0.000112656
Good Employer Score	2.16865E-05	2.8793E-05	0.753188489	0.451971739	-3.49925E-05	7.83656E-05	-2.58315E-05	6.92045E-05
Good Seller Score	0.000116543	6.82711E-05	1.707059178	0.088923614	-1.78491E-05	0.000250935	3.87273E-06	0.000229213
Good Steward Score	-6.84614E-05	3.29005E-05	-2.080862592	0.038358608	-0.000133226	-3.69668E-06	-0.000122758	-1.41646E-05

Regression 3

0.038512673

Regression Statistics	
Multiple R	0.151638185
R Square	0.022994139
Adjusted R Square	0.016015526
Standard Error	0.000530092
Observations	283

ANOVA

	df	SS	MS	F	Significance F
Regression	2	1.85174E-06	9.25871E-07	3.294943862	0.038512673
Residual	280	7.86793E-05	2.80997E-07		
Total	282	8.0531E-05			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 90.0%	Upper 90.0%
Intercept	6.06123E-05	3.15107E-05	1.923546102	0.05542528	-1.41566E-06	0.00012264	8.60974E-06	0.000112615
Good Seller Score	0.000117013	6.82155E-05	1.715347098	0.087387888	-1.72671E-05	0.000251294	4.43628E-06	0.00022959
Good Steward Score	-6.44039E-05	3.24314E-05	-1.985851706	0.048024883	-0.000128244	-5.63631E-07	-0.000117926	-1.0882E-05

Regression 2 shows the model with all three scores. This gives a much better significance with an F-stat of 0.69712421. What is interesting here is the negative coefficient for the steward score, suggesting firms who are more ethical in their stewardship tend to underperform others. This helps explain the insignificance of Regression 1, due to opposing effects of the different scores. Hudson (2005) suggests ethical firms have to incur higher costs in their operation to remain ethical. This may be seen as consistent with our observation of a negative coefficient of good steward score. The good employer score in Regression 2 did not present a significant indicator of the firms' performance (as observed by the high P-value at 0.451971739), as such we removed the score to arrive at our final regression model.

Regression 3 shows the final model with once again much more significance than the previous. Dropping one factor from Regression 2 has resulted in a slight drop in R^2, however this is just due to the explanatory bias in Regression 2. Both two remaining scores are significant indicators of the firms' performance at least 90% confidence. We may conclude that a firms' ethicality as a seller positively impacts their performance and ethicality in stewardship negatively impacts their performance.

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Implications

As per the results, there seems to be no evidence as to the difference in returns between traditional investing and ethical investing. This is consistent with the past research that was mentioned in the literature reviews. Taking input from said research, we can assume that the ethical premium of a particular company is already embedded in the stock price. Also according to prior research, theoretically, investors who invest in more ethical stocks are happier doing so; that people feel better about their investments. As such, this should theoretically lead to increased utility for socially conscious investors compared to their more traditional counterparts. As such, even though there are no statistically significant differences between the returns of ethical versus conventional stocks, investment managers may be able to increase their investors utility through the use of socially beneficial stocks. It becomes apparent, then, that the major implication of our study, for money managers, is that ethical stocks are just as good as conventional ones. They offer the same amount of return, for roughly the same risk. There seems to be no deterrent to the use of these stocks. Therefore, investment managers should not feel even the slightest hesitation about using such stocks should they have to (for example, if their investor wishes to invest in "Green" stocks) as they can expect roughly the same return as their conventional counterparts while providing clients with an increased utility through ethics.

Limitations

Some problems that arise from our study stem from its time dependency. A relatively short time horizon of 3 years is used which may create a period specific bias. Furthermore, there is also the aspect of dynamic ethicality. Dynamic ethicality stems from the changing values of society overtime; where in the 1960s certain behaviors were acceptable or looked down upon, in 2014 those same behaviors may not be looked at in the same way. This changes the set of companies that would be deemed ethical within any given period. Another limitation arises from the original method of scoring, creating a joint-test problem. As ethics is a severely subjective topic, one person's view of what is ethical acceptable cannot by mirrored by another individual in some aspects. By using the ethical index, we are in effect accepting the method of scoring ethicality by the person who made the index as true. This means that we are testing both that person's sense of ethicality in addition to whether or not ethical companies provide abnormal returns compared to traditional investing.

Extensions

Further research should be done to see whether purchasing a company which one assumes is about to adopt ethical policies is able to generate profit from the policy adoption. Another possible extension for this study would be to somehow empirically test whether investors who place their money in ethical funds do indeed have a higher utility than their counterparts. We stress "somehow" because it may be quite difficult to physically test this point. Surveys could be sent out to both ethical and non-ethical investors in order to test this, but as with all surveys, bias may become a problem. Another interesting extension for this line of research would be to examine the firm specific characteristics of the companies in question, rather than merely stock performance. For example, examining such variables as the debt to equity ratio, market cap, growth, revenue, etc.. and comparing these variables between ethical and non-ethical firms in the same industry. Examining the results of such a test may give greater insight into the actual characteristics of socially conscious firms.

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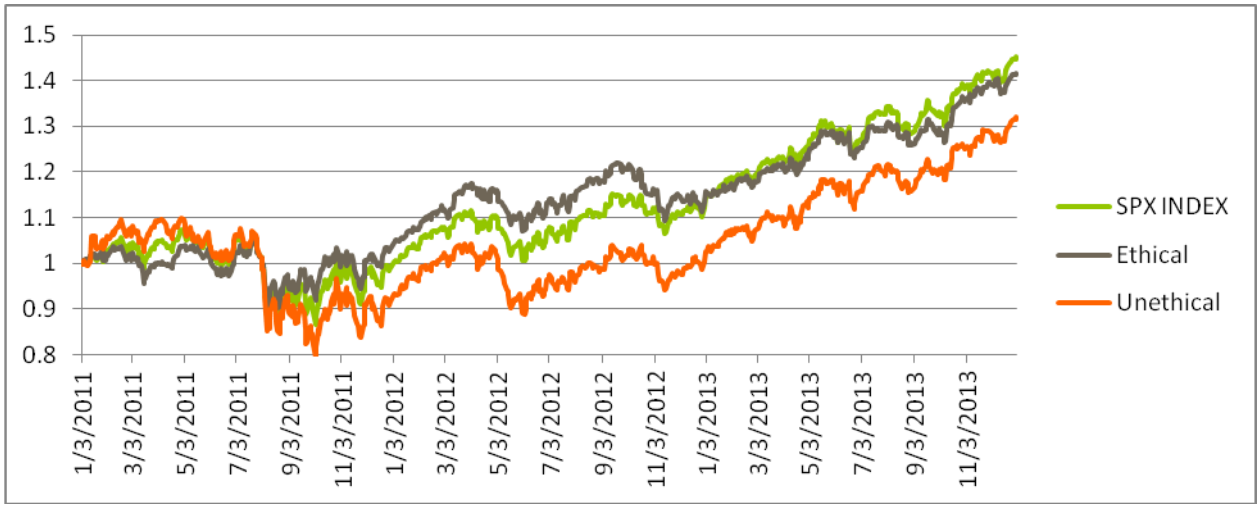
Appendices

Appendix A:



Ethical

Beta	85.94871%	Std.dev	0.009340646
Alpha	0.0033157%		

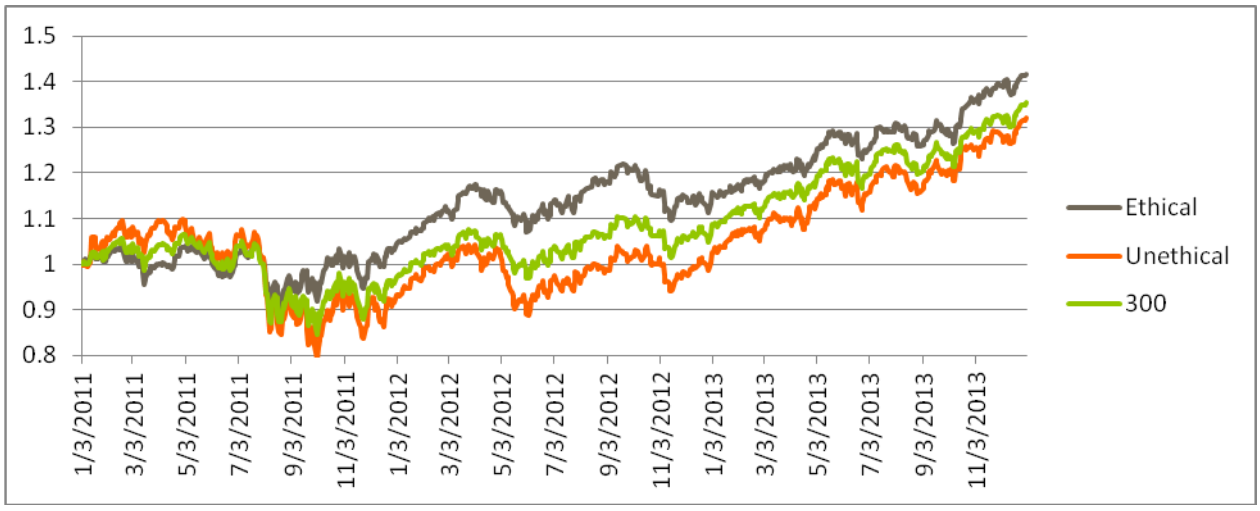
Annualized std.dev	0.178453	Sharp ratio	0.633279
Annual Comp. Return	0.12331		

Unethical

Beta	112.99337%	Std Dev	0.012279699
Alpha	-0.0177416%		

Annualized std.dev	0.234603	Sharp ratio	0.370861
Annual Comp. Return	0.097305		

Appendix B:



Ethical

Against 300	Beta	88%
	Alpha	0.010514%

Max Run Up	0.113019
Max Draw Down	-0.1268

Unethical

Against 300	Beta	116%
	Alpha	-0.00816%

Max Run Up	0.163333
Max Draw Down	-0.2007

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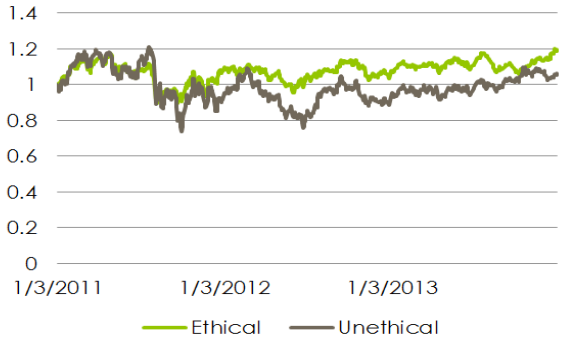
Appendix C:

P(T<=t) two-tail
0.907684

P(T<=t) two-tail
0.6695477

P(T<=t) two-tail
0.9514967



P(T<=t) two-tail
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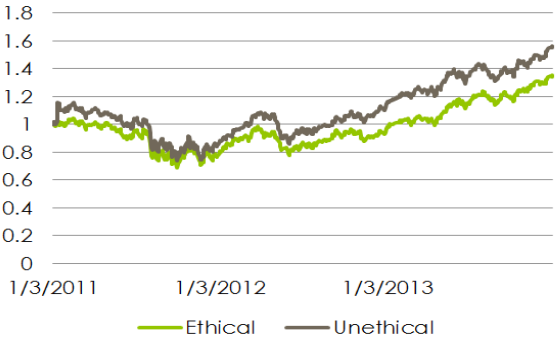

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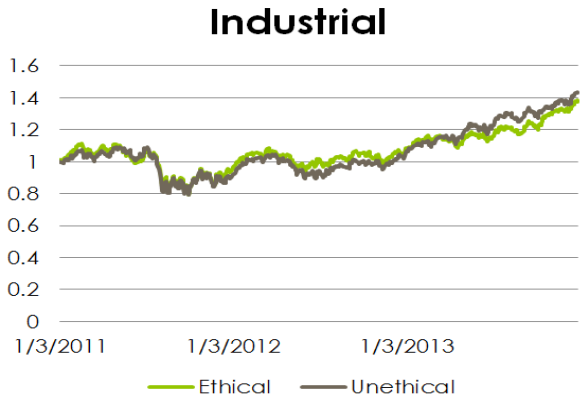
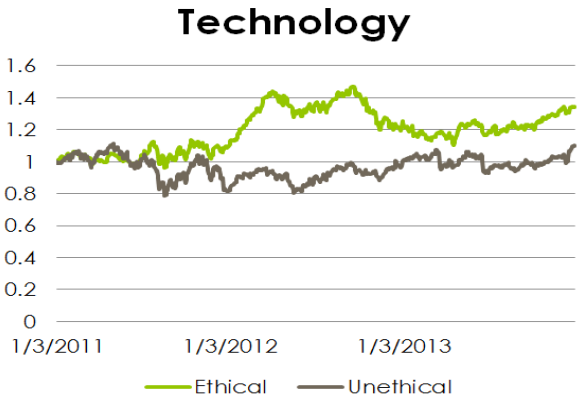
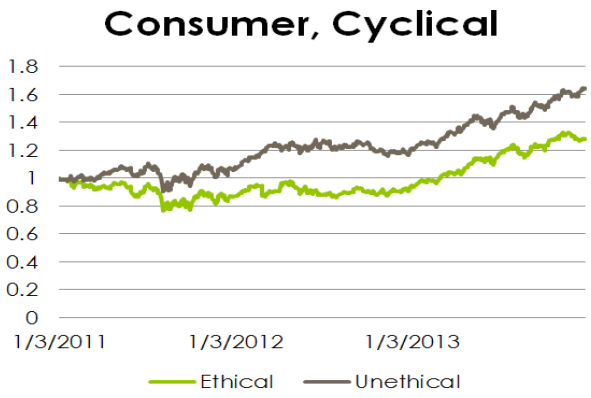


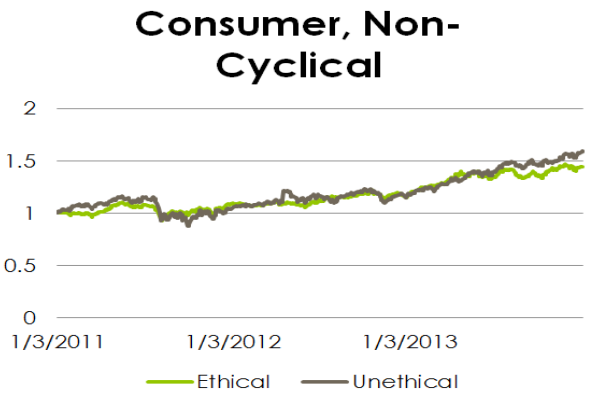
P(T<=t) two-tail 0.7412195



P(T<=t) two-tail 0.595434



P(T<=t) two-tail 0.741063



P(T<=t) two-tail 0.958099